

Research Article

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Auxiliary verb constructions in Southern Bantu

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Abstract: This article develops the first systematic comparative study of auxiliaries in Southern Bantu, delineating their salient properties. Southern Bantu languages are reported to have large auxiliary inventories, with sixty or more auxiliaries documented for some languages. Auxiliary functions go beyond tense, aspect, mood, and polarity to express a variety of adverbial and other meanings. Auxiliary constructions take three main patterns of complementation, with an auxiliary's complement type only partly predictable from its semantics. Multiple auxiliaries can occur in sequence, modifying the same lexical verb. Although many of these features are found in other African languages, Southern Bantu auxiliary systems appear to be distinct from those of other languages within the Eastern Bantu clade to which they belong, raising the question of how they arose and/or were maintained.

Keywords: auxiliaries; morphosyntax; grammaticalization; Southern Bantu languages

1 Introduction

Bantu languages, particularly those of Eastern and Southern Africa, are known for their highly agglutinative verbal morphology, as illustrated in (1) (see also Bearth 2003; Miti 2006; Nurse 2008).

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- (1) isiZulu (S42)¹
Amatshe aye-nga-se-zuku-pend-w-a.
 6.stone SM₆.PST.IPFV-NEG-PERS.NEG-FUT.NEG-paint-PASS-FV
 ‘The stones were no longer going to be painted.’
 (Poulos and Msimang 1998: 344)

In addition to these extensively agglutinative forms, Bantu languages tend to make frequent use of constructions with two or more verbs, as in the isiZulu example in (2), where the first verb plays a functional (auxiliary) role and the second a lexical one. The isiZulu auxiliary *buye*, derived from the lexical verb *buya* ‘return’ has the functional meaning ‘again’ or ‘repeatedly’, reinforced in (2) by the adverb *futhi* ‘again’.

- (2) isiZulu (S42)
U-buye wa-limal-a futhi.
 SM₁-AUX SM₁.CSC-get_hurt-FV again
 ‘She got hurt again.’
 (Poulos and Msimang 1998: 330)

Most – possibly all – Southeastern Bantu (henceforth: Southern Bantu) languages, including isiZulu, have strikingly large sets of auxiliary verbs. Other important features of auxiliaries in Southern Bantu include functional semantics that go beyond typical tense, aspect, and modal meanings, three (or four) important complementation patterns, and the possibility of long recursive chains of auxiliaries in what we call “stacking” constructions. Most of these properties are also found in auxiliary systems elsewhere in Sub-Saharan Africa (aside, possibly, from the complementation systems), but they do not seem to be common in Eastern Bantu outside of its Southern subclade. Our aim in this article is to provide the first cross-linguistic overview of these forms and their features.

The article is structured as follows. Section 2 provides a background to the topic under examination, covering definitional issues and providing an overview of the languages under examination and their auxiliary inventories. Section 3 explores the semantics of these auxiliaries. Section 4 examines their morphosyntactic properties, covering temporal, aspectual and mood and modality semantics as well as polarity and other non-TAMP semantics. Section 5 looks at the sources of auxiliary forms and pathways of grammaticalization. Section 6 concludes the article and outlines directions for future research.

¹ We give Bantu language names along with their disambiguating “Guthrie” codes, consisting of a letter and a two- or three-digit numerical code. For more information on our glossing and other conventions, see Section 2.3.

2 Background

2.1 Definitional issues

In this study, we define auxiliary constructions as in (3).

- (3) AUXILIARY CONSTRUCTIONS are verbal complexes consisting of at least one functional (auxiliary) verb and one lexical verb that share a logical subject and form a single predicate, with the auxiliary verb(s) modifying the lexical verb. AUXILIARY VERBS are the functional element(s) in auxiliary constructions and can only be used with their auxiliary functions when followed by a lexical verb complement.

We draw a distinction between “functional” and “lexical” verbs based on whether the verb in question can take non-verbal complements without a change in meaning. If no change in meaning is evident, we consider that verb to be lexical and not an auxiliary. For example, verbs meaning ‘like; love’ have frequently developed approximative (‘almost; about to’) and/or avertive (‘nearly; almost, but not quite’) functions, a common grammaticalization pathway (Kuteva et al. 2019: 276–278). We consider these to be auxiliary verbs. On the other hand, in Sesotho sa Leboa, only the lexical meanings ‘like, love, want’ are reported for the verb *rata* in our descriptive sources, so we do not count it as an auxiliary, although future investigations might indeed find that *rata* is used with approximative or avertive functions. Similarly, we exclude “aspectual” verbs like ‘finish [doing X]’ on the grounds that these can also be used with nouns without a change in meaning (e.g. ‘finish the work’), but if verbs with the lexical meaning ‘finish’ have different functions when used with verbal complements – even if these functions are transparently derivable from the lexical meanings – we consider them to be auxiliaries. For example, isiZulu *qede*, from the lexical verb *qeda* ‘finish (off)’, has the auxiliary functions ‘thereafter; then; as soon as’.

Since auxiliaries are inherently undergoing grammaticalization processes from lexical forms to inflectional markers (Anderson 2011b; Heine 1993, *inter alia*), Southern Bantu auxiliaries exhibit characteristics of forms in flux. For example, many auxiliaries only optionally host subject prefixes. Other auxiliaries exist in alternation with segmentally similar or identical prefixes with the same meanings (e.g. auxiliary *se* and prefix *se-*). We consider forms that participate in auxiliary constructions, as defined in (3), to be auxiliaries, regardless of whether similar forms can also be used without subject agreement marking or as prefixes.²

² We also occasionally refer to verbs that appear to be on the grammaticalization pathway towards auxiliation, but which do not fully conform to our definition.

Readers familiar with the typological literature on auxiliary verbs may have noticed that our definition deviates in some ways from mainstream concepts of auxiliaries. The difficulties in agreeing on categorial definitions in linguistics are well known, and the concept of “auxiliary verb” has tended to be particularly problematic (Haspelmath 2024: 13–14). Definitions of the term “auxiliary” are generally based on combinations of morphosyntax, semantics, and diachrony (e.g. Anderson 2006, 2011a; Heine 1993; Heine and Kuteva 2002; Kuteva 2001).

For example, in his wide-ranging study of auxiliary constructions across Africa, Anderson (2011b) defines auxiliary constructions as follows:

An auxiliary verb construction is ... a mono-clausal structure minimally consisting of a lexical verb element that contributes lexical content to the construction and an auxiliary verb element that contributes some grammatical or functional content to the construction (Anderson 2011b: 2, following Anderson 2006; Heine 1993; Heine and Kuteva 2002; Kuteva 2001).

Anderson considers typical adverbial meanings (e.g. ‘very’) to fall under the umbrella of functional content (Anderson 2011a: 6), which allows for the inclusion of the large numbers of auxiliary verbs in Southern Bantu with meanings that go beyond traditional notions of tense, aspect, mood, and polarity. However, monoclausality proves challenging as a diagnostic for auxiliary status in this group of languages.

In Southern Bantu, both auxiliaries and their lexical complements are often marked with subject agreement – Anderson (2011a: 23) refers to such constructions as having “doubled inflection”, with the auxiliary verb serving as syntactic head and the lexical verb as semantic head. An example of such a construction can be seen in (4), where the auxiliary *hlale* is inflected with the noun class 2 subject marker *ba-*. The lexical verb takes the subordinate *SITUATIVE* (see Section 4.4.3) form of the noun class 2 subject marker, *be-*.

- (4) isiZulu (S42)
Ba-hlale be-sebenz-a.
 SM₂-AUX SM₂.SIT-Work-FV
 ‘They are always working.’
 (Poulos and Msimang 1998: 329)

Bantu auxiliary constructions with two instances of subject agreement have been analysed as either monoclausal structures with two elements carrying phi-features (i.e. showing agreement in number, person and/or gender features) (Pietraszko 2018a) or as biclausal structures headed by the auxiliary verb, embedding another tensed clause (Krifka 1995: 1416).

A common test for monoclausality is whether the construction can be negated in only one way. The examples in (5) are modified from Haspelmath (2024: 7).³

(5) English

- a. *She has to do it.* *She does not have to do it.*
 (monoclausal) **She has not to do it.*⁴
- b. *She is forced to do it.* *She is not forced to do it.*
 (biclausal) *She is forced not to do it.*
 (modified from Haspelmath 2024: 7)

The negation properties of at least some Southern Bantu auxiliary constructions may provide evidence against a monoclausal analysis. Many auxiliary constructions have variable negation, as shown in (6); see Section 4.3.4 for more details.

(6) isiXhosa (S41)

- a. ...**a-ndi-soloko** *ndi-bhal-a*
 ...NEG-SM_{1SG}-AUX SM_{1SG}.SIT-WRITE-FV
 ‘...I don’t always write’
 (Mini et al. 2003: 1117, glosses and translation added)
- b. ...*umntu o-soloko e-nga-pas-i*
 1.person SM₁.REL-AUX SM₁.SIT-NEG-PASS-NEG
 ‘...a person who always fails [lit. who always doesn’t pass]’
 (Mini et al. 2003: 79)

Even if we were to adopt negation patterns as a diagnostic for clausality, we would not be able to make practical use of the diagnostic, given the current state of description of the majority of Bantu languages: few sources deal systematically with the negation of auxiliary constructions. Because constructions such as those in (6) share many essential characteristics with other auxiliary constructions for which variable negation is reported to be disallowed (as in Pietraszko 2018b on isiNdebele of Zimbabwe [S44]) or where such information is not available, we consider MONOPREDICATIVITY to be a more significant feature of auxiliary verb constructions in Southern Bantu than MONOCLAUSALITY. That is, an auxiliary verb shares a logical subject with the lexical verb it modifies and forms a single predicate with it.

Creissels (forthc.: 6–11) systematically lays out some differences between monopredicative auxiliary constructions and superficially similar biclausal

³ We thank the anonymous reviewer who led us to consider the role of negation.

⁴ Haspelmath (2024: 7) gives the example *She has to not do it*, but as this sentence sounds grammatical to us and differs structurally from the corresponding example in (5b), we assume that Haspelmath intended to give the English sentence as we give it here.

constructions in Setswana (S31).⁵ The lexical verb ‘come’ can appear in a biclausal construction (7a), but can also occur felicitously without a following lexical verb (7b), and the coordinate clauses can also occur with two different subjects (7c).

(7) Setswana (S31)

- a. *Ngwana o tsile a lela.*
 ɲwàná ú-ts-ìlé 'á-lí:l-à
 1.child SM₁-come-PFV SM₁.SIT-cry-FV
 ‘The child came crying.’
- b. *Ngwana o tsile.*
 ɲwàná ú-ts-ì:lè
 1.child SM₁-come-PFV
 ‘The child came.’
- c. *Ngwana o tsile ba bangwe ba lela.*
 ɲwàná ú-ts-ìlé bá bàɲwí 'bá-lí:l-à
 1.child SM₁-come-PFV LK₂ 2.other SM₂.SIT-cry-FV
 ‘The child came while the others were crying.’
 (Creissels forthc.: 9–10)

In contrast, the auxiliary *aga*, which has the aspectual function ‘continuous’, lacks these properties; as in example (8). Creissels’ original translations in (8b,c) reflect the fact that in such constructions, *aga* must be interpreted with its lexical meaning ‘build’.

(8) Setswana (S31)

- a. *Mhero o aga o tlhoga.*
 m̀hèrò ú-áχà ú-tʰû:χ-à
 3.weed SM₃-AUX SM₃.SIT-grow-FV
 ‘Weeds continually grow.’ [Creissels’ translation: ‘Weeds don’t stop growing’]
- b. *#Mhero o a aga.*
 m̀hèrò ú-à-â:χà
 3.weed SM₃-DJ-AUX/build.FV
 (‘#Weeds continually.’) [Creissels’ translation: ‘#Weeds build.’]

⁵ Creissels argues for these constructions’ monoclausality, but as noted, we do not take a stance on the issue and focus instead of their monopredicativity. Creissels (2026, forthc.), unlike most descriptive works on auxiliary constructions in Southern Bantu, includes both common orthographic forms and their phonological forms, including prosodic features like tone and penultimate lengthening, and we reproduce his examples as given, adjusting only the morpheme breaks and glossing to match our general conventions.

c. #Mhero o aga mmidi o tlhoga

mhèrò	ú-áχà	mmídí	'ú-tl ^h ô:χ-à
3.weed	SM ₃ -AUX	3.maize	SM ₃ .SIT-grow-FV

('#Weeds continually while maize grows.')

[Creissels' translation: '#Weeds build while maize grows.']

(Creissels forthc.: 10)

Definitions such as Anderson's also assume, explicitly or implicitly, that auxiliary forms are "of verbal origin" (Anderson 2011a: 1). While many of the forms in our dataset clearly have their origins in lexical verbs, others are of unknown or uncertain origin, and still others, such as siSwati (S43) *khatsi* 'just now; only now' from the noun *sikhatsi* 'time', are demonstrably not of verbal origin but still behave as auxiliary verbs within auxiliary constructions; see example (9).

(9) siSwati (S43)

Tivakashi ti-khatsi ti-hamb-a.

8.visitor	SM ₈ -AUX	SM ₈ -leave-FV
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'The visitors are just leaving (now)'

(Taljaard et al. 1991: 155)

In part because of the non-verbal origin of some auxiliary forms, Guérin (2016, 2018) notes that traditional definitions of auxiliaries, whether synchronic or diachronic, are problematic for African languages. Guérin gives examples from Mandinka (Mande, mnk) and Wolof (Atlantic, wol), noting that similar definitional challenges are found within "Songhay, Atlantic, Chadic, Cushitic" (2018: 20). Guérin therefore proposes a definition of an auxiliary as an "[a]utonomous [i.e. non-affixal – Auth.] predicative element which combines with a lexical verb to mark a verbal category (tense, aspect, mood, polarity, voice, etc.)" (Guérin 2018: 22).

Somewhat similarly to Guérin (2018), Haspelmath (2024: 1) proposes a "retro-definition" of an auxiliary as "a non-affixed bound [i.e. unable to occur on its own – Auth.] form co-occurring with a verb that expresses TAMEP (tense, aspect, modality, evidentiality, or polarity) meanings and that has person marking which indexes the verb's subject". While Haspelmath's comparative concept, like that of Guérin, seems to otherwise hold for the forms we consider to be auxiliaries, a semantic restriction to TAMEP functions would arbitrarily exclude forms that otherwise display all the characteristics of the auxiliary class in Southern Bantu; Haspelmath himself notes that his "choice of meanings is of course arbitrary, and one could have made different choices ... these are the most common kinds of meanings mentioned for auxiliaries" (Haspelmath 2024: 14).

Thus, although some of the constructions in our dataset have been treated as auxiliary constructions in important typological studies (Anderson 2011a; Kuteva

et al. 2019, *inter alia*), it is not clear to us that there is a commonly used typological definition that fully accounts for their characteristics. Guérin's (2018) and Haspelmath's (2024) definitions seem to come closest, although they do not explicitly include functions beyond TAMEP and voice (Guérin 2018), or they explicitly exclude them (Haspelmath 2024). In this article, we argue that not only do the Southern Bantu constructions in question form a coherent category, best described as auxiliary constructions; they also exhibit several properties that are important features of auxiliary systems elsewhere in Africa. A definition such as ours is necessary to account for them

Following the tradition of Doke (e.g. Doke 1927/1992), studies specific to Southern Bantu languages frequently refer to auxiliaries as “deficient verbs”, in reference to their typically decreased inflectional paradigms, their grammatical meanings, and the fact that they require a lexical verbal complement (see e.g. Doke and Mofokeng 1957: 245). Some scholars of Southern Bantu additionally make a principled difference between “auxiliary” and “(semi-)deficient” verbs; scholars making this distinction often place in the “(semi-)deficient” group auxiliaries that have corresponding regular lexical verbs, while “auxiliaries” do not correspond to synchronically active lexical verbs. Within a language, auxiliaries with lexical equivalents and those without may also show other categorial differences in their semantics and in their morphosyntactic and phonological properties (see Setshedi 1974; Mkhathshwa 1991; Creissels 2026, *forthc*; Heine 1993: 60 and references therein), but we have not yet found evidence for any consistent differences at the group level. Indeed, for our purposes, maintaining separate classes risks eliding their important common properties. Thus, at least at the group level, separating “deficient verbs” from “auxiliaries proper” seems to obscure rather than enlighten (see also Anderson 2006: 11).

2.2 Varieties considered

This study focuses on Southern Bantu, the group of languages that make up Zone S in Guthrie's (1967-1971) referential classification. Unlike some of Guthrie's zones, languages in Zone S are generally recognized as descending from a common ancestor (Gunnink et al. 2022). Southern Bantu languages are primarily spoken in Botswana, eSwatini, Lesotho, Mozambique, South Africa, and Zimbabwe and can be divided into three larger clusters: Shona (S10), Sotho-Tswana (S30), Nguni (S40), and three smaller ones: Venda (S20), Tswa-Ronga (S50) and Copi (S60) (Maho 2009). Silozi (K21), spoken in Zambia, Botswana, and Zimbabwe, is historically linked to the Sotho-Tswana (S30) languages, despite its official designation as a zone K language, and thus we include it here as part of the S30 group. For a detailed historical classification of Southern Bantu languages see Gunnink et al. (2022).

The varieties investigated are listed in Table 1, along with the number of documented auxiliaries in our dataset, based on our best understanding of whether they fit our definitional criteria. As can be seen, these languages are rich in auxiliaries: except for Xitswa (S51), for which we have very limited data, none of the varieties under investigation has fewer than ten auxiliaries, and most have far more. The divergent numbers within subgroups may be related more to depth of documentation than to actual differences in auxiliary inventories.

We refer to named languages as if the boundaries between them were clear and linguistically sound, although the reality is, of course, far more complex, and variation abounds. The nature of our data sources means that there is an overrepresentation of standard, official, or prestige varieties – or at least what the respective grammar authors considered to be representative of them. Sources, especially older descriptions, often leave unspecified the location and methodologies of data collection, as well as the varieties on which descriptions are based.

Rough statistical information is drawn from a dataset of over 500 auxiliaries (Carbo et al. 2026).

2.3 Glossing, terminological, and other conventions

We follow the South African convention of including noun class prefixes when referring to the names of South African Bantu languages. Along with language

Table 1: Languages in this study and their auxiliary inventories.

Language cluster	Language	Number of auxiliaries in dataset
Shona (S10)	Central Shona [mostly Zezuru] (S10/S12, sna)	38
Venda (S20)	Tshivenda (S21, ven)	13
Sotho-Tswana (S30)	Silozi (K21, loz)	25
	Setswana (S31, tsn)	58
	Sesotho sa Leboa [N. Sotho] (S32, nso)	25
	Sesotho [S. Sotho] (S33, sot)	45
Nguni (S40)	isiNdebele [S. Ndebele] (S407, nbl)	30
	siNdebele [N. Ndebele] (S408, no ISO)	34
	isiXhosa (S41, xho)	60
	isiMpondo (S41a, no ISO)	19
	isiZulu (S42, zul)	61
	siSwati (S43, ssw)	42
	isiNdebele [Ndebele of Zimbabwe] (S44, nde)	24
Tsonga (S50)	Xitswa (S51, tsc)	3
	Xitsonga (S53, tso)	23
Copi (S60)	Gitonga (S62, toh)	10

names, we make use of referential “Guthrie” codes. The Guthrie referential classification system (Guthrie 1967–1971), used widely in studies of Bantu languages, groups languages into zones, marked by letters, followed by two or three digits or letters. The first digit refers to a subgroup and the second to a named language; this is sometimes followed by a third digit or letter. We include these codes to give readers a rough idea of the relationships between the languages mentioned, as well as for purposes of disambiguation; among other issues, three relatively distinct varieties are all called ((i)si)Ndebele. We use the Guthrie codes as listed in Hammarström (2019), which in turn draws on Maho (2009).

Most of the descriptive literature on Southern Bantu does not include any inter-linear glossing. In such cases, we have added glosses to the best of our ability, based on the descriptive literature and our knowledge of the languages. We have also adapted source glosses, when provided, to match our conventions. Our glosses are not meant to reflect theoretical stances, with the partial exception of the gloss *PFV* (perfective) where some sources gloss “perfect” or “anterior” aspect. All forms which we label *PFV* alternate between past (usually eventive) and present stative readings, depending on the verb type and sentential context (see Crane and Persohn 2019 for discussion of this verb type in Bantu). We have given them a unified gloss to reflect this important commonality, although cross-linguistic differences almost certainly exist.

We gloss auxiliary forms as *AUX* and describe their functions in the running text. Some auxiliaries are multifunctional, so giving them a short and consistent gloss is challenging.

3 Semantics of Southern Bantu auxiliaries

3.1 Introduction

Cross-linguistically, auxiliaries are known for expressing tense, aspect, mood, evidentiality, and polarity distinctions – so much so that Haspelmath (2024) incorporates these functions as definitional criteria – and these functions are common in Southern Bantu auxiliary systems, as well.⁶ Auxiliaries are also known to express voice (Anderson 2006: 34–35), but we have not found auxiliaries with voice semantics in Southern Bantu.

However, African languages also employ auxiliaries for functions that go far beyond TAMEP (Andersen 2007; Schaefer and Egbokhare 2025; *inter alia*), although

⁶ A possible exception is evidentiality. The only form in our dataset described with a primary function that might be considered evidential-like is Setswana *kete* ‘apparently’ (Setshedi 1974: 29). Evidential strategies are understudied in Southern Bantu.

these functions are not especially well documented in the typological literature (Anderson 2011a: 8). Non-TAMEP auxiliaries are found in Northwest Bantu (e.g. Van de Velde 2008) but are not widely reported in Eastern Bantu outside of the Southern Bantu subclade (Gibson 2025), nor for Southwestern Bantu. However, these auxiliary functions are extremely common in Southern Bantu. Many auxiliaries have meanings that crosscut categories, while also encoding additional semantics. For example, the Silozi (K21) auxiliary *mana* ‘as soon as’, possibly from *mana* ‘finish’,⁷ can also suggest suddenness (Jalla 1982); that is, it has both sequence and manner meanings.

In this section, we discuss temporal (Section 3.2), aspectual (Section 3.3), modal (Section 3.4) and polarity (Section 3.5) functions of auxiliaries, as well as functions that do not fit squarely into any of these categories (Section 3.6).

3.2 Temporal semantics (tense, time, temporal sequencing)

The most straightforwardly tense-related temporal auxiliaries serve primarily to indicate a temporal reference point. Botne (1986) describes such auxiliaries, common in Bantu, as (temporal) “shifters”. All languages in our sample have a form meaning (roughly) ‘be(come)’, also used in non-present copular constructions (Nguni and Sotho-Tswana *ba/be*; Tshivenda (S21) *vha*; Xitsonga (S53) *va*; Gitonga (S62) *na/ba/ra*). Silozi (K21) has both *be* (from ‘be’) and *li* (from ‘say, do’). In Silozi (K21), *be* is restricted to future readings and is prefixed with future marker *ta-* (10), while *li* has a simultaneous reading (‘while X is ongoing’) and is not temporally restricted; instead, tense is indicated by verbal prefixes on the auxiliary (11) (Fortune 1977: 96).

(10) Silozi (K21)

- a. *Lifūlāi lī-tā-bè lī-sà-fūf-i kāmūsò.*
 10.airplane SM₁₀-FUT-AUX SM₁₀-SIT-NEG-fly-NEG tomorrow
 ‘The planes will not be flying tomorrow.’
 (Gowlett 1967: 174)
- b. *Ni-ta-be ni-zamay-ile.*
 SM_{1SG}-FUT-AUX SM_{1SG}-SIT-Walk-PFV
 ‘I shall have walked.’
 (Fortune 1977: 96)

⁷ *Mana* ‘finish’ (<Proto-Bantu **màd* ‘finish’ [Bastin et al. 2002]) does not seem to be widely used in Southern Bantu, and auxiliaries in Nguni with similar phonological forms tend to be treated as reflexes of an applicative form of *ma* ‘stand’ (see Carbo et al. 2026 for examples and references). However, Silozi (K21), while rightly classified as a Sotho-Tswana variety, developed in a contact situation and exhibits extensive influence from Western Zambian varieties that do have *mana* ‘finish’ (see Gunnink et al. 2023: 97, fn. 10).

(11) Silozi (K21)

- a. *ú-li á-sèbéz-à*
 SM₁-AUX SM₁.SIT-work-FV
 ‘while he was working’
 (Gowlett 1967: 161)
- b. *Ni-sa-li ni-ken-a mwandu, ha-ni-si-ka-mu-bon-a.*
 SM_{1SG}-PERS-AUX SM_{1SG}.SIT-enter-FV 18.9.house NEG-SM_{1SG}-NEG-POT-OP₁-see-FV
 ‘Ever since I came into the house, I have not seen him.’
 (Fortune 1977: 96)
- c. *U-ta-li u-fik-a kwakota yani, u-ta-bon-a*
 SM_{2SG}-FUT-AUX SM_{2SG}.SIT-arrive-FV ASSC₁₇.9.tree DEM₉ SM_{2SG}-FUT-see-FV
nuka.
 9.river
 ‘When you arrive at that tree, you will see the river.’
 (adapted from Fortune 1977: 97)

Other time-related auxiliaries express more specific temporal information that tends to be encoded via adverbials in languages like English. Many Bantu languages morphologically distinguish several degrees of past or future remoteness (see Botne 2025), so it is not surprising that Southern Bantu auxiliaries also fill this role. An example of an auxiliary with a hodiernal (‘today’) past function is given in (12).

(12) Setswana (S31)

- Ke tsogile ke lema.*
kì-tsúχîlè kí-lí:m-à
 SM_{1SG}-AUX.PFV SM_{1SG}.SIT-cultivate-FV
 ‘I’ve been ploughing today.’
 (Creissels forthc.: 23)

Southern Bantu auxiliaries are also used for time-related functions that go beyond remoteness marking. For example, all the Sotho-Tswana languages, along with Tshivenda (S21), have an auxiliary derived from ‘sleep’ that is used to mean ‘spend the night doing’ or ‘during the night’. The Silozi example in (13) is marked with perfective morphology, resulting in a past temporal orientation.

(13) Silozi (K21)

- Lù-lòbézi lwǎmbòl-à.*
 SM_{2PL}-AUX.PFV SM_{2PL}.SIT.talk-FV
 ‘We spent the night chatting’
 (Gowlett 1967: 162)

At least in Setswana, auxiliaries derived from ‘sleep’ are also used as hesternal (‘yesterday’) pasts and hodiernal (‘today’) futures (Creissels forthc.), a logical development from ‘go to sleep having done X’.

Setswana has an auxiliary *dika*, possibly related to a verb meaning ‘surround; tarry; be a while at’, that can be used to indicate coming from a certain direction, or that something happens during a particular time or season (Matumo 1993: 33), as in (14), where it refers to the current year.

- (14) Setswana (S31)
Pula e-tla-dika e-nele.
 5.rain SM₅-FUT-AUX SM₅.SIT-rain[v].PFV
 ‘The rain will fall this year.’
 (Setshedi 1974: 72)

Auxiliaries in Southern Bantu are also used to indicate event sequencing. For example, auxiliaries derived from ‘arrive’ tend to mean either ‘before’ (reported for Sesotho, S33 and isiZulu, S42) or ‘(immediately) after’ (reported for siSwati, S43, isiNdebele, S407, and siNdebele, S408).

3.3 Aspectual semantics

The most common aspectual functions expressed by auxiliaries in Southern Bantu are habituality, frequency, repetition, or a continuing state, as in (15)–(16). Some auxiliaries express both tense and (imperfective) aspect, either using tense marking on the auxiliary, or in the auxiliary’s own semantics, as in (17), where *fudula* indicates both past tense and habitual aspect.

- (15) Xitsonga (S53)
Vakhalabye va-dzumba va-karhele.
 old_men SM₂-AUX SM₂-get_tired.PFV
 ‘Old men are always tired.’
 (Hlungwani et al. 2021: 173)
- (16) Silozi (K21)
Kǎzè ĭ-nà ì-c-á twàrà twáyòrà.
 9.cat SM₉-AUX SM₉.SIT-eat-FV 13.child ASSC₁₃.POSS₉
 ‘The cat keeps eating its young’
 (Gowlett 1967: 161)

- (17) isiXhosa (S41)
Ndi-fúdùlā ndi-thándàz-à ngókhúhlwà.
 SM₁-AUX SM₁.SIT-pray-FV in_the_evening
 ‘I usually prayed [in the] evening.’
 (du Plessis and Visser 1992: 263)

Beyond these readings from the imperfective field, Southern Bantu auxiliaries are used to express experiential readings and the interrelated phasal polarity concepts (Van Baar 1997), ‘still’, ‘not yet’, ‘already’, and ‘no longer’, which relate both to aspectuality and to polarity, and all of which are also expressible via affixation.

3.4 Mood and modality semantics

Following Nurse and Devos (2019), we divide this category into mood proper (i.e. illocutionary force) and modality (i.e. expressions of possibility and necessity).

Relatively few auxiliaries directly express illocutionary force. Nguni *musa* (see example (22) in Section 3.5) is a negative imperative. ChiShona *rega*, from *rega* ‘leave, stop’ seems to have a similar function (Fortune 1955: 206, 269). A handful of auxiliaries are reported to have hortative (including politeness/‘please’) semantics, such as Setswana *nô*, which Cole (1955: 300) describes as “the present subjunctive form” of the multifunctional auxiliary *nê* (18).⁸

- (18) Setswana (S31)
O-nô o-mo-thus-a.
 SM_{2SG}-AUX SM_{2SG}.SIT-OM₁-help-FV
 ‘Do help him along.’/‘Give him a hand.’
 (Cole 1955: 300)

More auxiliaries are modal, expressing assessments of possibility and necessity (see Bernander et al. 2022 for modal auxiliaries in Eastern Bantu). Some modal forms fit squarely into our definition of auxiliaries, while others deviate from it, being able, for example, to occur without an overt lexical complement. See Crane et al. (2025) for discussion.

Example (19) shows the Sesotho epistemic possibility auxiliary *kanna*, with its source in the potential prefix *ka-* and the auxiliary *nna*, the latter of which Chaphole (1988: 113) translates as the habitual ‘keep on doing’.

⁸ See also Creissels (forthc.). Creissels characterizes this particular form as meaning ‘it would be better if...’ and translates it in examples as more squarely modal ‘should’.

(19) Sesotho (S33)

Mpho a-kanna a-tsamay-a hosane.
 1A.Mpho SM₁-AUX SM₁-go-FV tomorrow
 ‘Mpho might go tomorrow.’
 (Mokoaleli et al. 2021: 411)

Modal auxiliaries with necessity force can be illustrated with Sesotho sa Leboa *swanetše* ‘must; should; ought’, which represents a cross-linguistically attested development from simulative/be suitable > necessity (Kuteva et al. 2019: 243).

(20) Sesotho sa Leboa (S32)

O-swanetše go-re-thuš-a.
 SM_{2SG}-AUX INF-OM_{1PL}-help-FV
 ‘He should help us.’
 (Ziervogel et al. 1969: 94)

3.5 Polarity semantics

Several Southern Bantu auxiliaries encode negation, either as their main function or (more frequently) in addition to tense, aspect, or mood/modality semantics. In some cases, as with Setswana *gana* ‘refuse’ (21), the lexical source of polarity-marking auxiliaries is clear.

(21) Setswana (S31)

Pula e gana go wa.
 Púlá í-ǵáná ǵô:-w-à
 9.rain SM₉-AUX INF-fall-FV
 ‘It is not raining.’
 (Creissels forthc.: 30, cited in Crane 2026: 229)

With other negation auxiliaries, the lexical source is somewhat less transparent. Oosthuysen (2016: 309) traces isiXhosa negative imperative *musa* (22), to the causative-marked verb *mkisa* ‘cause to go away’; *musa* may also be a loan from English *must* (*not*) or Afrikaans *moet* (*nie*). The form *musa* occurs across Nguni.

(22) isiXhosa (S41)

Musa uku-lil-a
 AUX INF-cry-FV
 ‘Do not weep.’
 (Oosthuysen 2016: 309)

Other auxiliaries express negation via inflectional marking. Some of these forms only occur with negation marking. For example, the Setswana auxiliary *bolo* (23) is only used under negation and indicates that the eventuality described in the lexical verb has not occurred in a long time, or, as a logical consequence, that it occurred long ago.

- (23) Setswana (S31)
Ga ke bolo go etela Kitso.
 χà-kí-**bòlú** χú-ètèlà kî:tsò
 NEG-SM_{1SG}-AUX INF-Visit-FV Kitso
 ‘I visited Kitso long ago.’ [i.e. ‘I have not visited Kitso recently.’]
 (Creissels 2026: 281)

Auxiliaries can acquire specialized meanings under negation. For example, the Setswana auxiliary *tlhola*, from the lexical verb *tlhola* ‘spend the day’, has a habitual function. Under negation, as in (24), it has the phasal polarity meaning of ‘no longer’.

- (24) Setswana (S31)
Tumelo ga-a-tlhola a-bots-a bana dipotso.
 Tumelo NEG-SM₁-AUX SM₁.SIT-ask-FV 2.children 10.question
 ‘Tumelo no longer asks children questions.’
 (Setshedi 1974: 71)

3.6 Non-TAMP semantics

Auxiliaries with non-TAMP functions, either as their primary function or in addition to a TAMP-related function, are frequently found in Nilo-Saharan and Niger-Congo languages (Creissels et al. 2008: 106), and they are strikingly common in Southern Bantu, with nearly 30 % of the auxiliaries in our dataset at least arguably having a non-TAMP function as part of their auxiliary semantics. For example, Setshedi (1974) lists, among many others, the Sesotho (S33) auxiliaries *mpa* ‘nevertheless, notwithstanding opposition’; *eketsa* ‘over and above what was required’; *tena* ‘tiresomely, inappropriately, in desperation’; *tsoha* ‘unexpectedly, in an unplanned way’; *tswa* ‘futilely and without end’; and *phakisa* ‘soon, quickly’ (Setshedi 1988: 185–187). Some non-TAMP functions are illustrated in (25)–(28): siSwati *sheshe* means ‘quickly’, isiXhosa *kholisa* with a subjunctive complement indicates positive evaluation (26),

and siSwati *ze*, probably borrowed from isiZulu, can be used to express surprise and dismay (27).

(25) siSwati (S43)

Tingulube ti-sheshe ti-nats-e emanti.

10.pig SM₁₀-AUX SM₁₀-drink-SBJV 6.water

‘Pigs drink water quickly.’

(Nkuna et al. 2021: 231)

(26) isiXhosa (S41)

U-kholisile u-hamb-e kwangonyezi namhlanje...

SM_{2SG}-AUX.PFV SM_{2SG}-go-SBJV early today

‘It is a good thing you left very early today...’

(du Plessis and Visser 1992: 258)

(27) siSwati (S43)

A-ze a-y-e kwal-a umntfwanami!

SM₁-AUX SP₁-go-SBJV INF.refuse-FV 1.my_child

‘That she should have the arrogance to refuse my child [as a husband]!’

(Ziervogel and Mabuza 1976: 160)

4 Morphosyntactic properties and parameters of variation

In this section, we provide an overview of significant morphosyntactic patterns associated with auxiliaries in Southern Bantu. Section 4.1 gives an overview of their subject marking properties. Section 4.2 discusses their object marking properties. Section 4.3 describes the morphosyntax of TAMP marking and negation. In Section 4.4, we provide an overview of the selectional properties of Southern Bantu auxiliaries. Finally, Section 4.5 describes “auxiliary stacking”.

Anderson (2011a, b) proposes a categorization of auxiliary construction types based on inflectional “headedness”, noting that headedness is a multifactorial concept and that auxiliary verb constructions are usually syntactically headed by auxiliaries and semantically headed by lexical verbs. For Anderson, inflectional, or “morphosyntactic” headedness refers to the host inflection for subject, object, tense, aspect, and so forth. Anderson proposes a five-way distinction (28), noting that all these subtypes are “well attested in African languages” (2011a: 11).

- (28) Auxiliary verbs and inflectional “headedness”
- a. **Aux-headed:** auxiliary verb is the inflectional head
 - b. **Doubled:** auxiliary verb and inflectional verb are inflectional co-heads
 - c. **Split:** inflectional features split among lexical verb and auxiliary verb
 - d. **Split/doubled:** some features show doubled pattern, others split pattern
 - e. **Lex-headed:** lexical verb is inflectional head (auxiliary verb often analysed as particle; may have “clause-level” inflection)
- (minimally adapted from Anderson 2011a: 11)

Examples of *AUX*-headed patterns include, according to Anderson (2011a), cases in which the lexical verb has a non-finite form such as the infinitive or – in European languages but somewhat rarely elsewhere – the participial form. In doubled patterns, inflectional marking is found on both the auxiliary verb and the lexical verb, while in split patterns, inflectional features are systematically split between the two verbal elements. In split/doubled patterns, then, some inflectional features appear on both the auxiliary and the lexical verb (“doubled”), while others are found on one or the other.

In Southern Bantu, there are two general situations: subject-inflected auxiliary verbs plus infinitive-marked lexical verbs; and subject-inflected auxiliary verbs plus subject-inflected lexical verbs. Constructions with subject marking on both the auxiliary and the lexical verb would probably be considered split/doubled, but, as will be seen in the following subsections, there is variation regarding what types of inflection can appear where. Auxiliary constructions with an infinitive lexical verb are canonical examples of the *AUX*-headed pattern for Anderson (2011a), but it is worth noting that infinitives in Bantu obligatorily host any object marking in auxiliary constructions and can also host negation and a limited range of other inflectional features.

Regarding *LEX*-headed patterns, as noted in Section 4.1 below, some auxiliaries appear optionally or even usually without subject marking. This seems to us to be segmental loss associated with further grammaticalization (see Section 6), and more work is needed to draw the line between verbal auxiliaries and adverbial pre-verbal “particles”. For our (rough) statistical purposes, we have only included auxiliaries that can at least optionally take subject marking, since these unambiguously still function as verbs.⁹

⁹ Note that a few forms such as the Nguni negative imperative *musa* do not take subject marking because they always appear in imperative form, which is not marked with a subject prefix. However, these forms do take plural subject suffixal inflection, e.g. *musani* ‘do not (2pl)’ (e.g. Oosthuysen 2016: 231), as do other plural imperative forms.

4.1 Subject agreement marking

Auxiliary constructions in Southern Bantu show a range of subject agreement patterns. The auxiliary/auxiliaries or the main verb, or both, may carry agreement. As already noted, some auxiliaries are described as “optionally” (or even usually) appearing without a prefix. This pattern might be associated with grammaticalization into an adverbial, but more work is required to determine their categorial nature.

Subject marking typically appears on auxiliary forms, followed by a subject-marked verb (29) or an infinitive (30).

- (29) Xitsonga (S53)
Ndzi-ta-hatla ndzi-nw-a mati.
 SM_{1SG}-FUT-AUX SM_{1SG}-drink-FV 6.water
 ‘I will quickly drink water.’
 (Hlungwani et al. 2021: 173)

- (30) Setswana (S31)
Ngwana o-batlilê go-w-êl-a mô-sedib-êng.
 1.child SM₁-AUX.PFV INF-fall-APPL-FV 18-7.well-LOC
 ‘The child nearly fell into the well.’
 (Cole 1955: 292)

Sometimes, subject marking on auxiliary verbs is optional, but the main verb which follows must be subject-marked. An example from siSwati is given in (31). These auxiliaries are most likely undergoing grammaticalization to either pre-subject-marker prefixes or (more commonly) independent adverbials.

- (31) siSwati (S43)
(Wa-)ciske wa-luny-w-a¹⁰ yi-nyoka.
 SM₁.REM.PST-AUX SM₁.CSC-bite-PASS-FV COP₉-9.snake
 ‘He was almost bitten by a snake.’
 (Nichols 2011: 52)

A few other auxiliary-like constructions deviate more significantly from these subject-marking patterns. Especially in the modal domain of necessity, some auxiliary-like forms frequently take expletive (class 17) marking, and are followed by a subject-marked verb (32).¹¹

¹⁰ Nichols (2011: 52) glosses this as a distant past, but Ziervogel and Mabuza (1976: 116) note that *ciske* is followed by a subjunctive/(consecutive) or infinitive.

¹¹ We gloss the expletive subject markers as class 17 (locative/“default” subject marker) following common practices in the field (see e.g. Halpert 2022: 197), while noting that the class 15 (infinitive) and

- (32) siSwati (S43)
Ku-fanele a-ba-but-e.
 SM₁₇-NEC SM₁-OM₂-ask-SBJV
 ‘He should ask them.’
 (Ziervogel and Mabuza 1976: 118)

The verb *fanele* is analysed as a raising verb in the generative literature on Nguni (Halpert 2019b; Zeller 2006). In isiZulu, raising is optional and whether raising has taken place or not, the embedded clause is typically finite,¹² subjunctive-marked and often introduced by the complementizer *ukuthi* ‘that’, as shown in (33). Without raising, in (33a), *fanele* has expletive-marking. In (33b) the subject *abafundi* ‘students’ has raised to the subject position of the clauses headed by *fanele* and *fanele* agrees with it.

- (33) isiZulu (S42)
- a. *Ku-zo-fanele ukuthi uJabu a-yek-e.*
 SM₁₇-FUT-NEC COMP 1a.Jabu SM₁-resign-SBJV
 ‘Jabu will have to resign.’
- b. *Abafundi ba-zo-fanele ukuthi ba-fund-e kakhulu.*
 2.student SM₂-FUT-NEC COMP SM₂-study-SBJV hard
 ‘The students will have to study hard.’
 (Zeller 2006: 256)

Expletive-marked verbs are always followed by subject-marked subjunctive forms, as in (32); an infinitival verb is ungrammatical following the expletive (34a). However, in isiNdebele (S407) and at least some other Nguni languages, subject-agreeing forms allow following infinitives (34b). In some languages, such as Xitsonga (Crane field-notes), only SM-*fanele* + infinitive (and not the expletive-marked form) is allowed.

- (34) isiNdebele (S407)
- a. **ku-mele uku-thwal-a isikupuru*
 SM₁₇-NEC INF-put_on-FV 7.helmet
 Intended: ‘It is necessary to wear a helmet.’

class 17 (expletive) noun class prefixes are homophonous. Note that the expletive verb in (33) can be marked for future tense, unlike an infinitive, and expletive marked verbs do not take the pre-prefixal “augment” (which would be *u-* here), unlike the infinitival verb *ukutwala* ‘to put on’.

¹² Zeller (2006: 257–258) notes that according to some isiZulu reference grammars an infinitival clause can also appear as the embedded clause following *fanele*, but when Zeller tested this construction, it was not accepted by all speakers, especially not younger speakers; in general, the pattern seems to be a point of significant variation across speakers and varieties (see also Crane et al. 2024). Halpert (2019b) analyses raising constructions with the non-modal lexical verb *bonakala* ‘seem’ in isiZulu and notes that infinitival complements are ungrammatical.

- b. *ngi-mele uku-thwal-a isikupuru*
 SM_{1SG}-AUX INF-put_on-FV 7.helmet
 ‘I have to wear a helmet.’
 (Crane fieldnotes)

The literature on raising constructions in isiZulu does not address any possible differences between what are generally considered to be modal auxiliaries like *fanele* and lexical verbs like *bonakala* ‘to appear’. At least superficially, the structures in (32)–(33) also seem to be biclausal (and are analysed as such by Halpert 2019b; Zeller 2006) since they use a complementizer to introduce the embedded clause, unlike typical auxiliary constructions. However, constructions such as (34b) fit our definition of auxiliaries. A preliminary look at these types of verbs shows a great deal of subtle variation across languages, verbs, and the presence or absence of different complementizers. We recommend these questions as topics for further research.

Finally, a few verbs described as auxiliaries in the literature have more divergent agreement patterns, such as siSwati, (*e*)*tfuka* (35), where the class 1 subject of the first verb, *etfuka* ‘get a fright’, is indexed as the object of the lexical verb *luma* ‘bite’, which has a class 9 subject prefix (agreeing with ‘dog’), giving the overall reading ‘suddenly the dog bit him’. We do not consider this to be an auxiliary verb construction, but the complementation patterns are similar and the semantic shifts (‘get a fright’ > ‘suddenly’) resemble the kinds of shifts seen in auxiliation, making these constructions and their relationship to more typical auxiliary verb constructions an important topic for further research.

- (35) siSwati (S43)
W-etfuka i-m-lum-ainja.
 SM₁.CSC-get_fright SM₉.SIT-OM₁-bite-FV 9.dog
 ‘And suddenly the dog bit him.’
 (Ziervogel and Mabuza 1976: 155)

4.2 Object marking

All languages in our sample appear to allow object marking on lexical verbs following auxiliaries. This pattern is shown in (36), where *se-* is the (class 7) object marker referring to the object *sefofane seo* ‘that aircraft’ (class 7). We have not seen any restrictions on object marking on lexical verbs that are particular to auxiliary constructions.

(36) Sesotho (S33)

*O-hla o-se-rek-a sefofane seo?*SM_{2SG}-AUX SM_{2SG}-OM₇-buy-FV 7.aircraft DEM₇

‘Are you certainly buying that aircraft?’

(Chaphole 1988: 53)

In general, auxiliaries cannot be marked with object prefixes. Here, again, verbs from the modal domain are an exception, as in the Xitsonga example in (37). Class 8 agreement is sometimes used in Xitsonga to refer to infinitive clauses, despite the latter being part of class 15 (du Plessis 2016: 25 calls this use of the class 8 object marker a “sentential pronoun”).

(37) Xitsonga (S53)

*Ndzi-ta-swi-kota ku-t-a mundzuku.*SM₈-FUT-OM₈-AUX INF-come-FV tomorrow

‘I shall be able to come tomorrow.’

(adapted from Ouwehand 1965: 85, cited in Crane et al. 2025: 75)

Some modal verbs that take object marking can also appear without a following lexical verb; cf. English modal auxiliaries such as *can* and *must*, which share this property. Following our definitional criteria, we consider these forms in Southern Bantu to be on the path towards auxiliation, but not to be fully fledged auxiliaries.

4.3 Tense-aspect-mood-polarity marking in auxiliary constructions

4.3.1 Tense marking

An example of tense marking on an auxiliary verb is given in (38), the latter of which uses a perfective (commonly analysed as perfect) form, which conveys both temporal (past) and aspectual meaning. Note that in many cases, as in the example here, the temporal information is conveyed with tense morphology (see Section 3.2).

(38) isiXhosa (S41)

*Nda-ye ndi-theth-ile.*SM_{1SG}.REM.PST-AUX SM_{1SG}.SIT-speak-PFV

‘I had spoken (long ago).’

(Heine 1993: 108)

In some constructions, both the auxiliary and the lexical verb are marked for tense. In (39), temporal information is indicated both on the auxiliary, setting a reference time, and on the main verb, indicating a time in the (immediate) future of the reference time. The prefixes *ta-* and *tawu-* are allomorphs of the immediate future tense. Similar constructions are found in Bantu languages outside Southern Bantu (Anderson 2011a: 25–26; Botne 1986).

- (39) siSwati (S43)
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.’
 (Nichols 2011: 58)

It may be the case that in Southern Bantu, constructions with tense marking on both the auxiliary and the lexical verb only occur with temporal auxiliaries like *be* and *li* (see Section 3.2); further research on this topic is needed. In any case, the lexical verb in an auxiliary construction can contribute temporal as well as aspectual meaning. The overall temporality of an auxiliary clause can depend on the marking of both the auxiliary and the lexical verb, as shown in (40) for the isiZulu auxiliary *ke*, which Doke (1927/1992: 204) defines as “to do sometimes” or “to have done once upon a time”, suggesting an experiential function. With an untensed auxiliary, the tense of the construction is determined by the form of the lexical verb: a subjunctive-marked lexical verb gives a present interpretation, while a consecutive-marked lexical verb gives a recent past interpretation. When the auxiliary is marked with remote past (40c) or with future (40d,e) morphology, the overall temporal interpretation of the clause changes accordingly.

- (40) isiZulu (S42)
- a. *Ngi-ke* *ngi-thand-e*. (present)
 SM_{1SG}-AUX SM_{1SG}-love-SBJV
 ‘I sometimes love.’
 - b. *Ngi-ke* *nga-thand-a* (recent past)
 SM_{1SG}-AUX SM_{1SG}-CSC-love-FV
 ‘I once loved.’
 - c. *Nga-ke* *nga-thand-a*. (remote past)
 SM_{1SG}-REM.PST-AUX SM_{1SG}-CSC-love-FV
 ‘I once loved.’
 - d. *Ngi-zo-ke* *ngi-thand-e*. (near future)
 SM_{1SG}-IMM.FUT-AUX SM_{1SG}-love-SBJV
 ‘I shall love sometime soon.’

- e. *Ngi-yo-ke* *ngi-thand-e.* (remote future)
 SM_{1SG}-REM.FUT-AUX SM_{1SG}-love-SBJV
 ‘I shall sometimes love.’
 (Doke 1927/1992: 204)

4.3.2 Aspect marking

Both auxiliaries and their lexical complements can be marked for aspect. In (41), from isiXhosa, both the auxiliary *hlala* ‘continue’ and the lexical verb are marked with perfective aspect, giving an ongoing-state reading, because both *hlala* (from ‘sit; stay’ and *caphuka* ‘be(come) annoyed’ have present-state readings with perfective aspect.

- (41) isiXhosa (S41)
U-hleli *e-caphuk-ile.*
 SM₁-AUX.PFV SM₁-SIT-be_annoyed-PFV
 ‘She stays upset.’ (O. Slater, pers. comm. 25 November 2024)

In (42), from Tshivenda, both forms are marked with what we analyse as perfective, apparently resulting in a past perfect reading, as both the auxiliary and the main verb *vhona* ‘see’ express past readings with the perfect(ive) form.

- (42) Tshivenda (S21)
Ndo-vha *ndo-vhon-a.*
 SM_{1SG}-PFV-AUX SM_{1SG}-PFV.SIT-see-FV
 ‘I had seen.’
 (Heine 1993: 38)

Aspectual inflection of auxiliaries can involve more than the perfective marker, and it can influence auxiliary functions. IsiXhosa *andula* is found only as an auxiliary, without a lexical counterpart. It refers to a subsequent action when followed by a subjunctive/consecutive form, as in (43a), or by an infinitive form, as in (43b). However, when prefixed with the (aspectual) phasal-polarity marker *sa-* ‘still’ and followed by an infinitive, it means ‘recently’, as in (44). The auxiliary *s-andula* is often shortened, as in (44b).

- (43) isiXhosa (S41)
 a. *Ndo-fund-a* *le* *ncwadi* *nd-andule* *ndi-ku-xelexe.*
 SM_{1SG}.FUT-read DEM₉ 9.book SM_{1SG}-AUX.SBJV SM_{1SG}-OM_{2SG}-tell-SBJV
 ‘I will read this book and then I will tell you.’
 (du Plessis and Visser 1992: 248)

- b. *Qal-a u-yi-lim-e intsimi yakho, w-andule*
 start-IMP SM_{1SG}-OM₉-plough-SBJV 9.field ASSC₉.POSS_{2SG} SM_{2SG}-AUX.SBJV
uku-yi-hlwayel-a imbewu.
 INF-OM₉-SOW-FV 9.seed
 ‘First plough your field and then sow the seed.’
 (Oosthuysen 2016: 304)

(44) isiXhosa (S41)

- a. *U-sa-din-iwe luhambo kuba u-s-andula uku-fik-a.*
 SM₁-PERS-tire-PASS.PFV 11.journey because SM₁-PERS-AUX INF-arrive-FV
 ‘He/She is still tired from the journey because he/she has only recently arrived.’
 (Oosthuysen 2016: 305)
- b. *Ndi-s-and’ uku-fik-a.*
 SM_{1SG}-PERS-AUX INF-arrive-FV
 ‘I have just now arrived.’
 (du Plessis and Visser 2016: 262)

4.3.3 Mood and modality marking

Auxiliaries can also take mood and modal morphology. In (45), the isiXhosa possibility marker *noku-* is prefixed to the auxiliary *phinda* ‘do again’. In (46), the possibility (“potential”) marker *nga-* is prefixed to *phinda* ‘do again’.

(45) isiXhosa (S41)

- ...*u-se-noku-phinda w-o-sulelek-e futhi*
 SM_{2SG}-PERS-POSSIB-AUX SM_{2SG}-FUT-be_infected-SBJV again
ku-funeka u-phinde wa-nyang-w-a.
 SM₁₇-AUX/NECESS SM_{2SG}-AUX.SBJV SM_{2SG}.CSC-treat-PASS-FV
 ‘...as you can [lest you] get infected again and need to be re-treated.’
 (Eiselen and Puttkammer 2014, cited in Crane et al. 2025)

(46) isiXhosa (S41)

- Ndi-nqwen-el-a ukuba iGrain=SA i-nga-phinda i-buy-e.*
 SM_{1SG}-desire-APPL-FV COMP 9.grain=SA SM₉-POT-AUX SM₉-return-SBJV
 ‘I wish that Grain [South Africa] would/could come back again.’
 (Eiselen and Puttkammer 2014, cited in Savić 2020: 310)

Mood and modality can also be expressed with suffixes, as in the Sesotho example in (47), where the auxiliary *fela* ‘act indeed, do in reality’ (Doke and Mofokeng 1957: 287)

appears in the subjunctive form, here acting as a hortative. The resulting auxiliary form has the semantics ‘must indeed’.

- (47) Sesotho (S33)
U-fele *u-tl-e*.
 SM_{2SG}-AUX.SBJV SM_{2SG}-come-SBJV
 ‘Thou must indeed come.’
 (Doke and Mofokeng 1957: 287)

In some languages, both the auxiliary and the main verb can be marked with modal prefixes, as in (48) from Sesotho, a construction which Doke and Mofokeng describe as the “potential emphatic” (1957: 263).

- (48) Sesotho (S33)
N-ka-be *n-ka-rek-a*.
 SM_{1SG}-POT-AUX SM_{1SG}-SIT-POT-buy-FV
 ‘I might possibly buy.’
 (Doke and Mofokeng 1957: 263)

In (49), the Xitsonga auxiliary *jinga*, meaning something like ‘nevertheless’ or ‘make an effort at’, is used in the imperative mood with hortative function.

- (49) Xitsonga (S53)
jinga *u-tirh-a* *hambi* *va-ku-hlek-a*.
 AUX.IMP SM_{2SG}-SIT-Work-FV although SM₂-OM_{2SG}-laugh-FV
 ‘Go on working although they laugh at you.’
 (Cuenod 1967: 60)

4.3.4 Negation marking

Southern Bantu languages typically have extensive systems of verbal negation, with negation morphology dependent on tense, aspect, mood, and syntactic position. There has been little systematic study of negation in auxiliary constructions, and few descriptive sources include more than a few passing notes about its properties. However, some generalizations have been proposed, and further study is needed to determine if any of these hold throughout Southern Bantu.

One important question relates to the host of negation morphology. In at least some auxiliary constructions, negation can appear on the auxiliary, on the lexical verb, or on both. This phenomenon is illustrated in the isiXhosa examples in (50) (partially repeated from (6)) with the auxiliary *soloko* ‘always’ shown in constructions with positive-polarity (50a), with negation morphology on the auxiliary (50b), with negation morphology on the lexical verb (50c), and with both the auxiliary and

its lexical complement bearing negation morphology (50d). In the case of *soloko*, readings take the expected logical scope of negation.

(50) isiXhosa (S41)

- a. ...*ndi-soloko* *ndi-theth-a*
 SM_{1SG}-AUX SM_{1SG}.SIT-talk-FV
 ‘...I always talk’
 (Mini et al. 2003: 1117, glosses and translation added)
- b. ...*a-ndi-soloko* *ndi-bhal-a*
 NEG-SM_{1SG}-AUX SM_{1SG}.SIT-write-FV
 ‘...I don’t always write’
 (Mini et al. 2003: 1117, glosses and translation added)
- c. ...*umntu* *o-soloko* *e-nga-pas-i*
 1.person SM₁.REL-AUX SM₁.SIT-NEG-pass-NEG
 ‘...a person who always fails [lit. who always doesn’t pass]’
 (Mini et al. 2003: 79)
- d. *A-ndi-soloko* *ndi-nga-bhal-i*.
 NEG-SM_{1SG}-AUX SM_{1SG}.SIT-NEG-write-NEG
 ‘I don’t always not write.’ [i.e. sometimes / usually I do write]
 (O. Slater, pers. comm. 26 November 2024)

However, other auxiliary constructions appear to show variability in the host of negation without an obvious corresponding difference in scope, as in the siNdebele examples in (51).

(51) siNdebele (S408)

- a. *Bá-ga-te* *bá-khá:mbh-e*.
 SM₂-NEG-AUX SM₂-walk-sbjv
- b. *Bá-te* *bá-ga-khá:mbh-i*.
 SM₂-AUX SM₂-NEG-walk-NEG
 ‘They should not walk in future.’
 (Ziervogel 1959: 152)

In other constructions, negation can only be marked on the auxiliary. This may be due to general language-level or category-level properties – for example, Lee and Hlungwani (2015: 123) seem to state that in Xitsonga, aspectual auxiliaries can host negation marking (52a), while their lexical complements cannot (52b). Semantic clashes might also motivate some such judgments, if scopal distinctions apply. For example, regarding (52b), it is hard to imagine an event in which someone quickly does NOT drink water.

(52) Xitsonga (S53)

- a. *à-ndzi-hàtli* *ndzi-nwà* *màti*
 NEG-SM_{1SG}-AUX[quickly].NEG SM_{1SG}.SIT-drink 6.water
 ‘I don’t quickly drink water’
- b. **ndzi-hatla* *a-ndzi-nw-i* *mati*
 SM_{1SG}-AUX[quickly] NEG-SM_{1SG}.SIT-drink-FV 6.water
 (Lee and Hlungwani 2015: 123)

Lexical properties of specific auxiliaries might also restrict negation marking – for example, du Plessis and Fisser (1992: 59) report that negation morphology can appear on isiXhosa *buya* ‘again’ but not on its lexical complement, in contrast to the examples with *soloko* (50).

Generalizations posited in the literature regarding the host of negation also involve complement type (see Section 4.4). For example, Poulos and Msimang (1998), on isiZulu, and Poulos (1990), on Tshivenda, suggest that consecutive complements to auxiliary verbs cannot bear negation marking. In a discussion of isiNdebele of Zimbabwe (S44), Pietraszko (2018b) states that auxiliary verbs selecting for lexical complements in the situative (“participle”) form cannot bear negation marking. However, Pietraszko discusses only three or four situative-selecting auxiliaries, and this generalization does not extend to other Nguni languages (as seen for isiXhosa in (50)), let alone Southern Bantu as a group (see Crane et al. 2026; Creissels 2026).

Finally, Creissels (2026) makes the interesting observation that in Setswana, auxiliary constructions in which the auxiliary has no lexical counterpart can be negated only via negation on the complement lexical verb. Negation of such “dedicated” auxiliaries themselves is either disallowed or results in a change in the auxiliary’s functional semantics. Whether this generalization applies to Southern Bantu as a group remains an open question.

4.4 Selectional properties

Across Southern Bantu, auxiliaries select for the form of the lexical verb that follows them, with four main complementation patterns: infinitives (Section 4.4.1); subjunctive and/or consecutive forms (Section 4.4.2); situative forms (Section 4.4.3); and, seemingly much more rarely, indicative forms (Section 4.4.4). We briefly discuss each complementation pattern in turn.

4.4.1 Infinitival complements

Auxiliary forms subcategorizing for infinitive verbs are common throughout Bantu and are a key source of inflectional prefixes (Nurse 2008: 291). In (53), the auxiliary *atisa*, from a lexical verb meaning ‘increase’, lends frequentative aspectual meaning to its infinitival complement.

- (53) Sesotho (S33)
Ke-atisa ho-rek-a nama.
 SM_{1SG}-AUX INF-buy-FV 9.meat
 ‘I buy meat frequently.’
 (Mokoaleli et al. 2021: 411)

Around a quarter of the forms in our dataset optionally or obligatorily have infinitival complements.

4.4.2 Subjunctive and consecutive complements

Subjunctive forms are generally marked with final *-e*; consecutive forms are generally marked with the prefix *a-* following, and coalescing with, the subject marker. These two forms partially overlap in their semantics: one common function of subjunctive forms in Southern Bantu is to mark sequences of events in the non-past, and consecutives are used (roughly speaking) for the same purpose in past-oriented contexts (for an overview, see Riedel and Gibson 2024). Some Southern Bantu auxiliaries select for subjunctive complements, others for consecutive complements, and many take either subjunctive or consecutive morphology, depending on the temporal orientation of the auxiliary itself (54).¹³ Not all sources are explicit on whether both consecutive and subjunctive complements are possible with the same auxiliaries, but sources that do specify usually note that both complement types occur.

- (54) isiZulu (S42)
 a. *Ngi-nele ngi-fik-e=nje...*
 SM_{1SG}-AUX SM_{1SG}-arrive-SBJV=just
 ‘As soon as I come...’

¹³ Note also that in isiZulu, and at least some other Nguni languages, certain auxiliaries tend to trigger the insertion of the clitic *nje* ‘just, only’ to the lexical verb (for isiZulu, see Doke 1927/1992: 204–212).

- b. *Sa-nele* *sa-phuz-a=nje...*
 SM_{1PL}.REM.PST-AUX SM_{1PL}.CSC-drink-FV=just
 ‘As soon as we had taken a drink ...’
 (Doke 1927/1992: 205)

Some Southern Bantu languages distinguish additional subjunctive sub-types (see e.g. Doke and Mofokeng 231–240 on Sesotho). In Setswana, at least, the issue seems more complicated. Cole (1955: 272) treats the consecutive as a past form of the subjunctive, but Creissels (2026, 2023: 329) shows a distinction between subjunctive forms and non-past/future consecutive forms, which differ in their tonal patterns, subject markers, and final vowels. Both are involved in auxiliary complementation patterns (Creissels 2026).

Approximately one third of the auxiliaries in our dataset optionally or obligatorily have subjunctive and/or consecutive complements.

4.4.3 Situative complements

We use the term *SITUATIVE* to refer to a set of subordinate forms, distinguished tonally and in some cases also morphologically from their main-clause counterparts. For example, as shown in the auxiliary construction in (55), the isiXhosa class 1 situative subject marker is *è-* rather than the *ú-* that appears on the auxiliary form in (55) and on other indicative main-clause verbs.

- (55) isiXhosa (S41)
Ú-hlélì *è-phék-èl-à* *índòdà* *úkútyà*.
 SM₁-AUX.PFV SM₁.SIT-COOK-APPL-FV 9.man 15.food
 ‘She keeps on cooking food for the man.’
 (du Plessis and Visser 1992: 266)

Nearly 40 % of auxiliaries in our dataset optionally or obligatorily have situative complements.

Outside of auxiliary constructions, situative forms mark – roughly speaking – the time of the subordinate verb as simultaneous, anterior, or posterior to that of the main-clause verb, depending on tense/aspect morphology on the situative verb form (for more detailed discussion, see Creissels 2023; Savić 2020: 156–187; 433–436). These forms are frequently referred to as “participial” in the Southern Bantu literature. Creissels, who refers to the relevant forms as “circumstantials”, notes that these forms, with their specific properties, seem to be unique to the Bantu family (2023: 336).

4.4.4 Auxiliaries followed by indicative forms

A seemingly minor pattern seen with auxiliary-like forms involves an indicative lexical verb, as in (56), where the lexical verb *sebenta* ‘work’ is in the disjoint present form, marking it clearly as a main-clause verb.

- (56) siSwati (S43)
Ba-vele *ba-ya-sebenta-a.*
 SM₂-AUX SM₂-DJ-Work-FV
 ‘They are undoubtedly working.’
 (Ziervogel and Mabuza 1976: 160)

Many auxiliaries reported to select for indicative forms can also be followed by other, dependent complements. For example, siSwati *vele* can also select for subjunctive complements. Doke and Mofokeng (1957: 277) mention that the four Sesotho auxiliaries that can be followed by indicative forms do so only when the auxiliaries themselves are inflected as perfect (in our terms, *perfective*) indicative forms. At a Southern Bantu level, however, we have not yet found any obvious commonalities between auxiliaries reported to be optionally, conditionally, or obligatorily followed by indicative verbs.

4.4.5 Complementation patterns are lexically determined

Some descriptions divide auxiliaries into distinct categories on the basis of complement types (cf. Doke and Mofokeng 1957). Such a distinction may make sense for individual languages, but a Southern Bantu-wide view does not seem to support this, at least not on semantic grounds. In the spirit of Dingemanse’s (2006) arguments regarding Bantu noun-class semantics, we consider the selectional properties of auxiliary verbs to be historically *MOTIVATED* but not synchronically *COHERENT* or *PREDICTABLE*. As we discuss in Section 5, the different complementation patterns arose from significantly different constructions, most likely with distinct temporal relationships between the auxiliary source and the lexical verb. However, current auxiliary construction semantics are not fully predictable from complementation patterns, or vice-versa, and synchronically, complementation patterns are best understood as lexical properties of the auxiliaries themselves, or as constructional properties influenced by the form of the auxiliary in context. Example (57) shows the non-predictability of complementation patterns: future-marked auxiliaries meaning ‘again’ are followed by infinitive (57a), situative (57b), and subjunctive (57c) lexical verbs, respectively.

(57) Complementation patterns of auxiliaries meaning ‘again’

a. Tshivenda (S21)

Ndi-dò-dovha *u-luk-a.*
 SM_{1SG}-FUT-AUX INF-weave-FV

‘I will weave again.’ (Makwarela 1992: 57)

b. Silozi (K21)

Ni-tà-kùtá *ní-mì-bón-à.*
 SM_{1SG}-FUT-AUX SM_{1SG}.SIT-OM_{2PL}-see-FV

‘I shall see you again.’ (Gowlett 1967: 161)

c. isiNdebele (S44)

Ngi-za-phinda *ngi-phek-e.*
 SM_{1SG}-FUT-AUX SM_{1SG}-COOK-SBJV

‘I will cook again.’ (Pietraszko 2017: 159)

Even if their underlying syntax is different (see Pietraszko 2018b for one analysis), auxiliaries selecting for different complement types have few, if any, consistently predictable features based on these syntactic properties. For example, the loci of negation (with the possible exception of consecutive complements; see Section 4.3.4) and inflectional features such as tense marking (see Section 4.3.1) are not predictable based on complement type.

Some auxiliaries can take more than one complement type.¹⁴ Some of these have different meanings that depend on the form of their lexical complement. For example, according to Creissels (2026), the Setswana auxiliary *ne* followed by a consecutive (“sequential past” in Creissels’ terms) form “refer[s] to past events viewed as disconnected from the situation in which the sentence is uttered” (58a); followed by a (present) situative form, it expresses past imperfective senses, “represent[ing] events as ongoing or habitual with reference to some point in the past” (58b).

(58) Setswana (S31)

a. *Ngogola ke ne ka etela ko Aforika Borwa.*

ngòǎlá kí-nè kà-ètèl-à kó áfùríká bù:rwá
 last_year SM_{1SG}-AUX SM_{1SG}.CSC-travel-FV LOC Africa South

‘Last year I visited South Africa.’

¹⁴ Four forms are described as having infinitive, situative, or subjunctive complements. Three of these are Setswana forms from ‘want’, with avertive or approximative meaning (Cole 1955: 292–293, who notes that subjunctive complements are not common with these auxiliaries), and the fourth is a Tshivenda auxiliary meaning ‘repeat’ (and possibly ‘also’). Total underdetermination of complement type seems therefore to be rare.

- b. *Ba ne ba nna mmogo sentle.*
 bá-nè bá-ñn-á ñmóχó sín:tǝ̀
 SM₁-AUX SM₂.SIT-stay-FV together well
 ‘They lived well together.’
 (Creissels 2026: 273)

Other auxiliaries take different complement types depending on their own morphosyntactic status. For example, Sesotho present-indicative *mpa* takes a situative complement, but potential-prefixed *mpa* ‘however, notwithstanding’ takes a consecutive (“past subjunctive”) complement.

(59) Sesotho (S33)

- a. *Kē-mpa n-ka-tl-a.*
 SM_{1SG}-AUX SM_{1SG}.SIT-POT-COME-FV
 ‘I may come however.’
 b. *N-ka-mpa ka-tsamaě-a.*
 SM_{1SG}-POT-AUX SM_{1SG}.CSC-go-FV
 ‘I would rather go.’
 (Doke and Mofokeng 1957: 282)

Still others seem to subcategorize for more than one complement without a change in meaning or clear morphosyntactic trigger. Cognate forms with the same auxiliary functions usually have the same selectional properties, but this is not always the case.

4.5 Auxiliary stacking

Southern Bantu languages allow for recursive sequences of multiple auxiliaries. Auxiliary stacking is not uncommon cross-linguistically; it is seen, for example, in Romance languages (e.g. Bravo et al. 2015 on Spanish, *spa*) and other African languages (e.g. Hyman 1981: 87 on Noni, Eastern Beoid, Cameroon, *nhu/nce*; Andersen 2007 on Dinka, Western Nilotic, South Sudan, *din*). For many Bantu languages, however, auxiliary constructions tend to involve just one or two auxiliaries (Gibson 2025; Nurse 2008). For an exploratory overview of auxiliary stacking in Southern Bantu see Crane et al. (2026). In the examples in this section, we include a rough functional translation in square brackets for each auxiliary, so that readers can better assess compositional semantics.

Two or more auxiliaries used in sequence often contribute compositionally to the predicate’s semantics, as in the somewhat parallel examples (60) and (61), which combine habitual aspect auxiliaries with manner (‘quickly’) auxiliaries, to convey ‘always do sth. quickly’.

- (60) iSwati (S43)
Lilanga li-hlala li-sheshe li-shon-e ebusika.
 5.sun SM₅-AUX[HAB] SM₅-AUX[quickly] SM₅-set-SBJV LOC.14.winter
 ‘The sun always sets quickly in winter.’
 (Nkuna et al. 2021: 231, example and glosses adjusted)
- (61) Tshivenda (S21)
ndi-dzulela u-tavhanya u-nw-a maḁi/
 SM_{1SG}-AUX[HAB] INF-AUX[quickly] INF-drink-FV 6.water
 ‘I always quickly drink water’
 (Netshisaulu et al. 2021: 113)

We do not know if there is an upper limit to the number of auxiliaries that can be stacked,¹⁵ but we commonly find chains of three or four auxiliaries, and at least one case of five stacked auxiliaries is reported (62).

- (62) Setswana
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-mow-eng
 SM₁.SIT-AUX[POT] SM₁.SIT-AUX[impatience] SM₁.SIT-enter.PFV 18-1.air-LOC
wame.
 ASSC1-POSS_{1SG}
 ‘For that matter, that man had never really appealed to my feelings.’
 (adapted from Setshedi 1974: 51)
 More literal translation: ‘That man has never even got into my spirit.’ (K. Rammala, pers. comm. 8 Dec. 2025)

In our dataset, non-initial elements in an auxiliary chain take the agreement patterns determined by the preceding auxiliary. Some flexibility in auxiliary order is reported, but restrictions also apply, as in (62), where Setshedi notes a preferred order that (at least in our judgment) does not transparently align with compositional semantics. Auxiliary order is rather underexplored in Southern Bantu, as is the phenomenon of auxiliary stacking more generally.¹⁶

¹⁵ Le Roux (2007: 10), for example, notes that “[t]he maximum number of auxiliaries in an auxiliary group [in Setswana] seems to be four, but more might be possible”, as is indeed shown to be the case in (66).

¹⁶ An anonymous reviewer points out that some languages in northeastern Tanzania and on (eastern) Lake Victoria have strings of up to four TAM prefixes before the verb stem, reminiscent of Southern Bantu stacking constructions but with the string involving prefixes rather than auxiliaries (Nurse 2008: 174–175). Interestingly, the areas where these languages are spoken are also characterized by sustained contact with non-Bantu languages (see Section 6). We thank the reviewer for pointing this out.

5 Auxiliary sources and grammaticalization

As should already be evident from the examples in previous sections, most Southern Bantu auxiliaries are of verbal origin, and many sources of auxiliaries continue to function as fully lexical verbs, in addition to their auxiliary functions. This situation creates fertile ground for studies of semantic change, despite the relative lack of a deep diachronic written record. Fewer auxiliaries appear to be used only with their auxiliary functions – we estimate these to make up between one fifth and one third of auxiliary forms.

A much smaller number of auxiliaries are non-verbal in origin, derived from combinations of grammatical morphemes; from adverbs, such as the siSwati far past continuous auxiliary *kadze*, from the adverb *kadze* ‘long ago’; from nouns, such as siSwati (S43) *khatsi* ‘only now’, from the class 7 noun *sikhatsi* ‘time’; and possibly even (partially) from complementizers, as in the isiXhosa (S41) *sukuba* ‘whatever’, which Oosthuysen (2016) analyses as a grammaticalization of the verb *suka* ‘get up, move away’ and the complementizer *ukuba* (itself ultimately of verbal origin).

(63) isiXhosa (S41)

<i>Ndi-ya</i>	<i>ku-ku-xhas-a</i>	<i>entweni</i>	<i>yonke</i>	<i>o-sukuba</i>
SM _{1SG} -AUX	INF-OM _{2SG} -support-FV	LOC.9.thing.LOC	NP ₉ .one	SM _{2SG} .REL-AUX
<i>u-yenz-a.</i>				
SM _{2SG} .SIT-OM ₉ .do-FV				
‘I will support you [singular] in whatever thing you do.’				
(Oosthuysen 2016: 292)				

These non-verbal sources take on verbal properties, including subject marking and at least limited TAMP marking, as seems to be the case with siSwati *kadze*, which sometimes appears with what appears to be past (imperfective) prefix *be-* (see Ziervogel and Mabuza 1976: 156). The inflectional limits of auxiliaries with non-verbal sources in Southern Bantu need further investigation.

Our dataset shows auxiliaries with almost all of the most frequent lexical sources noted by Anderson (2011b: 815), with the possible exceptions of ‘put’, ‘take’, and ‘give’; there are also several probable sources not commonly noted in typological studies, including, among other candidates, ‘extinguish’, ‘sleep’, ‘hurry’, ‘refuse’, and ‘be(come) straight’ (cf. Kuteva et al. 2019, who list only the most widely attested sources across languages). Others, like ‘throw’, are known to be auxiliary sources but take different semantic pathways in Southern Bantu: for example, Kuteva et al. (2019: 437) describe the change THROW > PERFECT, whereas several languages in our sample appear to have THROW > APPROXIMATIVE/AVERTIVE.

For a full overview of auxiliary functions and their lexical sources, see Crane (2026). In the rest of this section, we will focus on their formal development.

As already documented by Anderson (2011a) and others, auxiliary constructions in Southern Bantu arise via infinitive complementation and clause-chaining constructions, which then develop into mono-predicative constructions with the auxiliary verb playing a functional role.

An example of infinitive complementation is given in (64), where Sesotho *rata* ‘love, like; will (etc.)’ takes nominal complementation (64a), infinitive complementation with its lexical meaning (64b), and occurs in its approximative auxiliary function (64c).

(64) Sesotho (S33)

- a. *Ké-a-mó-rat-a mōshanyana eō*
SM_{1SG}-DJ-OM₁-FV 1.boy DEM₁
 ‘I am fond of that lad.’
 (Doke and Mofokeng 1957: 200)
- b. *Rē-rat-a hō-bapal-a.*
SM_{1PL}-like-FV INF-play-FV
 ‘We like playing.’
 (Doke and Mofokeng 1957: 189)
- c. *Ō-rata hō-shō-a.*
SM₁-AUX INF-die-FV
 ‘He is on the point of death.’
 (Doke and Mofokeng 1957: 297)

Example (65) shows isiXhosa *khawuleza* ‘hurry, make haste’, analysed as an auxiliary by du Plessis and Visser (1992: 252), at the beginning of a long clause chain, here marked by consecutive morphology, due to the past tense of the initial verb.

(65) isiXhosa (S41)

- Umfana lowo wa-khawulez-a, wa-wu-gal-el-a umphanda*
 1.boy DEM₁ SM₁.REM.PST-hurry-FV SM₁.CSC-OM₃-pour-APPL-FV 3.bucket
wakhe e-mkhombeni woku-sez-a, wa-gidim-a
ASSC₃.POSS₁ LOC-3.trough.LOC ASSC₃.INF-drink.CAUS-FV SM₁.CSC-run-FV
wa-y-a ku-kh-a futhi e-mthonjeni, wa-wa-khelel-a
SM₁.CSC-go-FV INF-draw-FV again LOC-3.fountain.LOC SM₁.CSC-OM₆-draw.APPL-FV
onke amahashe.
 6.all 6.horse
 ‘That young man made haste and poured his bucket into the drinking trough, and ran to go and get water again at the fountain, and poured out for all the horses.’
 (Oosthuysen 2016: 363)

In (65), *khawuleza* seems to function as a lexical verb (at least as Oosthuysen presents the example), but reanalysis of ‘make haste and do X’ > ‘do X quickly’, as in (60) and (61) above, seems like a straightforward and natural development.

Example (66) shows the Gitonga auxiliary *bwelela*, from the lexical verb ‘return’, in its auxiliary meaning ‘again’ when followed by a situative form, which in non-auxiliary constructions marks temporal overlap.

(66) Gitonga (S62)

<i>Muthu</i>	<i>a-di-bwelela</i>	<i>a-gu-bet-a</i>	<i>buru</i>	<i>yaye.</i>
1.man	SM ₁ -PST-AUX	SM ₁ -PRS.SIT-beat-FV	9.donkey	ASSC ₉ .POSS ₁

‘The man again hit his donkey.’ (lit. ‘the man returned beating his donkey’)

In the course of developing their auxiliary functions, Southern Bantu verbs are often reinterpreted as (semi-) invariant forms, lacking the full range of inflectional possibilities. For example, at least a third of the forms in our database end in /-e/ rather than the expected /-a/ of positive-polarity main-clause indicative forms. The most likely source for most of these forms is the perfective, which has present-state semantics with change-of-state verbs. Some auxiliaries in the dataset are productively inflected with perfective morphology, but many seem to have been reinterpreted as invariant forms, ending in /-e/ even under negation and in infinitive contexts (67), the latter of which normally require a final /-a/.

(67) isiZulu (S42)

<i>Ngi-fun-a</i>	<i>uku-buye</i>	<i>ngi-ku-bon-e.</i>
SM _{1SG} -want-FV	INF-AUX	SM _{1SG} -OM _{2SG} -see-SBJV

‘I want to see you again.’
(Mkhatshwa 1991: 91–92)

After developing specialized functional meanings within their verbal complexes, auxiliaries can take at least two significant further paths. Either they can develop into grammatical prefixes, or they can lose their subject marking and become free particles or adverbials.

The change from auxiliary to prefix is seen with all complementation types, although it appears to be most common with infinitive complements – Carbo et al. (2026) list dozens of examples – probably due to the lack of subject marking on infinitive verbs, as well as the ease of coalescence with the initial vowel of infinitives, and the frequent dropping of infinitive *ku-* in casual speech seen in at least some languages (Crane fieldnotes). Mberi (2002: ch. 6) gives numerous corpus-based examples illustrating this process in chiShona. Prefixation of auxiliaries taking other complement types seems to happen mostly with monosyllabic auxiliaries, possibly related to minimality restrictions in these languages.

Some forms can be expressed both as auxiliaries and as prefixes, suggesting ongoing grammaticalization, as with the ‘exclusive’ (see e.g. Nichols 2011) phasal polarity marker *se* ‘now; already’ in (67), which itself seems to be a shortening of *sele*, possibly from *sala* ‘remain’. When *se* is used as an auxiliary, the subject marker appears on both the auxiliary and on the lexical verb (67a), whereas when *se-* is used as a prefix, there is only one subject marker. The morphology of subject markers after grammaticalized auxiliaries selecting for situative forms retains the same form (here, main-clause indicative *ba-* vs. situative *be-* for class 2).

(68) isiZulu (S42)

- a. *Ba-se be-fund-a*
 SM₂-AUX SM₂.SIT-read-FV
 ‘They are now [/already – Auth.] reading.’
- b. *Se-be-fund-a*
 EXCL-SM₂-read-FV
 ‘They are now [/already – Auth.] reading.’
 (Poulos and Msimang 1998: 346)

The shift from auxiliary to particle/adverbial occurs when the subject marker is also expressed on the verb. Many auxiliaries are reported as being optionally marked with subject-agreement morphology (see Section 4.1). In its non-agreeing form, the auxiliary *zange* ‘never’ in isiXhosa is used both as an auxiliary, as in (68a), and as an adverbial, as in (68b), where it precedes the locative noun *ekhaya* ‘at home’. This pathway of change also seems to be very frequent in Southern Bantu.

(68) isiXhosa (S41)

- a. *Zange ndi-m-bon-e umntu onjengawe.*
 AUX SM_{1SG}-OM₁-see-SBJV 1.person like.you
 ‘I have never seen a person like you.’
 (de Schryver and Reynolds 2014: 233)
- b. *Zange ekhaya kwa-nge-na-tyala ngoAphelele...*¹⁷
 never LOC.5.home SM₁₇.PST-NEG-ASSOC-5.problem INSTR.1A.Aphelele
 ‘We never had any problems with Aphelele at home...’

This pathway appears to allow for development into adverbials and even conjunctions. Sekhu (1994) gives contrastive examples of Setswana *fela* as a fully lexical verb meaning ‘finish’ (69a), as an auxiliary meaning something like ‘finally’ or ‘in the end’ (69b), with the adverbial meaning ‘only’ (69c), where it modifies *tsaalemongwe*

¹⁷ Source: <https://isolezwelesixhosa.co.za/iindaba/2024-11-26-kukhalinyelwa-imiguyo-yamakhwenkwe-ngenxa-yokuxabelana-nokubulalana-kwawo/>.

‘from/of one’, and as a conjunction ‘but’, without subject marking and in initial position (69d). We cannot definitively assert that the examples in (69c,d) developed from auxiliary constructions rather than being parallel developments, but the frequent elision of subject marking on auxiliaries, when followed by lexical verbs also inflected for subject, seems to us to create the right conditions for reinterpretation as an adverbial (69c), and possibly from there into use as a conjunction (69d).

(69) Setswana

- a. *Metsi a-tla-fel-a kamoso.*
 6.water SM₆-FUT-finish-FV tomorrow
 ‘The water will [be] finish[ed] tomorrow.’
 (adapted from Sekhu 1994: 8–9, from Cole 1955; Sandilands 1953)
- b. *Monnawe a-fela a-gan-a.*
 1.her_sister SM₁-AUX SM₁-refuse-FV
 ‘Her sister refused finally.’
 (adapted from Sekhu 1994: 8–9, from Cole 1955; Sandilands 1953)
- c. *Akany-a ka dikakgelo tsa-a-le-mongwe fela.*¹⁸
 consider-IMP INSTR 8.comment ASSC₈?-CONN?-COM-1.one only
 ‘Consider the comments from just one.’
- d. *O-bu-a Setswana sentle, fela ga-a-se-itse. jaaka-wena.*
 SM₁-speak-FV 7.Setswana well CONJ NEG-SM₁-OM₇-know like-PRON2SG
 ‘He speaks Setswana well, but he does not know it like you do.’
 (adapted from Sekhu 1994: 8–9, from Cole 1955; Sandilands 1953)

Across Bantu, complementizers of verbal origin are common, especially from verbs meaning ‘be’ and ‘say’, the latter of which functions verbally but may not originate in a verbal form (Güldemann 2002). Often, the same verb is also used as an auxiliary. For example, in isiXhosa (S41), *ukuba* is a general complementizer meaning ‘that’, while *ba* ‘be’ is used as an auxiliary in compound forms. In isiZulu, two complementizers are based on *thi* ‘say’: *sengathi* ‘as, if, like’ (70a) and *ukuthi* (70b) (Halpert 2019a). *Sengathi* includes two verbal prefixes *se-* and *nga-*,¹⁹ and *ukuthi* (like *ukuba* in isiXhosa, S41) includes an infinitival marker.

(70) isiZulu

- a. *Ngi-sol-a ukuthi uSipho u-bulaw-e wumkhovu.*
 SM_{1SG}-suspect-FV COMP 1A.Sipho SM₁-kill.PASS-PFV COP.3.zombie
 ‘I suspect that Sipho was killed by a zombie.’

¹⁸ Source: <https://app.glosbe.com/tmem/show?id=9218103028373628417>.

¹⁹ Halpert (2019a: 33) decomposes *sengathi* as including the phasal polarity marker *se-* ‘now, already’ and potential prefix *nga-* ‘can/may’.

- b. *U-gul-a* ***sengathi*** *u-zo-f-a*.
 SM₁-be_sick-FV COMP SM₁-FUT-die-FV
 ‘She seems sick enough to die.’
 (Halpert 2019a: 34, 38)

The diachronic relationship between auxiliaries and complementizers is not entirely clear and does not seem to have received much attention in analyses of Bantu. It may be that ‘say’ and ‘be’ verbs commonly traverse several distinct grammaticalization paths, for example with agreeing subject marking for auxiliaries and with infinitive marking with complementizers. See Güldemann 2002: 280, 282 – who argues for the more general “mimetic” meaning ‘thus’ rather than ‘say’ for *t(h)i* – for a sketch of a possible “grammaticalization relationship” between these and other functions.

6 Summary and conclusions

This article has laid out key properties of auxiliary verb constructions in Southern Bantu languages at the group level, including their large inventories of auxiliary verbs; their semantics extending beyond tense, aspect, mood, and polarity; their inflectional and complementation properties; and their ability to be “stacked” recursively. A number of open questions remain, suggesting avenues for further systematic research. These include (for example) patterns of interaction with negation, the relationship of expletive-marked modal verbs to the auxiliary system, and the behaviour of auxiliaries vis-à-vis those of verbal origin.

The data presented in this article suggest that Southern Bantu auxiliary systems stand out within the Eastern Bantu clade. Most languages in our sample have thirty or more documented auxiliaries expressing both TAMP and adverbial concepts. At least some Northwestern Bantu languages (e.g. Eton, A71, etc; see Van de Velde 2008), along with many other African languages (see Schaefer and Egbokhare 2025), also have fairly large sets of auxiliaries. In contrast, reported auxiliary inventories in Eastern Bantu beyond the Southern Bantu zone tend to be far smaller (Gibson 2025). For example, Cuwabo (P34) reportedly has two auxiliaries and Rangi (F33) has three (Gibson 2025: 315, citing Guérois 2015 for Cuwabo, and Gibson 2012 for Rangi). In Eastern Bantu languages, adverbial concepts can also be expressed via verbs (see e.g. Mbopela and Lusekelo 2024: 105 on Runyambo, JE21, now), they are not frequently (if at all) reported to occur as auxiliaries with verbal complements. Although the influence of areal descriptive practices should not be underestimated, and further

targeted research is needed, the difference in reported numbers of auxiliaries between Southern and other Eastern Bantu languages is striking.

Similarly, while Eastern Bantu languages commonly have one or two auxiliaries in an auxiliary verb construction, the extensive stacking of auxiliaries seen in Southern Bantu is not widely reported; this is possibly a consequence of overall lower numbers of auxiliaries.

The three- (or four-) way complementation system of auxiliary constructions in Southern Bantu may be typologically unusual, even within Africa. The patterns have their source in subordination but also (in the case of at least some subjunctive and consecutive complements) in clause-chaining constructions, which Anderson (2011b: 816) describes as more rarely attested.

A key question raised by the apparent exceptionalism of Southern Bantu auxiliary systems within the Eastern Bantu group is how these complex systems came to be. If they are indeed distinct in their area, the Southern Bantu systems either represent a retention of earlier Bantu (/Niger-Congo) patterns or a later innovation. Most likely, given the overall salience of auxiliaries in these systems, and the clear evidence of their ongoing grammaticalization, they are both: a retention of the propensity to express functional categories via auxiliation, leading to the ongoing development of auxiliary forms and constructions. One factor that may have played a historical role is heavy contact with speakers of Khoisan²⁰ languages (see e.g. Sengupta et al. 2021), which resulted in several typologically distinctive features in Southern Bantu, such as their expansive consonant inventories (see e.g. Güldemann and Fehn 2017; Gunnink 2022) and the use of nominal suffixes (Güldemann 1999).

Many Southern Bantu auxiliaries can be traced to Proto-Bantu verbs (Gunnink 2023), and indeed, to current fully lexical verbs, so Khoisan languages can be ruled out as sources for Southern Bantu auxiliary FORMS. However, languages from all three families found in Southern Africa (Kx'a, Tuu and Khoe-Kwadi) are rich in multiverb constructions (Fehn and Phiri 2022; Güldemann and Fehn 2017), and many of these languages, like Southern Bantu, have polyfunctional verbs that can be used with either lexical or grammatical meaning (Heine and König 2005: 84). The extent to which the properties of complex verbal constructions in the relevant Khoisan languages mirror those of Southern Bantu should therefore be investigated.

²⁰ The label “Khoisan” is a catch-all term often used to refer to several unrelated families of non-Bantu Indigenous languages spoken in southern Africa and sharing features such as click consonants. The term is used by many speakers and descendants of speakers of these languages but is not uncontroversial. We use it here because it is the most common term used in academic literature, despite also acknowledging its limitations.

Abbreviations

Glossing and abbreviations follow the Leipzig Glossing Rules with the following additions:

1, 2, 3 etc.	noun classes
ANT	anterior
ASSC	associative (usually: possessive prefix + connective <i>a-</i>)
AUG	augment
AUX	auxiliary
COMP	complement
CONJ	conjunction
COP.LOC	locative copula
CSC	consecutive
DEM	demonstrative
CJ	conjoint
DJ	disjoint
EPEN	epenthetic
EXCL	exclamative
EXPL	expletive
FV	final vowel
FUT.NEG	future negative
IMM.FUTURE	immediate future
INF	infinitive
IPFV	imperfective
LOC	locative
MOD	modal
NECESS	necessity
NEG	negative
NP	nominal prefix
OM	object marker
SIT	situative
SM	subject marker
PASS	passive
PFV	perfective
PERS	persistive ('still')
PRON	pronoun
POSSIB	possibility prefix (modal)
POT	potential (modal)
REM	remote
REM.PAST	remote past
V	verb

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