

On the Morphology, Interpretation, and Development of the Kagulu Auxiliary *ng'hali*

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Abstract

The Kagulu auxiliary verb *ng'hali* appears in a variety of auxiliary verb constructions and has several phonological realizations (*ng'hali*, *kali*, and *ng'hati*). Unlike other auxiliary verbs in the language, *ng'hali* occurs with limited morphology and is not used as a main verb. As in many Bantu languages, *ng'hali* has phasal polarity properties (see van Baar 1997; Kramer 2021): it yields 'still' and 'not yet' interpretations. The goal of this paper is to describe the morphophonological, morphosyntactic, and morphosemantic properties of *ng'hali*. We explore the development of *ng'hali* into an aspect marker and its co-occurrence with more complex auxiliary verb constructions consisting of other Kagulu verbs, namely the auxiliary *uwa* 'be' and *gendelela* 'continue'. In addition to being the first detailed description of these underdocumented properties of *ng'hali*, this study contributes to our understanding of the role that auxiliaries play in languages with reduced tense/aspect morphology, as well as the grammaticalization paths of auxiliaries in Bantu languages.

Keywords: auxiliary verbs, Kagulu (Greater East Ruvu languages), grammaticalization, tense and aspect, phasal polarity

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1 Introduction

Auxiliary constructions are a central strategy for encoding tense, aspect, and mood distinctions across Bantu languages (Gibson 2025). Like many other language families, Bantu languages employ both simple verb forms, consisting of a single inflected verb, and auxiliary verb constructions (AVCs) (Anderson 2011), which involve one or more auxiliaries¹ followed by a lexical verb (Nurse 2008; Nurse and Devos 2019, 206; Gibson 2019; Gunnink 2023). Morphosyntactically, auxiliaries as well as the main verb host subject agreement and tense-aspect (TA) morphology. However, this is not always the case: in some Bantu languages the auxiliary alone may host agreement, leaving the main verb in the infinitive.² Functionally, auxiliaries serve to encode TA distinctions, negation, polarity, and adverbial-like functions (Nurse and Philippson 2006; Gibson 2025). When auxiliaries are followed by finite main verbs, it is often the case that they convey temporal information, while the main verb supplies aspectual detail (Nurse 2008, 29), as shown in (1), where future morphology (*ta-*) appears on the auxiliary *wa* ‘be’ and the progressive morpheme *na-* appears on the main verb *imba* ‘sing’.

- (1) Swahili
Atakuwa anaimba.
 a-**ta**-ku-w-a a-**na**-imb-a
 SM1-FUT-INF-be-FV SM1-PROG-sing-FV
 ‘S/he will be singing.’

Bantu AVCs also allow for cross-referencing of object arguments and the expression of negation, either via negative auxiliaries or by marking polarity on an auxiliary or main verb. Historically, auxiliaries in Bantu languages often emerge through the grammaticalization of lexical verbs that once selected infinitival complements, some of which later fused with main verbs or retained infinitival markers (Givón 1971; Botne 1989, 169; Nurse 2008, 60; Bernander 2018, 673; Bernander et al. 2022, 68).

The East African Bantu language Kagulu (ISO 639, *kki*) has an auxiliary with the phonological realizations *ng'hali*, *kali*, and *ng'hati* (henceforth *NG'HALI*). *NG'HALI* occurs with both finite and infinitive complements, displays varying degrees of grammaticalization, and yields ‘still’ (2a) and ‘not yet’ (2b) readings, depending on the construction in which it appears. (2a) below shows that the ‘still’ interpretation arises when *NG'HALI* is followed by a finite main verb prefixed with tense morphology, while (2b) shows that the ‘not yet’ interpretation arises when *NG'HALI* is followed by a subjunctive finite main verb.

- (2) a. *Mwana yang'hali yakusoma.*
 mu-ana ya-**ng'hali** ya-ku-som-a
 1-child SM1-PER SM1-NON_PST-read-FV
 ‘The child is still studying.’ (2403162roz, sau)

¹ This description does not preclude some of these auxiliaries from functioning as main verbs in other sentences.

² AVCs are referred to in different ways in the literature. Schadeberg (1992) refers to an auxiliary with an infinitival main verb as a compound verbal construction and an auxiliary with a finite main verb as a complex verbal construction, while Gibson (2025) and Nurse (2008) refer to an auxiliary with a finite main verb as a compound construction, and have no dedicated term for an auxiliary with an infinitival complement.

b. *Amina yang'hali yamanye.*

Amina ya-**ng'hali** ya-many-e

Amina SM1-PER SM1-know-SBJV

'Amina does not yet know.' (8445roz, sau)

NG'HALI differs from most auxiliary verbs in Kagulu since it is never used as a main verb, and appears with limited morphology (e.g., it is not suffixed by a final vowel).

The first mention of NG'HALI is in Last (1886), who lists the verbal paradigm of a form *k'ali*, translated as 'not yet' (Last 1886, 76). The form is briefly mentioned in two other sources (Beidelman 1963, 65; 1967, 27), where it is translated as 'still':

(3)... *we nghali wadodogi* 'while still infants' (Beidelman 1967, 27).

Although sources on neighbouring languages are scarce, *ng'ali*, which we take to be a cognate of NG'HALI, is found in Kami (Petzell and Edelsten 2024, 303; Velten 1900, 29) and Luguru (Petzell and Khül 2017, 45). A similar auxiliary is reported for Swahili: *ngali*³ 'still' (Ashton 1944, 270). However, this auxiliary does not seem to be used today (Zahran 2020, 21).

NG'HALI exhibits phasal polarity properties. Phasal polarity is the term used to refer to the group of meanings 'still', 'not yet', 'already', and 'no longer'. These sets of meanings are related to each other via negation. For example, 'still' encodes that an eventuality persists at a reference time, while its negated counterpart corresponds to 'no longer'. Conversely, 'not yet' encodes that an eventuality has thus far not come to be, while its affirmative counterpart corresponds to 'already'. Bantu languages are known for having expressions with phasal polarity (see van Baar 1997; Kramer 2021). As illustrated in (2) above, Kagulu NG'HALI yields both 'still' and 'not yet' meanings. Although these meanings arise in different constructions, they are in a sense the same meanings and differ only in whether the eventuality holds. We gloss NG'HALI as persistive and show that the 'still' and 'not yet' interpretations are dependent on the constructions in which NG'HALI is found. Persistive marking has been described for other Bantu languages. For example, Abe (2015) examines the Bende persistive verbal marker *sí-/syá-* that shares similarities with NG'HALI with respect to the types of constructions in which it appears and the meanings that arise.

The goal of this study is to describe the morphophonological, morphosyntactic, and morphosemantic properties of the largely undescribed NG'HALI in Kagulu. This paper offers the first detailed description of these properties in Kagulu and establishes a foundation for future comparative work on cognate auxiliaries in Greater East Ruvu languages, as well as in other Bantu languages where this auxiliary has yet to be explored. This study is significant given the typological profile of the Greater East Ruvu Bantu languages, which lack the dense TA paradigms characteristic of other Bantu subgroups (Nurse and Devos 2019). Auxiliaries in such languages shoulder much of the functional load in tense, aspect, and mood expression, and the study of NG'HALI provides a window into how such systems adapt and expand. More broadly, the development of NG'HALI into a TA prefix points to ongoing grammaticalization processes, in which auxiliaries gradually fuse into the verbal template (Heine 1993; Bernander et al. 2022).

The paper is organized as follows. We first provide a brief background of Kagulu, focusing on a synopsis of its TA system (Section 2). We then describe the morphophonological, morphosyntactic, and morphosemantic properties of the auxiliary NG'HALI in Kagulu (Section

³According to Ashton (1944, 270), the allomorph *kali* is used in Mombasa.

3). Following this description, we provide an account of the development of NG'HALI into a TA prefix (Section 4). We then examine the co-occurrence of NG'HALI with other Kagulu auxiliaries in more complex AVCs (Section 5). We conclude with a summary of the main findings of this study and a discussion of the implications of this analysis within the study of Bantu languages and beyond (Section 6).

2 Language background and language data

Kagulu is one of the eight Greater East Ruvu Bantu languages spoken in the Morogoro region in Tanzania (Petzell and Hammarström 2013, 129). It is spoken by approximately 336,000 speakers (Languages of Tanzania Project 2009, 2), and is categorized as a G12 language, following Guthrie's referential classification (1967/1971). The Kagulu-speaking population is surrounded by Ngulu (G34) and Luguru (G35) to the east, Sagala (G39) to the south, and Gogo (G11) to the west. The Nilotic language Maasai is spoken to the north, making Kagulu part of a diverse linguistic area where contact and diffusion have historically played a role in shaping morphosyntactic structures (Kießling et al. 2008). There are dialectal varieties of Kagulu, such as the one spoken in the Nongwe area, which is part of the prestigious mountain variety (Petzell 2012, 24).

Although Bantu languages are known for their rich TA morphology, Kagulu is comparatively restricted in this regard. Kagulu has three overt tense morphemes: a non-past morpheme (4a), a non-obligatory past morpheme (4b) (see also Bar-el and Petzell 2021, 537), and a future morpheme (4c).

- (4) a. *Yakuluta*.
 ya-ku-lut-a
 SM1-NON_PST-leave-FV
 'S/he is going.' or 'S/he will go.' (Petzell 2008, 108)
- b. *Hakaluta*.
 ha-ka-lut-a
 PST-SM1-leave-FV
 'S/he went.' (Petzell 2008, 110)
- c. *Wakalima umugunda wao*.
 wa-ka-lim-a u-mu-gunda u-ao
 SM2-FUT-cultivate-FV AUP-3-farm 3-POSS.3PL
 'They shall cultivate their farm.' (3172Bsyd)

Aspect can be marked by a habitual morpheme (5a), or by AVCs (5b) (see Petzell 2008; Bar-el and Petzell 2024; Petzell and Edelsten 2024).

- (5) a. *Hakejaga*.
 ha-ka-ij-ag-a
 PST-SM1-come-HAB-FV
 'S/he came (regularly).' (Petzell and Edelsten 2024, 310)

b. *Amina yekuwa yebilima.*

Amina ye-ku-uw-a ye-bilim-a

Amina SM1-NON_PST-be-FV SM1-know-FV

'Amina usually runs.' (9025roz)

Note that class 1 is the only noun class that has two different subject markers in Kagulu: *ya-*/*ye-*⁴ (4a, 5b) and *ka-* (4b–c, 5a).

This typological profile sets Kagulu apart from other Bantu languages which exhibit rich TA paradigms. Moreover, it aligns Kagulu more closely with neighbouring Ruvu Bantu languages such as Luguru and Kami, which also rely on auxiliaries, especially for TA categories that are not morphologically expressed (Nurse 2019, 174; Bar-el and Petzell 2024, 212).

Verbs such as *uwa* 'be', *gendelela* 'continue', *genda* 'go', *ija* 'come', *leka* 'let alone', *fulusa* or *mala* 'finish', and *sowela* 'be used to' serve as the primary means of expressing temporal, aspectual, and modal nuances when they occur in AVCs (their co-occurrence with NG'HALI is discussed in Section 5). These verbs retain their ability to function as main verbs but are frequently deployed in periphrastic tense, aspect, and mood constructions, demonstrating the productive overlap between lexical and auxiliary uses in Kagulu.

The data that make up the Kagulu corpus referenced throughout this paper were collected by the authors during fieldwork between 2003 and 2025. The database consists of more than 3,000 sentences, as well as seven interlinearized stories (see Petzell and Jordan 2022 for detailed discussion of the Greater East Ruvu database). The speakers consulted are all first language Kagulu speakers who are bilingual in Swahili. Some Kagulu speakers also speak English. A combination of structured interviews, direct translations and back-translations, grammaticality judgements, descriptive contexts, and non-verbal stimuli were used to elicit the forms, primarily using Swahili, and at times English, as a metalanguage. The bulk of the data in this paper are from two speakers of the Nongwe variety of Kagulu.

Data from the Kagulu corpus are cited throughout the paper with their unique ID codes in the database. The codes consist of the number of the questionnaire or elicitation session, a sentence number, and speaker code(s) (Petzell and Jordan 2022, 615). The data were collected over a period of 23 years, using different questionnaires and elicitation methods, hence the spread in the usage of ID numbers. Data collected in 2024 and 2025 are in the process of being coded and have been given temporary IDs for the purpose of this paper.

3 Properties of Kagulu NG'HALI

In this section, we explore the morphophonological (Section 3.1), morphosyntactic (Section 3.2), and morphosemantic (Section 3.3) properties of Kagulu NG'HALI. This discussion sets the groundwork for the grammaticalization analysis in Section 4.

⁴Speakers alternate freely between *ya-* and *ye-*. Since their use is not phonologically predictable, we represent both alternates as underlying forms in the data. The forms are typically used with present and future constructions, as well as in dependent clauses and with auxiliaries (see Petzell 2008 and Bar-el and Petzell 2021 for discussion). *ka-*, on the other hand, is typically used in past constructions (that is, when there is no overt tense morphology). However, Bar-el and Petzell (2024) point out that when *ka-* occurs in a construction with the imperfective morpheme *-ag-*, the sentence is interpreted as a present habitual.

3.1 Morphophonological properties

As noted in Section 1, NG'HALI has three different phonological realizations, the two allomorphs *ng'hali* and *kali* (Petzell 2008) being primary. These two realizations differ only in the initial segment, which is either a voiceless velar nasal /ŋ/, orthographically represented as <ng'h>, or a voiceless velar stop. It is likely that this auxiliary consists of the Proto-Bantu persistive marker (*n*)*ka* (Güldemann 1998, 166) and a reflex of the copular Proto-Bantu **di* (Guthrie 1970, 150), as suggested by Veselinova and Devos (2021, 451). The copular Proto-Bantu **di* is realized as *li* in Swahili (Ashton 1944, 270), and in the neighbouring languages Luguru (Seidel 1898, 442) and Zalamo (Worms 1897, 305). Even though copular *li* does not occur in Kagulu (see Section 4 for discussion), we assume it is part of the reconstruction of NG'HALI.

The Proto-Bantu persistive marker *ka-* was most likely prenasalized at one point in time (Güldemann 1998, 166). In Kagulu, as in other Bantu languages, earlier prenasalized voiceless stops have developed into voiceless nasals (Maddieson 2003, 38). The voiceless nasals begin with an airstream passing through the nasal cavity during articulation, and the airflow may continue after the nasal segment ends, producing an effect similar to aspiration. Although described as 'voiceless', these nasals are often partially voiced. Furthermore, there is sometimes post-nasal aspiration, which can have a whisper-like quality (Petzell 2008, 39).

The variants *ng'hali* and *kali* are sometimes ascribed by Kagulu speakers to different dialects: *kali* is said to be the more 'correct' form of the mountain variety, while *ng'hali* is used in the more 'common' variety (Petzell fieldnotes 2004). *Ng'hali* is the more frequent realization of the persistive NG'HALI and is also the form that is used by all Kagulu speakers. The form *kali* is only used by speakers from the Nongwe (mountain) area. These speakers use *ng'hali* as well, albeit less often. Given that one speaker uses both forms in the same sentence, as in (6) below, we consider them allomorphs.

- (6) *Esta hakowa yeng'hali/yekali yamanyile.*
 Esta ha-ka-uw-a ye-**ng'hali/ye-kali** ya-many-ile
 Esta PST-SM1PST-be-FV SM1-PER/SM1-PER SM1-know-ILE
 'Esta still knew.' (1004sau)

A third variant, *ng'hati*, is documented for one of the six NG'HALI constructions in the Kagulu corpus⁵ (see Table 1 in Section 3.2 below).

3.2 Morphosyntactic properties

NG'HALI is prefixed with subject agreement markers, but not with tense or aspect marking (7a–b). Note that NG'HALI only takes the *ya-/ye-* subject marker for class 1, never *ka-* (see Section 2 above):

⁵ As for the origins of the *ng'hati* form, we posit a potential Proto-Bantu reflex of **ti* '(be/do) thus, like this/that' (Güldemann 2002, 268), preceded by a prenasalized Proto-Bantu persistive marker (*n*)*ka* (Güldemann 1998, 166). See Veselinova and Devos (2021, 458) and Bernander (2017, 199–200) for discussion. The fact that **ti* and also copular *li* lend themselves to this type of grammaticalization is not unexpected since old forms in dependent clauses "have so little semantic content on their own" (Bybee et al. 1994, 296), thus making them ideal candidates for grammaticalization.

- (7) a. *Imwana yang'hali kendeka.*
 i-mu-ana ya-**ng'hali** ka-end-ek-a
 AUP-1-child SM1-PER SM1-love-NEUT-FV
 'The child is still lovable.' (250351roz, sau)
- b. *Idimudyo dikali dikudiika.*
 i-di-mudyo di-**kali** di-ku-di-ik-a
 AUP-5-fruit SM5-PER SM5-NON_PST-eat-NEUT-FV
 'The fruit is still edible.' (6008sau)

Morphosyntactically, we group the constructions in which we find NG'HALI into three main types: (I) those in which the main verb is finite, (II) those in which the main verb is infinitival, and (III) those which exhibit further stages of grammaticalization. There are three subtypes of constructions in which the main verb is finite (Ia, Ib, Ic), and there are two subtypes of constructions exhibiting further stages of grammaticalization (IIIa, IIIb). These patterns are summarized in Table 1 below:

Table 1: Morphosyntactic properties of NG'HALI

	Subtype	Construction	Forms
I. Finite main verb	Ia	SM-NG'HALI SM-TA-V-FV	<i>ng'hali, kali</i>
	Ib	SM-NG'HALI SM-V-SBJV	<i>ng'hali, kali, ng'hati</i>
	Ic	SM-NG'HALI SM-V-ILE	<i>ng'hali, kali</i>
II. Infinitival main verb		SM-NG'HALI INF-V-FV	<i>ng'hali, kali</i>
III. Further stages of grammaticalization	IIIa	SM-NG'HALI-SM-V-ILE	<i>kali</i>
	IIIb	SM-NG'HALI-V-FV	<i>ng'hali, kali</i>

Both *ng'hali* and *kali* forms appear in each of these constructions, with the exception of IIIa, for which we have only documented the form *kali*. Furthermore, an additional form, *ng'hati*, appears with construction Ib only. We assume the absence of *ng'hali* in IIIa constructions to be an accidental gap in the corpus data (e.g., due to speaker variation, differences in data collection methods). The appearance of *ng'hati* may be semantically driven (see Section 3.3 for further discussion). The finite main verb constructions are discussed in Section 3.2.1, the infinitival main verb constructions in Section 3.2.2, and the constructions that exhibit further grammaticalization in Section 3.2.3.

3.2.1 AVCs with a finite main verb

In each of the NG'HALI constructions in which the main verb is finite, we observe a subject marker on NG'HALI and on the main verb. The two allomorphs *ng'hali* and *kali* appear in each of the subtypes of this construction. In sentences of subtype Ia (SM-NG'HALI SM-TA-V-FV), TA

morphology can appear on the main verb, as shown by the appearance of non-past *-ku-* in (8a)⁶; the main verb of Ia constructions can also surface without any TA morphology (8b):

- (8) a. *Ibalafu ing'hali ikuluguluka.*
 i-balafu i-**ng'hali** i-**ku-**luguluk-a
 AUP-9.ice SM9-PER SM9-NON_PST-melt-FV
 'The ice is still melting.' (250365roz, sau)
- b. *Yekali konela.*
 ye-**kali** ka-onel-a
 SM1-PER SM1-be/get_happy-FV
 'She is still happy.' (8316roz, sau)

In construction Ib (SM-NG'HALI SM-V-SBJV) the main verb takes a subjunctive suffix *-e*, as illustrated in (9):

- (9) a. *Amina yang'hali yamanye.*
 Amina ya-**ng'hali** ya-many-e
 Amina SM1-PER SM1-know-SBJV
 'Amina does not yet know.' (8445roz, sau)
- b. *Amina yakali yagende.*
 Amina ya-**kali** ya-gend-e
 Amina SM1-PER SM1-walk-SBJV
 'Amina has not yet walked.' (8289roz, sau)

Construction Ib is the only construction in which the form *ng'hali* is observed, as illustrated in (10) below:

- (10) a. *Amina yekusokaga*
 Amina ye-ku-sok-ag-a
 Amina SM1-NON_PST-be/get_tired-HAB-FV
lakini yang'hali yasoke.
 lakini ya-**ng'hali** ya-sok-e
 but SM1-PER SM1-be/get_tired-SBJV
 'Amina will get tired, but she is not yet tired.' (8294roz, sau)

⁶ See Petzell (2008) and Bar-el and Petzell (2021) for further discussion on tense and aspect in the Greater East Ruvu languages.

- b. *Leora konelaga*,
 Leora ka-one1-ag-a
 Leora SM1-be/get_happy-HAB-FV
lowo yang'hati yonele hambiya.
 lowo ya-**ng'hati** ya-one1-e hambiya
 but SM1-PER SM1-be/get_happy-SBJV now
 'Leora is always happy, but she is not [yet] happy now.' (8313roz, sau)
- c. *Ning'hati nilime mgunda wangu.*
 ni-**ng'hati** ni-lim-e mu-gunda u-angu
 SM1SG-PER SM1.SG-cultivate-SBJV 3-farm 3-POSS.1SG
 'I have not yet cultivated my farm.' (3153mta)

In construction Ic (SM-NG'HALI SM-V-ILE) the main verb takes the suffix *-ile*, as shown in (11). Note that unlike in other Bantu languages, where *-ile* is described as a perfect or perfective marker (see Nurse 2008; Botne 2010; Crane 2012 for discussion), in Kagulu, the appearance of *-ile* is restricted to dependent clauses, negation, and change-of-state main verbs in an AVC (see Petzell 2008; Bar-el and Petzell 2021).

- (11) a. *Nyagilisa simu na ing'hali yagilile.*
 ni-agil-is-a simu na i-**ng'hali** i-agil-ile
 SM.1SG-lost-CAUS-FV 9.phone and SM9-PER SM9-lost-ILE
 'I lost my phone, and it is still lost.' (8368roz, sau)
- b. *Isuke haidonha digulo*
 i-suke ha-i-donh-a digulo
 AUP-9.dress PST-SM9-be/get_wet-FV yesterday
na ikali idonhile.
 na i-**kali** i-donh-ile
 and SM9-PER SM9-be/get_wet-ILE
 'The dress was wet yesterday and is still wet.' (8297roz, sau)

Derived states (states derived by the neuter⁷ affix *-ik-* or its allomorph *-ek-*) appear in construction Ic, illustrated in (12) below. When the neuter morpheme *-ik-/-ek-* merges with *-ile*, it is abbreviated to *-ike* (see Petzell 2008, 126 for discussion).

- (12) *Isupa i-kali itulike.*
 i-supu i-**kali** i-tul-ike (< i-tul-**ik-ile**)
 AUP-9.bottle SM9-PER SM9-break-NEUT.ILE
 'The bottle is still broken.' (240331roz, sau)

Crucially, we analyse the final vowel *-e* in (12) as a phonological reduction of the suffix *-ile* after *-ik-*, and not as the subjunctive final vowel *-e* (compare (10) above and (14) below) in accordance with Kagulu morphophonology (see Petzell 2008). This is further illustrated in (13)

⁷Also labeled 'stative' (Dom et al. 2023, 134).

below. The sentence in (13a) contains a relative clause, another type of construction where *-ile* surfaces. The sentence in (13b) contains a relative clause where we expect *-ile*; however, as the verb *ben* ‘break’ takes the neuter suffix *-ek-*, the two suffixes surface as *-eke*. Note that these are not constructions in which we would expect the subjunctive; thus we analyse *-eke* in (13b) as a phonological reduction of *-ile* after *-ek-*, parallel to *-ike* in (12) above.

(13) a. *Imunhu yejile lumbu dyangu.*

i-mu-nhu ye-ij-ile lumbu di-angu
 AUP-1-person SM1-come-ILE 5.sibling_of_opposite_sex 5-POSS.1SG
 ‘The person who came is my brother.’ (3255jes)

b. *Umukono wa Komba ubeneke ukutaama.*

u-mu-kono wa Komba u-ben-eke u-ku-taam-a
 AUP-3-arm CON Komba SM3-break-NEUT.ILE SM3-NON_PST-hurt-FV
 ‘Komba’s arm, which is broken, hurts.’ (11374roz)

This reduction does not constitute imbrication (see Hyman 1995; Downing 1999; Morrison 2025) of the type attested in languages such as Nyakyusa (Persohn 2017, 144–152), where *-ile* fuses with stem-internal material and an *i*-vowel is inserted before the final root consonant (*ambilila* ‘receive; entertain guests’ > *ambili*<*i*>*l-e* > *ambiliile*). Instead, in Kagulu, *-ile* is reduced to *-e* without any root-internal alternation (see Section 3.3 for further discussion).

Derived states also appear in construction Ib (14a–b), a subjunctive construction, where the main verb is suffixed with a subjunctive *-e*.

(14) a. *Idijua ding'hali dyoneke.*

i-di-jua di-ng'hali di-on-ek-e
 AUP-5-sun SM5-PER SM5-appear-NEUT-SBJV
 ‘The sun has not yet appeared.’ (250341roz, sau)

b. *Matagi gang'hati/ng'hali gatulike.*

ma-tag-i ga-ng'hati/ng'hali ga-tul-ik-e
 6-egg SM6-PER SM6-break-NEUT-SBJV
 ‘The eggs are not yet broken.’ (240336roz, sau)

3.2.2 AVCs with an infinitival main verb

In the Kagulu corpus, when NG’HALI is followed by an infinitival main verb (construction II in Table 1 above: SM-NG’HALI INF-V-FV), we observe both variants, *ng'hali* and *kali*:

(15) a. *Hamwedu ni mndele*

hamwedu ni mu-ndele
 although COP 1-beauty

yeng'hali kutoligwa.

ye-ng'hali ku-tol-igw-a
 SM1-PER INF-be/get_married-PASS-FV

‘Although she is a beauty, she is not (yet) married.’ (3254mgu)

b. *Ning'hali kulima mgunda wangu.*

ni-**ng'hali** ku-lim-a mu-gunda u-angu
 SM.1SG-PER INF-cultivate-FV 3-farm 3-POSS.1SG
 'I have not yet cultivated my farm.' (3152mgu)

c. *Ngodi saka kahi sikali kwaka.*

ngodi si-ak-a kahi si-**kali** ku-ak-a
 10.firewood SM10-burn-FV again SM10-PER INF-burn-FV
 'The firewood has burnt and it is still burning.' (240399roz, sau)

d. *Amina yakali kwija kila siku hang'halisiku.*

Amina ya-**kali** ku-ij-a kila siku hang'halisiku⁸
 Amina SM1-PER INF-arrive-FV every 9.day early_morning
 'Amina still arrives early every morning' (9046roz)

NG'HALI followed by an infinitival main verb is not always judged felicitous, as illustrated in (16):

(16) #*Hanimanya na nikali kumanya.*

#ha-ni-many-a na ni-**kali** ku-many-a
 PST-SM.1SG-know-FV and SM.1SG-PER INF-know-FV
 Intended: 'I knew and I still know.' (8433roz, sau)

The infelicity of the sentence in (16) could be due to the speaker's interpretation of this type of construction as conveying the meaning 'not yet', which would lead to a contradiction (i.e., 'I knew and I don't yet know'). When volunteering a corrected form of (16) above, the speaker offers the main verb in finite form, with the meaning 'still', as shown in (17):

(17) *Hanimanya na nikali nimanyile.*

ha-ni-many-a na ni-**kali** ni-many-ile
 PST-SM.1SG-know-FV and SM.1SG-PER SM.1SG-know-ILE
 'I knew and I still know.' (8435roz, sau)

However, as shown in (15) above (and discussed in Section 3.3 below), NG'HALI followed by an infinitival verb can be interpreted as 'still' or 'not yet'. Thus, it may be the case that the infelicity in (16) above stems from speaker preference. This may suggest that AVCs with NG'HALI and finite main verbs are preferred over infinitival main verbs. Furthermore, this may explain why there are fewer examples of infinitival main verbs in the Kagulu corpus.

3.2.3 Constructions exhibiting further stages of grammaticalization

There are two construction subtypes that illustrate further stages of grammaticalization. Both constructions IIIa (SM-NG'HALI-SM-V-ILE) and IIIb (SM-NG'HALI-V-FV) exhibit morphological reductions that we take to indicate that NG'HALI is grammaticalizing into a TA marker. Although the examples of construction IIIa in the Kagulu corpus only appear with the form *kali*, as

⁸ We analyse *hang'halisiku* as morphologically complex, containing the locative *ha-*, NG'HALI, and the word *siku* 'day'. This points to the lexicalization of NG'HALI.

aforementioned, we assume this to be an accidental gap in the data. Examples of construction IIIb exhibit both allomorphs.

Construction IIIa is found only twice in the Kagulu corpus. In these sentences, what appears to be a reduced subject marker appears on the main verb: *a-* instead of the expected *ya-*, illustrated in (18). We take this phonological reduction to indicate that NG'HALI has been grammaticalized into a TA marker (see Section 4 for detailed discussion):

(18) a. *Ponsiano katola mwaka ulokile*

Ponsiano ka-tol-a mu-aka u-lok-ile
 Ponsiano SM1-be/get_married-FV 3-year SM3-pass-ILE

na yang'haliatolile.

na ya-**ng'hali-a**-tol-ile
 and SM1-PER-SM1-be/get_married-ILE

'Ponsiano got married last year and he is still married.' (2403182roz, sau)

b. *Amina hakowa yakaliasokile.*

Amina ha-ka-uw-a ya-**kali-a**-sok-ile
 Amina PST-SM1-be-FV SM1-PER-SM1-be/get_tired-ILE

'Amina was still getting tired.' (9021roz)

In construction IIIb sentences, the subject marker on the main verb is absent altogether. This is illustrated in the sentences in (19):

(19) a. *Igolofa ding'alipolomoka.*

i-golofa di-**ng'ali**-polomok-a
 AUP-5.building SM5-PER-break_down-FV

'The building is still breaking down. / The building is still collapsing.'
 (250355roz, sau)

b. *Chikalilonga naye.*

chi-**kali**-long-a naye
 SM.1PL-PER-speak-FV with_her/him

'We are still speaking with her/him.' (2079sau)

c. *Amina yakalisokela/yang'halisokela.*

Amina ya-**kali**-sokel-a/ya-**ng'hali**-sokel-a
 Amina SM1-PER-be/get_tired-FV/SM1-PER-be/get_tired-FV

'Amina is still tired.' (9006roz)

We propose that this type of construction in Kagulu is an indication that NG'HALI has undergone further grammaticalization into a TA marker (see Section 4 for details). Although it is not clear whether this construction has developed from an infinitival form (construction II, Section 3.2.2.) or from construction IIIa, it is likely that it has developed from construction IIIa, given the 'still' interpretations it yields (see Section 3.3 for discussion). We thus analyse IIIb as a single verb consisting of one subject marker, NG'HALI, and a verb.

3.3 Morphosemantic properties

Auxiliaries in East African Bantu languages commonly select a finite or infinitival verb (Gibson 2025). Variation in the finiteness of the main verb can have interpretive consequences: an infinitival main verb may signal dependency or incompleteness, while a finite main verb can mark greater integration with tense-aspect morphology. Zahran and Bloom Ström (2022) show how the form of the main verb following Swahili adverbial *bado* impacts interpretation: when followed by an affirmative infinitive, *bado* yields a conventionalized ‘not yet’ interpretation, and when followed by a finite verb, *bado* instead signals the persistence of an ongoing state or activity (‘still’). These cross-Bantu observations suggest that auxiliary-main verb constructions not only vary morphosyntactically, but that these variations have semantic effects (cf. Abe’s (2015) five patterns for Bende). In Kagulu, ‘still’ and ‘not yet’ interpretations of NG’HALI are dependent on the constructions in which this auxiliary is found. The NG’HALI patterns from Table 1 above are summarized again in Table 2 below and include the interpretations associated with each:

Table 2: Morphosemantic properties of NG’HALI

	Subtype	Construction	Forms	Meanings
I. Finite main verb	Ia	SM-NG’HALI SM-TA-V-FV	<i>ng'hali, kali</i>	‘still’
	Ib	SM-NG’HALI SM-V-SBJV	<i>ng'hali, kali, ng'hati</i>	‘not yet’
	Ic	SM-NG’HALI SM-V-ILE	<i>ng'hali, kali</i>	‘still’
II. Infinitival main verb		SM-NG’HALI INF-V-FV	<i>ng'hali, kali</i>	‘still’, ‘not yet’
III. Further stages of grammaticalization	IIIa	SM-NG’HALI-SM-V-ILE	<i>kali</i>	‘still’
	IIIb	SM-NG’HALI-V-FV	<i>ng'hali, kali</i>	‘still’

As illustrated in Table 2, there are two patterns where NG’HALI yields a ‘not yet’ interpretation. It is the only interpretation of construction Ib sentences, where the final vowel of the main verb is the subjunctive *-e* (e.g., example (9b) from above, repeated in (20) below):

- (20) *Amina yakali yagende.*
 Amina ya-**kali** ya-gend-**e**
 Amina SM1-PER SM1-walk-SBJV
 ‘Amina has not yet walked.’ (8289roz, sau)

As discussed in Section 3.2.1, the suffix *-e* has different functions in Kagulu: it occurs in subjunctive constructions (Petzell 2008, 129) and as an abbreviated form of *-ile* when it occurs together with the neuter affix *-ik/-ek-*. The homophony allows both readings of NG’HALI – ‘not yet’ (subjunctive *-e*) and ‘still’ (*-ile* abbreviated to *-e*). The ‘not yet’ reading arises when the *-e* is interpreted as the subjunctive, whereas the ‘still’ reading arises when it is interpreted as a reflex of *-ile*. The sentences below illustrate the distinction between the subjunctive *-e* and *-ile*: NG’HALI + the stative verb *tol* ‘be/get married’, suffixed with subjunctive *-e*, yields the interpretation ‘not

yet married' (21a), while NG'HALI + the stative verb *tol* suffixed with *-ile* yields the interpretation 'still married' (21b):

- (21) a. *Mugosi yakali yatole.*
 mu-gosi ya-kali ya-tol-e
 1-man SM1-PER SM1-be/get_married-SBJV
 'The man is not yet married.' (240380roz, sau)
- b. *Mugosi yakali yatolile.*
 mu-gosi ya-kali ya-tol-ile
 1-man SM1-PER SM1-be/get_married-ILE
 'The man is still married.' (240379roz, sau)

We can thus use the interpretations of NG'HALI constructions to tell us whether a final *-e* is a subjunctive or a reduced *-ile*. For sentences in which the eventuality is interpreted as not yet taking place/holding, we analyse the final *-e* as a subjunctive ((22a), repeated from (14a) above). For sentences in which the eventuality is interpreted as still taking place/holding, the final *-e* is a reduced *-ile* ((22b), repeated from (12) above):

- (22) a. *Matagi gang'hati/ng'hali gatulike.*
 ma-tagì ga-ng'hati/ng'hali ga-tul-ik-e
 6-egg SM6-PER SM6-break-NEUT-SBJV
 'The eggs are not yet broken.' (240336roz, sau)
- b. *Isupa ikali itulike.*
 i-supà i-kali i-tul-ike
 AUP-9.bottle SM9-PER SM9-break-NEUT.ILE
 'The bottle is still broken.' (240331roz, sau)

That it is the subjunctive that is used for 'not yet' interpretations in Kagulu is not unexpected. Persohn (2024b) shows that 'still' expressions without an overt negator are cross-linguistically used to express 'not yet' in several environments, one of which is "with less-than-finite and/or dependent complements" (84). Persohn suggests that the status of the subjunctive as irrealis may explain its similarities to infinitival complements where there is a "conventionalized inference from a pending situation to a persistently negative one" (102).

The other construction that yields 'not yet' interpretations of NG'HALI in Kagulu is construction II, when the main verb is infinitival (example (15b) above, repeated in (23a) below). In contrast to subjunctive complements that are only interpreted as 'not yet', infinitival complements can also have 'still' interpretations (example (15c) above, repeated in (23b) below):

- (23) a. *Ning'hali kulima mgunda wangu.*
 ni-ng'hali ku-lim-a mu-gunda u-angu
 SM.1SG-PER INF-cultivate-FV 3-farm 3-POSS.1SG
 'I have not yet cultivated my farm.' (3152mgu)

b. *Ngodi saka kahi sing'hali kwaka.*

ngodi si-ak-a kahi si-**ng'hali** ku-ak-a
10.firewood SM10-burn-FV again SM10-PER INF-burn-FV

'The firewood has burnt and it is still burning.' (240399roz, sau)

The 'not yet' interpretation with infinitival complements is in line with Persohn's (2024b) findings for Bantu languages.

NG'HALI followed by an infinitival verb is also used to express the meaning 'before', as shown in example (24) below.

(24) *Chifula kiyona ching'hali kugolosa imilimo.*

chi-ful-a ku-i-on-a chi-**ng'hali** ku-golos-a i-mi-limo
SM.1PL-finish-FV INF-REC-see-FV SM.1PL-PER INF-do-FV AUP-4-work

'We already (lit. finished) met before (starting) work.' (250351roz, sau)

This extended usage of a persistive marker is found cross-linguistically and is discussed in Veselinova and Devos (2021, 466) and Persohn (2021, 106; 2024a, 175–177), among others. 'Not yet' markers are often used in 'before' clauses in Bantu languages (van der Auwera and Veselinova 2018, as cited in Olguín Martínez 2022, 44). Since the eventuality in the main clause occurs prior to the eventuality in the 'before' clause, the eventuality in the 'before' clause has not yet taken place (Olguín Martínez 2022, 42).

Although, as suggested in Section 3.2, we take the absence of the form *ng'hali* in IIIa constructions as an accidental gap in the corpus data, the form *ng'hati* (see footnote 5) only appears in construction Ib (subjunctive), for which 'not yet' is the only interpretation (see (10c) above, repeated in (25) below):

(25) *Ning'hati nilime mgunda wangu.*

ni-**ng'hati** ni-lim-e mu-gunda u-angu
SM.1SG-PER SM.1SG-cultivate-SBJV 3-farm 3-POSS.1SG

'I have not yet cultivated my farm.' (3153mta)

Examples of the form *ng'hati* in the Kagulu corpus contrasts with Last (1886, 66–67), who documents it as *nati* and glosses it 'still, yet, again'. Last suggests *nati* occurs with infinitival main verbs (26) (glosses adapted):

(26) *Chinati kwenda.*

chi-**nati** ku-end-a
SM.1PL-PER INF-love-FV

'We are still loving.' (Last 1886, 66 67)

Last further suggests that *nati* can occur within the main verbal complex (27) (glosses adapted):

(27) *Yanaitonya.*

ya-**nati**-tony-a
SM1-PER-rain-FV

'It is still raining.' (Last 1886, 67)

Last proposes that *nati* requires negation in order for the eventuality to be interpreted as ‘not yet’ holding/taking place, as in (28):

(28) *Wasinati kwenda.*

wa-si-nati ku-end-a
SM2-NEG-PER INF-love-FV

‘They have not yet loved.’ (Last 1886, 78)

Last refers to *nati* as another “‘not yet’ tense” and asserts that it is used when “the action implied by the verb has not taken place, and is not likely to happen” (Last 1886, 76).

Last’s generalizations are not borne out by the data in the Kagulu corpus. Last’s proposed form *k’ali* ‘not yet’ formally corresponds to contemporary Kagulu *ng’hali/kali* and is usually interpreted with the meaning ‘still’. Last’s proposed form *nati* ‘still, yet, again’ formally corresponds to contemporary Kagulu *ng’hati*, which is only interpreted with the meaning ‘not yet’. Despite these different generalizations, we still consider the forms in Last’s work and the forms in the contemporary Kagulu corpus to have developed from the same source.¹⁰

4 Development into a TA prefix

In Section 3.2 above, we suggested that some NG’HALI constructions illustrate that it is undergoing further grammaticalization. In this section, we discuss these stages in more detail. We begin with an illustration of the grammaticalization of Kagulu *uwa* ‘be’, which is the most commonly used auxiliary in the language.

The auxiliary *uwa* undergoes three grammaticalization stages. This analysis is based on Nurse (2003, 93–94) and developed for Kagulu by Petzell (2008, 149). The constructions at all three stages are used in Kagulu today, which points to an ongoing grammaticalization process.

In Stage 1, *uwa* occurs separately from the main verb, and is affixed with a subject marker, non-past prefix, and final vowel *-a*:

(29) *Nikuwa nilima.*

ni-ku-uw-a ni-lim-a
SM.1SG-NON_PST-be-FV SM.1SG-cultivate-FV

‘I am cultivating.’ (Petzell 2008, 153)

In Stage 2, *uw* is phonologically reduced and merged with the non-past morpheme *-ku-*, resulting in *-koo-* or *-ko-*. Moreover, the final vowel of the auxiliary is omitted. We suggest this to be an indication that the auxiliary and main verb have fused into a single verb complex, but that the auxiliary has not yet completely grammaticalized. Consequently, we gloss *-ko(o)-* as a merged non-past (*-ku-*) and auxiliary (‘be’) morpheme. At this stage, the subject marker of the main verb is retained, and thus the verbal complex now has two subject markers. This is illustrated in (30):

⁹The other ‘not yet’ tense Last (1886, 76) refers to is *k’ali* ‘not yet’, discussed in Section 1 above.

¹⁰There is a similar auxiliary in Kagulu, *naki* (see Petzell 2008, 152), that requires negation and that may be interpreted as ‘not yet’, as well as ‘never mind’, which we assume has developed from a different source.

- (34) a. *Ning'hali*golosa milimo.
 ni-**ng'hali**-golos-a mi-limo
 SM.1SG-PER-do-FV 4-work
 'I am still working.' (03091jes)
- b. *Ung'hali*dia.
 u-**ng'hali**-di-a
 SM.2SG-PER-eat-FV
 'You are still eating.' (03092jes)
- c. *Yeng'hali*wenda.
 ye-**ng'hali**-mu-end-a
 SM1-PER-OM1-love-FV
 'S/he still loves him/her.' (200409lem)
- d. *Chikalilong(anya)* naye.
 chi-**kali**-long(-any¹¹)-a naye
 SM.1PL-PER-speak(-SOC)-FV with_her/him
 'We are still speaking with her/him.' (2079sau)
- e. *Amina yakali*genda.
 Amina ya-**kali**-gend-a
 Amina SM1-PER-walk-FV
 'Amina is still walking.' (8290roz, sau)

While some auxiliaries can also occur as a main verb, NG'HALI never occurs as a main verb. Unlike in *uwa* constructions, when NG'HALI is separated from the main verb, it does not appear with a final vowel, which might make it difficult to determine whether or not NG'HALI is fusing with the main verb. Nonetheless, we take the parallels with *uwa* grammaticalization as evidence that NG'HALI is fusing with the main verb. Moreover, we take examples in the Kagulu corpus where NG'HALI is preceded by another auxiliary (*uw* in (35) below) as further evidence that NG'HALI is indeed undergoing grammaticalization (see Section 5 for further discussion of the co-occurrence of NG'HALI with multiple verb constructions).

- (35) *Amina kowaga yakalibilima*.
 Amina ka-**uw**-ag-a ya-kali-bilim-a
 Amina SM1-**be**-HAB-FV SM1-PER-run-FV
 'Amina still runs/is still running.' (9030roz)

There are two examples in the Kagulu corpus that may illustrate Stage 2 (or possibly Stage 3) of NG'HALI grammaticalization. In (36) below (repeated from (18) above), *-a-* intervenes between NG'HALI and the main verb (*tol* 'be/get married' and *sok* 'be/get tired', respectively). If this morpheme is considered a reduced version of the subject marker *ya-*, this may be evidence of NG'HALI at Stage 2 or 3.

¹¹ For discussion on the sociative in Kagulu, see Dom et al. (2023b, 207).

(36) a. *Ponsiano katola mwaka ulokile*

Ponsiano ka-tol-a mu-aka u-lok-ile
 Ponsiano SM1-be/get_married-FV 3-year SM 3-pass-ILE

na yang'haliatolile.

na ya-ng'hali-a-tol-ile
 and SM1-PER-SM1-be/get_married-ILE

'Ponsiano got married last year and he is still married.' (2403182roz, sau)

b. *Amina hakowa yakaliasokile.*

Amina ha-ka-uw-a ya-kali-a-sok-ile
 Amina PST-SM1-be-FV SM1-PER-SM1-be/get_tired-ILE

'Amina still became tired (again).' (9021roz)

The sentences with reduced subject markers in (35) above are also documented with the non-reduced subject marker (37), which we take as further evidence of grammaticalization in progress:

(37) a. *Ponsiano katola mwaka ulokile*

Ponsiano ka-tol-a mu-aka u-lok-ile
 Ponsiano SM1-be/get_married-FV 3-year SM3-pass-ILE

na yang'hali yatolile.

na ya-ng'hali ya-tol-ile
 and SM1-PER SM1-be/get_married-ILE

'Ponsiano got married last year and he is still married.' (2403181roz, sau)

b. *Amina hakowa yang'hali yasokile.*

Amina ha-ka-uw-a ya-ng'hali ya-sok-ile
 Amina PST-SM1-be-FV SM1-PER SM1-be/get_tired-ILE

'Amina was still getting tired.' (9021roz)

Veselinova and Devos (2021) suggest that auxiliaries such as *NG'HALI* may have historically developed into auxiliaries via grammaticalization and are now further grammaticalizing. For example, they propose that in Stage 1, the meaning 'not yet' is expressed by a bound morpheme, which could potentially be analysed as *(n)ka* in Kagulu. In Stage 2, the 'not yet' interpretation is 'reinforced' by the addition of an auxiliary, specifically copular *li* from Proto-Bantu **di* (see Nurse 2008, 173). Veselinova and Devos argue that in Stage 3, this newly formed AVC *(n)ka + li* may subsequently undergo univerbation and morphologization such that it grammaticalizes into a bound morpheme (2021, 477–480). Even though copular *li* is not attested elsewhere in Kagulu, it is attested in neighbouring Luguru (Seidel 1898, 442) and Zalamo (Worms 1897, 305), which further supports this path of development.

5 AVCs with multiple verbs

Whether or not it is grammaticalized, when *NG'HALI* interacts with other auxiliaries or verbs and aspectual morphology, it contributes to the expression of progressive and habitual aspect. *NG'HALI* co-occurs with two other verbs: *gendelela* 'continue' and the auxiliary *uwa* 'be'.

When they appear in the same construction, *gendelela* follows NG'HALI, and the main verb appears in the infinitive, as illustrated in the following schema (38):

(38) SM-NG'HALI-V-FV INF-V-FV

The constructions in (39) below are used to express events in progress with a dynamic verb (a) and with a neuter (*-ik/-ek-*) derived verb (b).

(39) a. *Amina yakaligendelela kubilima.*

Amina ya-kali-gendelel-a **ku-bilim-a**

Amina SM1-PER-continue-FV INF-run-FV

'Amina is still running.' (9037roz)

b. *Dilokelo ding'haligendelela kubeneka.*

Di-lokelo di-ng'hali-gendelel-a **ku-ben-ek-a**

5-bridge SM5-PER-continue-FV INF-break-NEUT-FV

'The bridge is still continuing to break down (right now).' (250355roz, sau)

In contrast to AVCs with *gendelela* where it appears in the same complex as NG'HALI, the auxiliary *uwa* appears in its own auxiliary construction, followed by grammaticalized NG'HALI in the main verb complex. In these constructions, structurally schematized in (40), either the habitual marker (*-ag-*) appears on the auxiliary (41), or the suffix *-ile* appears on the main verb (42)¹²:

(40) a. SM-AUX-HAB-FV SM-NG'HALI-V-FV

b. SM-AUX-FV SM-NG'HALI SM-V-ILE

(41) a. *Amina kowaga yakalibilima.*

Amina ka-uw-**ag**-a ya-kali-bilim-a

Amina SM1-be-HAB-FV SM1-PER-run-FV

'Amina still runs /is still running (usually).' (9030roz)¹³

b. *Amina kowaga yakalisoka.*

Amina ka-uw-**ag**-a ya-kali-sok-a

Amina SM1-be-HAB-FV SM1-PER-be/get tired-FV

'Amina still becomes tired (habitually).' (9007roz)

(42) a. *Esta hakowa yeng'hali/yekali yamanyile.*

Esta ha-ka-uw-a ye-ng'hali/ye-kali ya-many-**ile**

Esta PST-SM1-be-FV SM1-PER/SM1-PER SM1-know-ILE

'Esta still knew.' (1004sau)

¹² There is one example in the corpus that does not adhere to this generalization where the final vowel *-a* appears instead of *-ile*. We leave this for further research.

¹³ With the exception of the optional past tense prefix *ha-*, past tense is not obligatorily morphologically encoded in Kagulu. Thus, although sentences without overt past tense morphology typically yield past tense interpretations, sentences marked with *-ag-* yield present tense habitual interpretations (see Bar-el and Petzell 2024, 215).

b. *Amina hakowa yang'hali yasokile.*

Amina ha-ka-uw-a ya-ng'hali ya-sok-ile
 Amina PST-SM1-be-FV SM1-PER SM1-be/get_tired-ILE
 'Amina was still getting tired.' (9021roz)

The sentence in (43) below shows that in the absence of either *-ag-* or *-ile*, AVCs consisting of NG'HALI and *uwa* are infelicitous.

(43) #*Amina yekuwa yakalisoka.*

#Amina ye-ku-uw-a ya-kali-sok-a
 Amina SM1-NON_PST-be-FV SM1-PER-be/get_tired-FV
 Intended: 'Amina still becomes tired. (9007roz)

Finally, there is one occurrence in our corpus of both *gendelela* and *uwa* combined with NG'HALI. In this example, *uwa* appears in the auxiliary position and takes habitual *-ag-*, NG'HALI and *gendelela* form another verbal complex, and the main verb is in the infinitive. The schema of this construction is given in (44a) and illustrated in the example in (44b):

(44) a. SM-AUX-HAB-FV SM-NG'HALI-V-FV INF-V-FV

b. *Amina kowaga yakaligendelela kwija.*

Amina ka-uw-ag-a ya-kali-gendelel-a ku-ij-a
 Amina SM1-be-HAB-FV SM1-PER-continue-FV INF-come-FV
 'Amina still (usually) comes.' (9045roz)

In this section we have shown that when combined with other auxiliaries and verbs, NG'HALI appears in four different multiple verb constructions that vary according to the auxiliary/verb. NG'HALI + *gendelela* is always followed by an infinitive. Furthermore, NG'HALI + *uwa* requires specific morphology (habitual *-ag-*, or suffix *-ile*), whereas NG'HALI on its own occurs in a variety of 'simpler' constructions. With respect to morphosemantic properties, AVCs containing NG'HALI carry only the 'still' interpretation. While this is expected for finite forms (seeing as the 'not yet' interpretation is only associated with subjunctive *-e* constructions), this differs from the simpler AVC with infinitival complements that get both 'still' and 'not yet' interpretations. Despite these morphosyntactic and morphosemantic differences and similarities, the occurrence of NG'HALI with other auxiliaries shows grammaticalization stages similar to those observed in 'simpler' constructions, and specifically Stage 3 where NG'HALI becomes a TA prefix.

6 Conclusions

In this paper we have explored previously undescribed phonological, morphosyntactic, and semantic properties of the Kagulu auxiliary NG'HALI. We have shown that there are two predominant allomorphs in the Kagulu corpus: *ng'hali* and *kali*. Our study reveals that NG'HALI occurs in three main construction types: (I) constructions with finite complements, (II) constructions with infinitival complements, and (III) constructions that exhibit further grammaticalization. There are three subtypes of construction I and two subtypes of construction III, thus there are six overall constructions. We have demonstrated that 'still' is the predominant interpretation of NG'HALI across constructions, and the 'not yet' interpretation is restricted to two constructions,

and in fact is the only interpretation available for constructions with the subjunctive suffix *-e*. We have shown that there is another form of NG'HALI, *ng'hati*, which occurs in only one of the six constructions and is always interpreted as 'not yet'. We have proposed that NG'HALI is developing into a tense/aspect marker and that its grammaticalization path parallels the development of the Kagulu auxiliary *uwa* 'be'. The fact that, in its current use, NG'HALI is observed at multiple stages also confirms that grammaticalization is in progress. Finally, we have described the co-occurrence of NG'HALI and other Kagulu auxiliaries, and we have shown that auxiliaries such as *gendetela* 'continue' and *uwa* 'be' occur in different types of NG'HALI constructions which vary morphosyntactically from the simpler NG'HALI constructions.

This paper contributes to the understanding of Kagulu morphosyntax and the development of auxiliaries. The coexistence of NG'HALI at multiple stages of grammaticalization offers a current and unique snapshot of ongoing univertation processes, which parallels, but is also distinct from, the pathway of *uwa* 'be'. Given that the forms at different stages of grammaticalization are used synchronically, NG'HALI illustrates that univertation is not a linear process but one in which earlier and later stages can overlap. This challenges assumptions of unidirectionality in grammaticalization pathways and offers a comparative point of reference. This perspective enriches not only our understanding of Kagulu but also the theoretical modeling of grammaticalization processes in Bantu languages and beyond.

This study has significant typological implications given the structural profile of the Greater East Ruvu Bantu languages, which lack the rich TA paradigms characteristic of other Bantu subgroups. As a result, auxiliaries shoulder much of the functional load in expressing tense, aspect, and mood. The versatility of NG'HALI across both simpler and more complex AVCs demonstrates that such languages employ various strategies to expand functional coverage. Our findings provide a foundation for the study of auxiliaries in Greater East Ruvu and the Bantu language family.

The productivity of infinitival verbs in NG'HALI constructions requires further examination. While some examples in the corpus contain infinitival main verbs, speaker judgments point to limited acceptability, raising the question of whether infinitival forms are a stable feature of the system or a transitional stage in the grammaticalization process. Finally, while we have focused in this paper on the correlation between NG'HALI constructions and 'still' and 'not yet' meanings, we leave open the possibility that a more detailed study of actionality in Kagulu may reveal that the actional class of the main verb in NG'HALI constructions may determine whether NG'HALI contributes a 'still' or 'not yet' meaning in a given construction.

Abbreviations

1, 2, 3 ... etc.	Bantu noun class
1, 2SG/PL	person
AUP	augment prefix
AUX	auxiliary
CAUS	causative
CON	connective
COP	copula
FV	final vowel
FUT	future
HAB	habitual
INF	infinitive

ISO	International Organization for Standardization
NEUT	neuter
NON_PST	non-past
OM	object marker
PASS	passive
PER	persistent
POSS	possessive
PROG	progressive
PST	past
REC	reciprocal
SBJV	subjunctive
SM	subject marker
SOC	sociative
TA	tense and aspect
V	verb

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