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The development of the encoding of deictic motion in the Bantu language Rangi: grammaticalisation and change

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Abstract: The close cross-linguistic relation between the domains of space and time has been well described. The frequent emergence of Tense-Aspect-Mood (TAM) markers from deictic motion verbs in particular, has also been extensively detailed in the literature. This paper focusses on the less well-known link between associated motion, a category of functional morphemes expressing (deictic) motion events, and TAM, in a language contact situation. Specifically, it provides a synchronic and diachronic description of three associated motion prefixes, **joo-**, **tóó-** and **koo-**, found in the Tanzanian Bantu language Rangi, spoken in an area of high linguistic diversity. It proposes that the prefix **joo-** encodes movement towards a deictic centre, **tóó-** encodes movement towards a goal which is not the deictic centre, and **koo-** encodes movement away from a deictic centre. It further contends that while **tóó-** and **koo-** have maintained a purely deictic function, **joo-** has grammaticalised to assume an additional function whereby it encodes future tense, possibly aided by the absence of a dedicated future tense marker in the language. This three-way morphological encoding of spatial relations on the verb form is not a common characteristic of East African Bantu languages. However, this paper proposes that the system in Rangi can be accounted for on the basis of cross-linguistically widely attested pathways of grammatical change.

Keywords: associated motion; Bantu languages; deixis; grammaticalisation; language change; Rangi

Abstract in KiSwahili – Ikisiri: Lugha mbalimbali zinaonyesha uhusiano wa karibu wa kiisimu katika kuwasilisha dhana za nafasi na wakati. Wanazuoni wengi wameeleza kwamba viambishi vya wakati, njeo na hali vimetokana na vitenzi, hasa vitenzi vya mwendo. Makala hii inachunguza uhusiano uliopo baina ya 'mwendo shirikishi', viambishi tegemezi vya mwendo vinavyohusisha nafasi,

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na wakati, njeo na hali katika muktadha wa mwingiliano wa lugha mbalimbali. Uhusiano huu haujulikani sana kutokana na kutofanyiwa utafiti wa kutosha. Makala imejikita katika kuelezea viambishi awali vitatu vya mwendo shirikishi katika lugha ya Kibantu ya Tanzania inayoitwa Kirangi, ambavyo ni **joo-, tóó na koo-** kwa kuzingatia mtazamo wa kihistoria na wa kisasa. Kirangi kinazumgumzwa katika eneo lenye mwingiliano wa lugha mbalimbali. Katika makala hii tunapendekeza kwamba **joo-** inaonyesha mwendo kuelekea katika kituo, **tóó-** inaonyesha mwendo ambao hauelekei katika kituo, na koo- inaonyesha mwendo unaotoka katika kituo. Aidha, tunapendekeza kwamba **tóó-** na **koo-** zimebaki na matumizi ya kimahali tu, lakini **joo-** imepewa matumizi ya ziada ya kuonyesha wakati ujao, hali ambayo pengine imesababishwa na ukosefu wa njia ya kimofolojia ya kuonyesha wakati ujao katika lugha ya Kirangi. Mfumo huu wa kuwa na njia tatu za kimofolojia za kuonyesha uhusiano wa nafasi si mfumo wa kawaida katika lugha za kibantu za Afrika ya Mashariki. Hata hivyo, makala hii inapendekeza kwamba mbinu hii inayotumika katika lugha ya Kirangi inaweza kuelezewa kwa kuzingatia mabadiliko ya kisarufi ambayo yamekuwa yakitokea katika lugha mbalimbali ulimwenguni.

1 Introduction

Bantu languages are known for their complex verbal morphology. Numerous studies have focussed on the form and relatedness of the tense-aspect markers encoded in Bantu verb templates, as well as the frequency of the occurrence of various morphological forms across the language family (see, amongst others, Nurse (2003), Nurse and Philippson (2006), Botne and Kershner (2008)). A less widely studied phenomenon in Bantu relates to the morphological encoding of spatial relationships within the verb, despite a strong link between verbal markers of TAM and those expressing spatial relations in many Bantu languages (Guérois et al. 2021; Nicolle 2002; Persohn 2017). In the following examples from the East African Bantu language Nyamwezi, for instance, the prefix **ka-** can appear as part of the verb to indicate that the event described by the verb takes place away from the deictic centre (1).

(1) Nyamwezi
   a. **A-ku-ka-mala**
      SM1-FUT-ITV-finish
      'He will go and finish.'

b. **A-ka-ka-mala**
SM1-NARR-ITV-finish
'And he went and finished.'
(Maganga and Schadeberg 1992: 108)

This paper investigates verbal markers of spatial and motional concepts and examines their relation to the category of tense in the Tanzanian Bantu language Rangi. Rangi employs three prefixes, **joo-**, **tóó-** and **koo-**, the primary function of which is to locate the event encoded by the verb they attach to with respect to a deictic anchor. While these affixes express deictic direction, they differ from canonical directionals and share the basic properties of associated motion, a more recently recognised morphosyntactic category, found in a range of linguistic genera and various geographical areas (see Guillaume 2016 and Guillaume and Koch 2021 for an overview of associated motion). Like associated motion markers, **joo-**, **tóó-** and **koo** encode motion events in addition to deictic direction. This can be seen in the examples below. In example (2) the speaker is moving towards the deictic centre (the hearer) in order to collect the millet, in example (3) the subject of the verb has gone to a goal that is not the deictic centre (i.e. a place independent of both the speaker and the hearer), while in example (4) the use of **koo-** indicates movement away from the deictic centre and that the subsequent act of felling the tree will take place at a location away from the speaker.[1,2]

(2) **Lamʊtóondo** **joo-sʊ́m-ʊl-a** **ndí-rɪ** **vi-ryo.**
tomorrow DIR-collect-SEP-FV SM1sg-AUX 8-millet
'Tomorrow, I will come to collect the millet.'
(Stegen 2006: 11)

(3) **Va-ka-too-mʊ-kem-er-a** **ʊko** **isek-ii.**
SM2-CONSC-DIR-OM1-call-APPL-FV 17.DEM 5.forest-LOC
'They went [there] and called him [there] in the forest.'
(Stegen 2011: 412)

1 Unless otherwise stated, Rangi data are the result of fieldwork by the first author and were collected in Tanzania during the periods October 2009–May 2010 and October–December 2011.

2 Rangi has a seven-vowel system with the phonemes ɪ-i-ɛ-a-ɔ-ʊ-u. In this paper we employ a modified version of the orthography, which is being developed for Rangi, and represent the seven vowels as ɪ-i-e-a-o-ʊ-u. While tone is not marked in the orthography, the language does exhibit a two-way distinction in tone between Low and High and surface tone is marked in examples gathered by the authors. Where tone was not indicated in external sources, this has been maintained.

(4) **Ani** **á-rɪ** **koo-kan-y-a** **ura** **mʊ-ti?**
who SM1-AUX DIR-fell-CAUS-FV 3.DEM 3-tree
'Who will go fell that tree?'

The high frequency of forms expressing motion in Bantu languages has been noted before by Nicolle (2002), who referred to these as 'movement grams'. Movement grams encoding ventive direction are found in some Bantu languages but the most common form across the language family is an itive marker (Guérois et al. 2021; Nurse and Philippson 2006). Thus, from a comparative Bantu perspective, the system of deictic prefixes found in Rangi, in which a three-way distinction is encoded, is quite unusual.

The main goals of this paper are to provide a detailed synchronic account of the morphosemantic properties of the three prefixes in Rangi, to present a diachronic analysis of their possible origins and investigate the possible role of contact in the development of their associated motion semantics. It is proposed that **joo-** and **tóó-** have their origins in the movement verbs **-ʊja** 'come' and **-íɪta** 'go' respectively, while the prefix **koo-** is proposed to have originated from the consecutive prefix **ka-**. It is further observed that in addition to its deictic use, **joo-** has come to assume a future tense marking function, representing a cross-linguistically well-established path of grammaticalisation from motion verb to temporal marker (Bourdin 2002; Bybee and Dahl 1989; Heine and Kuteva 2002; Kuteva 2001).

The paper is organised as follows: Section 2 introduces the use and interpretation of the three associated motion prefixes. Section 3 details possible origins for the markers. Section 4 examines the emergence of the prefix **joo-** as a future tense marker. Section 5 explores the possibility that the presence of strategies for encoding 'associated motion' in neighbouring contact languages may have played a role in the development of the verbal deictic system in Rangi. Section 6 constitutes a conclusion.

2 The morphology and semantics of *joo-*, *tóó-* and *koo-*

The verbal affixes **joo-**, **tóó-** and **koo-** interact with the morphosyntactic category of tense and the concept of motion, and as such, a morphosemantic account of these markers requires a preliminary description of the morphosyntactic expression of Tense-Aspect-Mood (TAM), the morphological structure of the verbal template and the lexicalisation of motion events in Rangi.

Like other Bantu languages, Rangi follows a basic Subject Verb Object order which allows for some flexibility of constituent order. Lexical subjects and objects are referenced by agreement markers on the verb. Subject (and object) pro-drop is widespread and in the appropriate context, overt nominal expressions are regularly omitted. A rich system of TAM distinctions is encoded through a combination of auxiliary forms, morphological markers affixed to the verb stem and an associated tone pattern. As is common across the Bantu family, Rangi has morphologically complex verbs and nouns. The Rangi verb form is constructed in the usual Bantu manner. All elements are not necessarily present in a given verb form, but those elements that are present, appear in a highly restricted order. The lexical core of the verb and the final vowel are obligatorily present. The positions before the verb stem are reserved for prefixes which indicate negation, subject agreement, tense-aspect-mood information, and as is argued in the current paper, deixis.

Previous work has proposed that the Rangi verbal template consists of only eight positions, with no position between the pre-stem tense-aspect marker and the object marker (Dunham 2005; Gibson 2012). On the basis of the data presented in the current paper however, it is proposed that an additional position (Slot 5 in the table below) is necessary to account for the placement of the deictic prefixes in the verb form. This revised structure for the verbal template for Rangi is shown in Table 1.

The structure in Table 1 is further supported by cross-Bantu observations relating to the historical structure of the Bantu verb. Meeussen's (1967: 109) reconstruction of the Proto-Bantu verbal template, for instance, includes a pre-stem position which is termed the 'motional limitative'. This limitative position is most commonly occupied by (some variant of) the marker **ka-** which across the Bantu family is used to refer to a number of categories, including narrative and consecutive meanings, far past, distant future and, crucially for the current discussion, itive motion. Indeed, Nurse (2007: 250) assumes that the limitative position started out as the slot for marking itive motion. Here we consider what is termed the limitative by Meeussen (1967) to be associated with Slot 5 in the verbal template proposed above for Rangi.

The lexicalisation of motion events in Rangi is also very similar to other Bantu languages. A motion event is generally defined as one which involves the movement of a figure along some path in relation to a ground (Talmy 1985, 2000;

Table 1: The Rangi verbal template.

1	2	3	4	5	6	7	8	9
Pre-initial	SM	Post-initial	TA	Deictic prefix	OM	Root	Extension	Final vowel

Blomberg and Zlatev 2009 amongst others).[3] Following Talmy (2000), languages are often classified as either 'verb-framed' or 'satellite-framed' based on how they lexicalise the path of motion. Satellite-framed languages encode path in 'satellite' elements, such as verbal affixes, adpositions or case markers, while verb-framed languages express path in the main verb of a clause. In this typology, Rangi, like most Bantu languages, can be described as predominantly verb-framed (Schaefer and Gaines 1997) with some satellite-framed tendencies (Beavers 2010; Gaines 2001). In most motion descriptions, the path is encoded in the main verb. With some verbs expressing manner of motion, the path can be expressed by a satellite.[4] Deictic motion, in which the direction of the figure is specified with respect to a deictic anchor, such as the speaker or the addressee, is lexically expressed by verbs. Cross-linguistically, deictic direction commonly involves a contrast between the ventive – movement toward the speaker – and the itive – movement away from or not in the direction of the speaker.[5] In Rangi, the verbs **-ʊja** 'come' and **-doma** 'go' encode ventive and itive directions respectively.

As mentioned in Section 1, the prefixes **joo-**, **tóó-** and **koo-** also encode deictic motion. Specifically, their primary role is to express associated motion. Associated motion is a recently described morphosyntactic category, characteristically realised by grammatical morphemes – affixes, clitics and particles –, the function of which is to associate a motion event to the event described by the main verb of a clause (Guillaume 2016; Koch 1984; Wilkins 1991). Across the languages where they are found, exponents of the category may form more or less complex paradigms. They generally specify a time for the associated motion event relative to the

3 Motion can be experienced in different ways but an important distinction is that between translocative and non-translocative motion (Bloomberg and Zlatev 2009). Translocative motion involves a change in the figure's location. In English, verbs like enter, exit, or run (most canonically) express translocative motion. Non-translocative motion involves a movement of the figure in the same location. In the remainder of this paper, unless stated otherwise, the expression 'motion event' refers to those involving translocational motion.

4 This typology has been challenged and refined by various authors (e.g. Ameka and Essebey 2013; Aske 1989; Beavers et al. 2010; Croft et al. 2010; Pourcel and Kopecka 2006; Schultze-Berndt 2007; Slobin 2004). Slobin (2004) proposes a third category labelled 'equipollently-framed' to describe serialising languages and other languages in which path and co-events are both lexicalised by verbs of equal rank. A number of studies (Beavers et al. 2010; Folli and Ramchand 2005; Gehrke 2006; Nikitina 2008; Pourcel and Kopecka 2006) have also shown that framing patterns do not simply pattern with a language but are affected by construction type and may vary according to the manner of motion, the aspectual properties of the event and the path of motion.

5 Terms such as 'andative', 'allative' and specifically in Bantu '**ka**-movendi' are also used to refer to motion away events (see e.g. Dimmendaal 1983; Bourdin 1992, 2002), whist the term 'venitive' is also used to refer to motion towards a deictic centre.

verb's event, a particular deictic direction and link the figure or theme of motion to an argument of the verb or a speech participant (Belkadi 2016; Bourdin 2006; Guillaume 2016). The following two examples from the Atlantic (Niger Congo) language Wolof, where the associated motion system has been extensively described by Voisin (2014), illustrate the phenomenon clearly. The suffixes **-i** 'go and do' (5a) and **-si** 'come and do' (5b) indicate that the event described by the main verbs, 'struggle' and 'save' respectively, are preceded by motion of the subjects 'he' and 'the entire village'. In (5a) the motion involves an itive direction while in (5b) it involves a ventive direction.

(5) Wolof (Atlantic)

a. **Dafa** **doon** **xataraayu** **ngir** **xeex-i.**
EV.3SG PST struggle in.order.to fight-GO&DO
'He struggled (to free himself) in order to go and fight.'

b. **Waadëkk** **bépp** **a** **wall-si** **woon.**
People.of.the village all ES save-COME&DO PST
'The entire village had come to save him.'
(Voisin 2014: 142)

Associated motion is found across languages from different genera and geographical locations. Interestingly, it is quite common on the African continent, including in a number of languages in close contact with Rangi. Section 5 explores the possible role of contact in the rise of these morphological markers in Rangi in more detail. In the remainder of this section, the associated motion encoded by each of the prefixes and the contexts in which they are found are described.

The prefix **joo-** encodes ventive associated motion. It is used to indicate that the action or event described by the verb is preceded by the motion of a figure towards the deictic centre, which is generally the speaker or the addressee. This can be seen in the following examples.

(6) **Joo-fʊl-a** **ndɪ-rɪ** **ingo.**
VENT-wash-FV SM1sg-AUX 10.clothes
'I will come to wash clothes.'

(7) **Sikʊ** **ɪmwɪ** **maa** **a-kʊʊj-a** **mʊ-tavana** **na** **mʊ-kaáya**
9.day 9.one then SM1-come-FV 1-boy CONJ 1-neighbour
kʊ-joo-mʊ-loola.
INF-VENT-OM1- marry-FV
'And then one day, our neighbour's boy came to marry her.'
(Stegen 2011: 418)

In both (6) and (7), the events encoded by the verbs **-fʊla** 'wash' and **-loola** 'marry' are preceded by a motion event whose end goal is the location of the deictic centre, the hearer and the speaker respectively. In example (6), the additional motion event is encoded by **joo-** alone. In example (7), **joo-** appears on a verb that is the complement of **-ʊja** 'come'. The prefix in (7) can be described as having an 'echoing function' (after Vuillermet 2013); that is to say that it is used there to reiterate the motion already expressed by the deictic verb.[6] Moreover, the motion expressed by **joo-** is functionally and temporally linked to the event expressed by the hosting verb. Thus, the motion is interpreted as taking place prior to the action described by the verb and the figure is the subject of the verb. The following examples, where **joo-** modifies the verbs **-sola** 'dig' and **-tereka** 'cook', further illustrate these properties.

(8) **Wula** **n-íise** **ma-taanga** **sa** **weéwe** **dee** **joo-terek-a.**
buy-FV SM1sg-AUX 6-pumpkins for 2sg.PP then VENT-cook-FV
'I will buy a pumpkin for you to come and cook.'

(9) **Sa** **ɪra** **nchʊ́nkʊla** **ɪ-rɪ** **joo-sol-a** **vii.**
for DEM.1 9.hare SM9-AUX VENT-dig-FV just
'…for that hare is come-digging them.'
(Stegen 2011: 416)

In both examples, ***joo-*** marks ventive motion events preceding the action described by the verb. The context for example (8) is one in which the speaker is going to the weekly market and is planning to buy a pumpkin there, but wants the addressee to come to his or her home to cook it later. In these two examples, the figure of the ventive motion event corresponds to the subject of the verbs which host the prefix. However, example (9) involves a different deictic anchor: a location established as prominent in the discourse. Example (9) is part of a story in which an old man sets a trap for a hare that has been eating peanuts on his farm. In this context, the deictic centre is neither the speaker nor the addressee but the farm where the hare is digging up the peanuts – a location which has already been introduced in the course of the narrative.

Many contexts in which the prefix **joo-** is found also have motion-cum-purpose flavours. For instance, in examples (6) and (7) above, the motion occurs with the intention of performing the activity described by the verb phrases 'marry her' and 'wash clothes'. This reading is not surprising given that the prefix occurs in constructions describing sequences of two events; one of which involves motion

6 This echoing function has also been described for so-called 'movement grams' in Digo by Nicolle (2002) where their function is described as 'emphasising the motion expressed by the verb'.

to a goal location, the other involving an event which occurs at this location. The motion can therefore often be interpreted as 'purposive', occurring in order for the second event to take place.[7] **joo-** can also fulfil a temporal function and be interpreted with future tense semantics (10). The association of **joo-** with the future tense in Rangi is explored in further detail in Section 4.

(10) **Saa** **jo-joosi** **víi** **joo-kwaat-w-a** **u-rɪ.**
10.times 10-any just DIR-catch-PASS-FV SM2sg-AUX
'You will be caught at any time.'

The prefixes **tóó-** and **koo-** have an itive function. ***tóó-*** serves to indicate motion towards a goal which is not the deictic centre. It can occur on a verb which is preceded by a motion verb, such as **-doma** 'go', as in (11) and (12)), or on a non-motion verb, as in (13).

(11) **N-íyó-dom-a** **tóó-koow-a.**
SM1sg-PROG-go-FV DIR-wash-FV
'I am going [there] to wash.'

(12) **Maa** **a-ka-dom-a** **tóó-kii-va-a** **na** **va-seenji.**
then SM1-CONSC-go-FV DIR-RECIP-hit-FV CONN 2-heathen
'Then s/he went to make war with the heathen.'
lit.: 'Then s/he went to beat each other with the heathen.
(Stegen 2011: 415)

(13) **Mbʊla** **y-óó-vá-a** **ává** **va-singa** **sí**
9.rain SM9-hit-FV 2.DEM 2-children NEG
v-íyó-tóó-rɪm-a **tʊkʊ.**
SM2-PROG-DIR-farm-FV NEG
'It is raining, those children are not going to farm.'

When **tóó-** appears in addition to a motion verb, it serves to emphasise or echo the prior motion. In contrast, when there is no motion verb present, the prefix itself is responsible for encoding the motion. Thus, the context for example (13) is one in which the farm that the children are expected to cultivate on the day in question is at a location removed from their home. The use of **tóó-** therefore indicates that the act of farming involves a prior motion event.

7 There is also a strong cross-linguistic correlation between directed motion (particularly prior directed motion) and purpose, as well as a tendency for purpose markers to grammaticalise from categories expressing motion (Heine and Kuteva 2002; Lakoff and Johnson 1980; Schmidtke-Bode 2009).

While the events described by verbs marked by **tóó-** usually occur at the location which is the endpoint of the motion, they can also be interpreted as occurring at a point along the path. In example (14), a mother is about to start a long journey and is being warned that if she continues to feed the child, the child is likely to vomit along the way.

(14) **Mw-aaná** **koónɪ** **wa-mw-óó-ngkíir-y-e** **sáana**
1-child if SM2sg-OM1-feed-CAUS-FV very
tóó-sérʊl-a **á-rɪ.**
ITV-vomit-FV SM1-AUX
'If you feed the child a lot he will vomit [on the way].'
(Stegen 2006: 11)

The prefix **koo-** indicates motion away from the deictic centre.[8] The primary difference between **tóó-** and **koo-** is that the former indicates motion towards a goal which is not the deictic centre while the later marks motion away from a deictic centre. The prefix **koo-** is found primarily on verbs describing events which unfold following a motion event. As was also seen with the other two prefixes, this prior motion event can be conveyed through an inherently motional verb such as **-doma** 'go' ((15)–(16)), in which case **koo-** serves merely to echo this motion. Alternatively, **koo-** can be used without a motion verb in which case the prefix is responsible for indicating that the event is preceded by a motion event (17).

(15) **Maama** **á-rɪ** **a-dóm-ire** **koo-huung-a** **mbalaasi.**
1a.mother SM1.PAST-AUX SM1.PAST-go-PTV DIR-harvest-FV 10.cowpeas
'Mother went to harvest cow peas.'

(16) **Aho** **kalɪ** **va-maka** **va-ijáa** **va-ka-dom-a**
16.DEM old.time 2-men SM2-AUX.PAST SM2-NARR-go-FV
na **isek-ii** **koo-sakaat-a.**
PREP FOREST-LOC DIR-hunt-FV
'In times of old, men used to go to the forest to hunt there.'
(Stegen 2011: 391)

(17) **Koo-ya-nyw-a** **tú-rɪ** **aya** **maaji** **aha** **víi.**
DIR-OM6-drink-FV SM1pl-AUX 6.DEM 6.water now just
'We will [go and] drink this water soon.'

8 Stegen (2011) describes **koo-** as a 'switch locational' marker, indicating that there is a change of location between the action or event described by the first (typically motion) verb and the subsequent verb. This analysis does not differ significantly from the one developed in the current paper, although we seek to embed the function of **koo-** within the wider three-way system of the verbal encoding of deixis in Rangi.

As observed with the other two prefixes, **koo-** often occurs in contexts describing a sequence of events which are in a purposive relation. In such cases, the first verb describes a motion event which occurs in order for the action or event described by the second verb to take place.

While the examples above show the use of these markers in contexts in which the subject of all of the verb forms remains the same, it is also possible for the markers to be used in instances in which they describe motion by an argument which is not the subject of all the verbs in the clause. In example (18) below, the figure of the motion event associated with **koo-** is **vaana** 'the children', which is the subject of the verb **-laanga** 'look' but which is the object of the causative motion verb **-tʊma** 'send'. A similar construction can be seen in example (19) where the subject of the main clause is **ʊra mʊʊntʊ wa Mʊlʊʊngʊ** 'that man of God' while it is the plural noun **vaantʊ** 'the people' which is the subject of the verb marked with the prefix **too-**.

(18) **Maa** **haaha** **aa-ndo-va-tʊm-a** **va-ana** **va-achw*e***
Then now SM1-INT-OM2-send-FV 2-children 2-his
koo-lang-a…
DIR-look-FV
'And now he repeatedly sent his children to [go and] look…'
(Stegen 2011: 119)

(19) **Maa** **ʊra** **mʊʊntʊ** **wa** **Mʊlʊʊngʊ** **a-ka-tuma** **va-antʊ**
then 1.DEM 1-person 1-of God SM1-CONSC-send-FV 2-people
va-ka-too-mʊ-kemer-a **ʊko** **isek-ii**
SM2-CONSC-ITV-OM1-call-FV 17.DEM 5.forest-LOC
'And that man of God sent people they went-called him there in the forest'
(Stegen 2011: 412)

3 Origins of the deictic prefixes

Cross-linguistically, itive and ventive are expressed using a wide range of strategies. Itive markers are often connected to the verb 'GO (away)', while ventives often have their origins in 'COME'-verbs (Heine and Kuteva 2002: 70). In this section we develop an account based on the proposal that the markers **joo-** and **tóó-** have their origins in verbs, while the marker **koo-** is related to the consecutive marker **ka-** found in Rangi and throughout Bantu.

Stegen (2006) proposes that **tóó-** has its origins in the verb **-íɪta** 'go'.[9] The account forwarded here is that **tóó-** developed as a result of use of the verb **-íɪta** 'go' alongside the copula **noó**. The copula **noó** is used to introduce a subordinate clause which expresses the purpose of an action or event described in the main clause, where the meaning can be considered similar to 'in order to' (Gibson 2012; Stegen 2001). This can be seen in examples (20) and (21) below.

(20) **N-a-dóm-ire** **na** **i-yʊʊndi** **noó** **chimik-a** **ma-bova.**
SM1sg-PERF-go-PERF CONN 5-farm COP burn-FV 6-weeds
'I went to the farm in order to burn the weeds.'

(21) **Suúsu** **tw-a-look-ire** **noó** **rɪm-a.**
1pl.PP SM1pl-PERF-leave-PERF COP farm-FV
'We have gone in order to farm.'

Over time, the combination of **-íɪta** 'go' and the copula **noó** resulted in a process of grammaticalisation that gave rise to the prefix **tóó-**. The stages involved in the development of this marker are outlined in Stegen (2006: 10) on the basis of the examples shown in (22) below.

(22) a. **A-kɪít-a** **noó** **kʊ-mʊ́-wíɪr-a**
SM1-CONSC.go-FV COP INF-OM1sg-tell-FV
'He went in order to tell him.'

b. **A-kɪíta-sháan-a**
SM1-CONSC.go-encounter-FV
'He encountered (on the way)…'

c. **Va-kɪíto-váɪr-a**
SM1-CONSC.go-hit-FV
'They continued to aim (at it).'

d. **Va-ka-tóó-rúm-a**
SM1-CONSC-go-agree-FV
'And they came to an agreement.'
(Stegen 2006: 10)

The first stage in the development of **tóó-** would have involved the use of the verb form **-íɪta** 'go' in conjunction with the copula **noó** which serves to link the motion

9 Dunham (2005) makes an alternative proposal – that the marker ***tóó-*** is derived from the verb **-tola** 'take'. Both **-íɪta** 'go' and **-tola** 'take' encode a meaning which expresses motion away from the deictic centre. However, for the purposes of the current discussion an account based on the verb **-íɪta** 'go' is developed. This fits more naturally with the intermediate stages of the grammaticalisation process discussed in this paper, as well as the observation that there are variant forms of constructions based on **-íɪta** 'go' attested in Rangi from a synchronic perspective.

to the purpose (22a). In the next stage of the grammaticalisation process, the combination of the consecutive prefix **ka-** and the verb stem **-íita** results in vowel assimilation, yielding **kíita**. The interpretation at this stage in the grammaticalisation process is already one which encodes motion, as can be seen in the translation 'He encountered (on the way)' (22b). Example (22c) shows a variant form of the marker – **kíɪto-**. Finally, (22d) shows the most grammaticalised form of the marker, with the independent verb form further reduced and the vowel eliding, resulting in the loss of the vowel assimilation and the lengthening of the following syllable, resulting in the prefix **tóó-** (Stegen 2006: 10). Stegen (2006) proposes that this pathway of development is further supported by the observation that Rangi-speakers recognise the marker **tóó-** as deriving from the verb stem **-íɪta** 'go'.

A similar process is argued here to be responsible for the development of the prefix ***joo-***, albeit from the verb **-ʊja** 'come' (Dunham 2005; Stegen 2006). The first stage in the development would therefore see the verb **-ʊja** 'come' used alongside the purposive copula **noó**. Intermediate stages may have been similar to those outlined in (22) above, with the combination of **noó** and **-ʊja** leading to a form **ʊjoo** before the stem vowel of the verb elides, yielding **joo-**. The proposed stages are outlined in (23) below.[10]

(23)

Stage 1		**Stage 2**		**Stage 3**
-ʊja + **noó**	>	**-ʊjoo-**	>	**joo-**

A ventive marker is also found in the language most closely related to Rangi – Mbugwe (Mous 2004: 7). In Mbugwe, the ventive is marked through the presence of the prefix **ja-** which is transparently grammaticalised from the verb **-ja** 'come'. This ventive marker appears in the pre-stem position and is used to encode 'coming and doing something' or 'coming to do something' (Wilhelmsen 2018: 121).

(24)

Baa	**áfá**	**vá-ja-á-n-jísh-er-y-á**	**m-pɔɔngɔ́**
even	16.DEM	SM3pl-VENT-PST-OM1sg-do-APPL-CAUS-FPST	10-things
j-á	**jirá**		
10-of	10.DEM		

'They even did all these things to me…'
(Gibson and Wilhelmsen 2015: 13)

Stegen (2006) suggests that **koo-** in Rangi has its origins in the class 17 locative prefix **kʊ-**. However, the proposal here that the consecutive marker **ka-** is the source of **koo-** is based on synchronic observations from within Rangi, as well as wider observations across Bantu (see also Guérois et al. 2021).

10 The difference in tone between **tóó-** and **joo-** can therefore also be attributed to the difference in tone associated with the verbs from which they are derived. While the verb **-íɪta** carries a lexical high tone, the verb **-ʊja** carries a lexical low tone.

The consecutive marker **ka-** is used in Rangi to convey that one event (or series of events) occurred after another, as can be seen in examples (25) and (26).

(25) …**ni-ka-jéng-a** **nyʊʊmba**
SM1sg-CONSC-build-FV 9.house
'…(then) I built a house.
(Dunham 2004: 3)

(26) **Áá-ri** **a-ka-téy-ire** **na** **sumu** **maa**
SM1.PAST-AUX SM1-CONSC-set.trap-PERF CONN 9.poison then
a-ka-dér-a **kʊ-ry-a** **kɪra** **chá-kʊrya**
SM1-CONSC-fail-FV INF-eat-FV 7.DEM 7-food
'And then he set [the trap] with poison and then he did not have any food to eat.'

The use of **ka-** in itive constructions may therefore have had its origins in marking narrative or consecutive interpretations, before it developed a deictic function. In this sense, a prior motion event is subsumed within the reading 'go and VERB', reflecting the close relation between deixis and the narrative or consecutive function of **ka-**. The development of this construction may also have been aided by analogy with the prefixes **joo-** and **tóó-** although three distinct pathways of grammaticalization are presumed here.

Beyond Rangi, additional support for the origins of **koo-** in **ka-** comes from the distribution of **ka-** across Bantu. There is variation amongst the Bantu languages in terms of the function of the marker **ka-**. However, in the languages where **ka-** is present, it is commonly associated with narrative, consecutive and itive meanings. The itive function of **ka-** is attested in all of the Bantu zones and the marker ***-ka-** has been reconstructed as an itive marker for Proto-Bantu (Meeussen 1967).[11] Itives occur most frequently with imperatives (as is perhaps expected of an expression 'go and VERB'), but are also found with indicative forms and subjunctives. Botne (1999) suggests that the imperative or subjunctive forms may have been the point of origin for the **ka-**construction and it is thought that in many instances the itive ***ka-*** is related, at least historically, to the narrative marker ***ka-**.[12] In some

11 The Bantu languages are divided up into geographic zones following Guthrie (1971) and the revised system outlined in Maho (2003). By convention, these are labelled with letters. Botne (1999: 475) notes that the **ka-**itives are commonly found in the Savanna languages from the Atlantic (Angola, Democratic Republic of Congo) across to the Indian Ocean, as well as north to the Great Lakes and East (Zones (H), K, L, M, N, P, R).

12 There is also a discussion as to whether itive meaning and narrative function are significantly distinct. The central meaning of the itive may well be the location of an event away from the deictic centre and the narrative meaning may be VERB then VERB then VERB. Nurse (2008) notes that the

languages, this **ka-** element appears after the pre-stem tense-aspect markers whilst in some languages **ka-** occurs in the same position as other tense-aspect markers.

The itive use of **ka-** can be seen in the examples below from a number of other Bantu languages where a combination of the prefix **ka-** and the subjunctive verb form is used to encode an itive meaning.

(27) Nyamwezi (Bantu, F22, Tanzania)
Ka-lol-agé
ITV-look-SBJV
'(Go and) look'
(Nurse and Philippson 2006: 167)

(28) Digo (Bantu, E37, Kenya)

Aha	**n'-nda-phiy-a**	**n-ka-jit-e**	**kuko**
No	SM1sg-FUT-go-FV	SM1sg-ITIVE-cook-SUBJ	17.DEM.NP

'No, I will go and cook (brew tea) there.'
(Nicolle 2015b: 24)

(29) Lucazi (Bantu, K13, Namibia)

Mi-kanda	**i-ká-tu-a-ka-ci-va-sónek-il-ile-ho**
3-letter	9rel-NEG-1p-P_2-ITIVE-modal-3p-write-EXT-FV-POST.FV

'The letters which we had not just gone to write to them then…'
(Fleisch 2000: 117)

Another cross-linguistically common source for itive markers – GO verbs – is also found in Bantu. This can be seen in Shambala, for example, where the itive prefix **nde-** can be assumed to be related to the verb **-genda** 'go', as in example (30). Similarly, in Digo the itive marker **-enda** is derived from the common Bantu GO verb **-enda** even though this is no longer used synchronically in the language (31).[13]

(30) Shambala (Bantu, G22, Tanzania)
A-nde-kaba
SM1-ITV-hit
'S/he went there and hit'
(Nurse 2008: 242)

only language in his survey in which these two forms can be distinguished is Nyamwezi where the itive and narrative are tonally distinct. Both carry a low tone but the narrative subsequently also lowers the tone of the subject marker (Nurse 2008: 242).

13 Note that the itive markers **ka-** and **-enda** are in complementary distribution in Digo.

(31) Digo (Bantu, E73, Kenya)

a. **Fisi ra-kwenda-m-fukul-a mura dibwa-ni.**
5.hyena 5.PST-ITIVE-OM1-dig_up-FV 18.DEM.DIST 5.pit-LOC
'A hyena came and dug her up from the pit.'
(Nicolle 2015a: 4)

b. …**na a-ch-enda-mu-endz-a hiko weru-ni.**
COM SM1-CONSC-ITIVE-OM1-search-FV 17.DEM_NP 11.bush-LOC
'and they went to search for him in the bush.'
(Nicolle 2015b: 44)

The prevalence of the consecutive marker **ka-** in encoding an itive function across Bantu is taken as support for the account of the marker **koo-** in Rangi having its origins in the prefix **ka-**. The development of the itive marker **koo-** in Rangi therefore represents a common pathway cross-Bantu. However, the resulting situation in which the language synchronically has both the narrative/consecutive marker **ka-** (which encodes a consecutive and narrative meaning) and a distinct marker **koo-** (which conveys itive meaning) appears to be less common.

4 Emergence of joo- as a future tense marker

In addition to its ventive motion semantics, we propose here that **joo-** has undergone a process of grammaticalisation whereby it has come to encode a temporal meaning. This can be seen in examples (32) and (33) below where **joo-** is used in a future tense construction and does not convey a directional meaning.[14]

(32) **Saa jo-joosi víi joo-kwaat-w-a u-rɪ.**
10.times 10-any just DIR-catch-PASS-FV SM2sg-AUX
'You will be caught at any time.'

(33) **Taata tem-a pole joo-kʊ-n-tem-a u-rɪ.**
1a.father chop-FV slowly DIR-INF-OM1sg-chop-FV SM2sg-AUX
'Father, chop slowly! You will cut me.'
(Margaret Dunham p.c.)

14 Example (33) differs from the other examples since **joo-** appears before (and in addition to) the infinitival marker **kʊ-**. This can be contrasted with examples where the marker **tóó** appears as part of the inflected verbal complex. In contrast to many Bantu languages, the infinitival verb form can often appear without the class 15 prefix **kʊ-** in Rangi. Factors effecting the presence versus absence of this marker in the language require further investigation.

This temporal interpretation of **joo-** can also be seen in examples in which the prefixes **joo-** and **koo-** co-occur (34).

(34) **Joo-koo-kán-y-a v-íise ʊhʊ mʊ-ti.**
FUT-DIR-fell-CAUS-FV SM2-AUX 3.DEM 3-tree
'They will [go to] fell this tree'

Since **koo-** marks motion away from the deictic centre and **joo-** marks movement towards a centre, the combination of these two markers would be expected to be incompatible. However, the proposal here is that in examples such as (34) above, **joo-** contributes a future tense (rather than a ventive) interpretation, whilst the verb and/or **koo-** are responsible for the motion-away meaning.

The future tense interpretation of **joo-** therefore sets it apart from the markers **tóó-** and **koo-**, the use of which is restricted to semantically compatible combinations of motion interpretations. The prefix **koo-** is not compatible with a 'come verb' such as **-ʊ́ja** for example, as can be seen in (35) and (36).

(35) ***Kʊ-ʊ́ja n-íise koo kʊ-tengan-es-er-a.**
INF-come-FV SM1sg-AUX DIR OM2sg-fix-CAUS-APPL-FV
'I will come to mend (it) for you [somewhere else]'

(36) ***N-ʊʊ́j-ire koo-sʊ́m-ʊl-a vi-ryo.**
SM1sg-come-PERF DIR-collect-SEP-FV 8-millet
'I have come to pick up the millet [from another place]'
(Stegen 2006: 11)

The proposal that **joo-** has grammaticalised into a marker of future tense is further supported by two observations: the first relates to the formation of the future tense construction in Rangi, whilst the second relates to cross-linguistically common patterns of change which see the development of motion verbs into tense-aspect markers.

The future tense in Rangi is conveyed through the use of a compound construction comprising of a main verb and an auxiliary verb. There are two degrees of proximity in the future tense: an immediate future tense and a general future tense. The immediate future tense employs the auxiliary **-íise** and the general future tense employs the auxiliary **-rɪ**. Whilst the use of a compound construction is a common strategy across Bantu for encoding a range of tense and aspect distinctions, the order in which these elements appear in the clause in Rangi is unusual since the main verb appears before the auxiliary (37).

(37) **Nɪ́ínɪ wʊ́l-a ndí-rɪ ɪhɪ mʊʊndi.**
1sg.PP buy-FV SM1sg-AUX 9.DEM 9.sheep
'I will buy this sheep.' (Gibson 2012: 70)

Another striking feature of this construction is that, in the general future tense, there is no dedicated temporal morphology. Other simple and compound constructions in Rangi employ a combination of decicated prefixes and/or suffixes to convey temporal and aspectual information, with these markers affixed either to the main verb or to the auxiliary form. However, this is not the case in the future tense since the auxiliary **-rɪ** is also used in the formation of past and present tense constructions, and as such cannot alone be considered to encode future tense. Rather it seems that the construction as a whole is responsible for conveying the general future tense reading. One possibility is therefore that the temporal use of the particle **joo-** is the result of regular use with these future tense and purposive constructions to emphasise the future tense meaning. This process of change may well have been aided by the absence of dedicated morphological encoding for the future tense in the language.

Another factor which may have played a role in the development of the future tense use of **joo-** is its basic motional semantics and the use of **joo-** in constructions that frequently have motion-cum-purpose interpretations (cf. Section 2). Cross-linguistically, the development of motion verbs, particularly GO and COME verbs, into tense and aspect markers is common (Bybee et al. 1994; Bybee and Dahl 1989; Heine et al. 1993; Heine and Kuteva 2002; Kuteva 2001; Ultan 1978). GO verbs are common sources for prospective aspect and future tenses (Bybee and Dahl 1989; Emanatian 1992; Heine and Kuteva 2005; Marchese 1986), while the development of COME-type verbs into future tense markers is found in a number of unrelated languages (Heine and Kuteva 2002). The sources of grammaticalisation are usually the entire grammatical construction containing the motion items (Bybee 2015; Bybee et al. 1994; Comrie 1976; Traugott and Hopper 1993). These source constructions, in addition to marking motion towards a goal, are often also purpose-oriented or convey 'intentional flavours' (Bybee et al. 1994; Marchese 1986).

As shown in Section 2, **joo-** occurs precisely in constructions which are interpreted as being purpose-oriented. A crucial stage in the extension of the ventive function of **joo-** to the future tense would therefore be contexts in which its interpretation is ambiguous between a future tense and a directional meaning. Indeed, such instances are attested, as can be seen in examples (38) and (39) where either a directional or a future tense interpretation can be found.[15]

15 Note that example (38) exhibits auxiliary-verb order despite the future tense interpretation. This is because whilst the future tense is commonly associated with verb-auxiliary order, this order is inverted in a range of syntactically-conditioned contexts, including relative clauses, as can be seen in this example.

(38) **Mw-aarimu** **á-rɪ** **joo-som-a** **ɪhɪ** **hotuba**…
1-teacher SM1-AUX DIR-read-FV 9.DEM 9.speech
'The teacher who will read the speech…The teacher who will come to read the speech…'

(39) **Joo-fer-er-a** **vá-rɪ** **mpolɪ** **haa-ntʊ** **maaji**
DIR-jump-APPL-FV SM2-AUX later 16-place 6.water
y-áá-rɪ **sir-a**
SM6-PAST-AUX finish-FV
'They will jump across [the river] when the water has gone, they will come to jump across when the water has gone.'

The development of motion prefixes such as **joo-** into future tense markers is also noted in the literature on other Bantu languages. In the study of the grammaticalisation of tense markers in Digo (Kenya), Nicolle (2007) observes the use of the prefix **-cha-**, which he describes as indicating "that movement away from the deictic centre has occurred prior to the action described in the main verb" (Nicolle 2007: 61). The use of **cha-** can be seen in example (40).[16]

(40) Digo (Bantu E73, Kenya)
Sambi **yuya** **mchiya** **kala** **a-chi-phiya**
Now that poor.man be.PST 3S-NAR-go
kpwa **ndugu-ye**
to brother-3s.POS
a-cha-voya **chakurya;** **a-ka-he-wa** **na** **a-k-edza-rya**
3S-DIS-beg food 3S-PF-give- PAS and 3S-PF-COME-eat
na **mche-we** **na** **ana-e.**
with wife-3s.POS and children-3s.POS
'Now that poor man had gone to his brother and begged for food (there); he was given some and (came and) ate with his wife and children.'
(Nicolle 2007: 61)

The prefix **cha-** as discussed by Nicolle (2007) encodes itive rather than ventive motion, but the presence of this marker in Digo shows a correlation between motional affixes and the encoding of tense-aspect distinctions (in this case also a future tense).

The grammaticalisation of 'come to' constructions into future tense is also described as prevalent in Niger-Congo languages, including in the Bantu family (Marchese 1986; Welmers 1973). In Zulu, for instance, there are two future tense

16 Unlike **-enda-** and **-edza-**, **-cha** occurs in the tense-aspect position in the verbal complex (immediately before to the verb stem) and cannot be preceded by another tense marker.

forms: one encodes an immediate future and the other conveys a more remote future. The difference between these future forms is typically realised using the markers **-zo-** and **-yo-** which refer to the immediate and a more remote future respectively. These markers have been proposed to be the result of grammaticalisation involving the motion verbs **-za** 'come' and **-ya** 'go' which coalesced with the infinitival marker **ku-** (41).

(41) Zulu (Bantu S42, South Africa)

a. **Intombi i-zo-qeda umsebenzi wayo masinyane**
9.girl 9-F1-finish 3.work 3.her quickly
'The girl is going to finish her work quickly.'
(Beuchat 1966: 21)

b. **U-zo-zi-funa nini izigubo?**
2S-F1-10-want when 10.blankets
'When will you want the blanket?'
(Taljaard and Bosch 1988: 61)

c. **U-yo-li-thola kanjani ibhantshi?**
S2-F2-5-obtain how 5.jacket
'How are you going to get a jacket?'
(Taljaard and Bosch 1988: 62)

In the Bantu language Chagga the verbs **-cha** 'come' and **-enda** 'go' can be used to express future tense in addition to their spatial motion interpretations. In (42a) the form **-enda** 'go' encodes both a motional and directional function, conveying movement away from the deictic centre. In (42b), **-enda** 'go' is used again but this time is associated with a future tense reading. Similarly, example (43a) shows a directional use of the verb **-cha** 'come' whilst (43b) shows a temporal use of **-cha** 'come'.

(42) Chagga (Bantu E622, Tanzania)

a. **Ka-enda-i-ir-a ho kí'máná kya**
SM:3SG:CONSEC-go:to-INF-lift-IND there child ASSOC
wáka kímú kí'wékefáná kási halya Máágoti.
female one SM:7:P:IMPF:CONT:do:IND work there Maagoti
'(and) he went to 'pick up' a young girl who used to work at Maagoti.'

b. **Mndu na-i-enda i-lu-pfi-i-a**
person.this FOC:SM:3SG-PROG-go:to INF-OM:1PLdie-APPL-IND
'This person is going to die on us.'
(Emanatian 1992: 4)

(43) Chagga

a. **Nga-cha-i-som-a**…
SM:1SG:CONSEC-come-INF-study-IND
'(and) I came to study…'

b. **Na-i-cha-i-alik-a** **mkoóngi**
FOC:SG:3SG-PROG-come-INF-marry-IND wife:other
'He'll marry another wife.' (lit.: 'He's coming to marry another wife.')
(Emanatian 1992: 3)

The 'come to' futures present a few semantic specificities. Firstly, they involve a shift of the speaker's point of view, which does not take place in 'go to' futures (Emanatian 1992). In 'go to' futures, the speaker's vantage point coincides with the time of utterance and the event described is predicted to occur at a subsequent (i.e. future) time. In 'come to' futures, by contrast, the speaker's vantage point does not coincide with the time of the utterance. Rather, it shifts to the time at which the event is anticipated to occur. This shift in the speaker's perspective that occurs with temporal uses of the ventive verb mirrors the shifts in perspective that are found with the spatial uses of these motion verbs. Thus, the verb 'come' when expressing 'pure' motion may also involve a speaker's shift in perspective. This is the case in example (44) from Chagga where the verb **-chá** 'come' is used to describe the motion of the speaker to Boston (i.e. the deictic centre), despite the fact that neither the speaker nor the addressee are located in Boston.

(44) Chagga

Ngiíchá	**na**	**Bostón**	**mórí**	**'chó**	**wúcha.**
FOC:SM:1SG:PROG:come:IND	to	Boston	month	that	next

'I'm coming to Boston next month.'
(Emanatian 1992: 7)

Furthermore, 'come to' futures have been described as almost always marking immediate futures and as lacking 'flavours of intention, purpose, or volitionality' (Bybee et al. 1994). This is again exactly what is seen in the example from Chagga, where the 'come to' future is described as often involving a 'happenstance' implicature, under which the agent is perceived as not having planned the action or event or having no control over it (Emanatian 1992).

Whilst futures developing from motion-cum-purpose constructions involving lexically ventive verbs are frequently described in the literature, futures developing from ventive morphemes seem to be rarer. Heine and Kuteva (2002: 308–309) identify only two languages where such a phenomenon seems to have taken place. One is the Nilotic language Maasai spoken in Tanzania and Kenya, and the other is Iraqw – a Cushitic language spoken in central Tanzania. For Maasai, Heine and Kuteva (2005) describe a chain of grammaticalisation which

goes from the ventive extension to the future tense marker with stative verbs via an intermediary stage involving an inchoative function. For Iraqw, the particle **ni,** which canonically encodes ventive path (and is also described as a 'hither marker', can also be used to encode near future tense (45).[17]

(45) Iraqw (Cushitic)

a. **inós ni xa- xéer dí-r doo-ren-ee.**
3:SG HIT HAB- come.3.SG.F place:CON.F house-1:PL:POSS- BACK
'She comes to our house.'

b. **atén a da'-áan**
1.PL S.1/2 sing-1.PL
'We are singing.'

c. **atén ni da'-áan.**
1:PL N.FUT sing-1:PL
'We are going to sing.'
(Mous 1993: 134–135)

The presence of grammaticalisation pathways in which a future tense has developed from a ventive in these two languages adds support to the presence of this phenomenon from a cross-linguistic perspective. However, returning to the specifics of the Rangi case, the presence of this proposed pathway in these two languages is of further significance since Iraqw is one of the primary non-Bantu contact languages for Rangi. Maasai is also a language which is found in the wider linguistic area and which has been a contact language for Rangi over the years. In light of this observation, and the wider linguistic geography of the area, the next section discusses the encoding of spatial relations within the verb – and particularly the concept of associated motion – from an areal perspective.

5 Insights from associated motion: an areal perspective

As discussed in Section 2, 'associated motion' refers to a morphosyntactic category the main function of which is to associate a motion event to the event described by the main verb of a clause. Although initially believed to be characteristic primarily

17 In Iraqw, the ventive only marks near future when the verb is in the non-past form. When the verb is used in the past tense the ventive receives a 'perfect' interpretation and indicates that the event described has occurred up until now. Alternatively, the ventive can also indicate that one event is temporally related to the next event.

of languages spoken in Australia (Koch 1984; Tunbridge 1988; Wilkins 1991, 2006), recent studies have found the category in a number of other languages from Central and South America (Guillaume 2009; O'Connor 2007; Vuillermet 2013; Rose 2015), Asia (Genetti et al. 2017; Jacques et al. 2021; Pakendorf and Stoynova 2021), and Africa (Belkadi 2015; Dimmendaal 2015; Guérois et al. 2021; Mietzner 2012; Renaudier 2012; Voisin 2010; Voisin 2014 amongst others). The presence of non-lexical morphemes encoding associated motion on the African continent has particularly received increased attention in recent years (see, for example, Belkadi 2016, 2021). Such morphemes have been described for Somali (Bourdin 2006; Claudi 2012), Tima (Alamin et al. 2012) and Berber (Belkadi 2014, 2015), as well as some Nilotic languages spoken in East Africa, such as Datooga (Kießling 2015), Nandi (Creider and Creider 1989), Maasai (Dimmendaal 2015) and Cherang'any (Mietzner 2015). A recent survey has also noted the presence of markers of associated motion in a number of Bantu languages (Guérois et al. 2021). In some instances, these morphemes are termed 'mobilitive' or 'ambulatory' (Alamin et al. 2012; Creider and Creider 1989; Kießling 2007, 2015; Rottland 1982), but they appear to fulfil many of the functions subsumed under the term 'associated motion' as described above.

The Central Tanzania region in which Rangi is spoken is an area of high linguistic diversity. This diversity is further characterised by the fact that the languages come from different language families and represent widely different language types in terms of structure. In addition to the Bantu languages, the region is home to speakers of the Cushitic languages Iraqw, Gorwaa, Burunge and Alagwa, as well as the Nilotic languages Datooga and Maasai. It has previously been observed that Rangi exhibits a number of features which are unusual for Bantu languages (Gibson and Marten 2019). Included amongst these are the verb-auxiliary order found in the future tense (discussed in Section 4 above), an inclusive/exclusive distinction in personal possessive pronouns and a clause-final negative marker which appears to be Cushitic in origin (Gibson and Wilhelmsen 2015).

The encoding of motion and direction within the verb form is relatively widespread in Bantu. However, most Bantu languages have just a single marker of motion, typically conveying an itive meaning. Whilst some languages also have a ventive marker, the three-way system of encoding verbal deixis found in Rangi is unusual in the context of East African Bantu.[18] The question is therefore whether the presence of the system of encoding deixis and a separate motion event as found in Rangi can be considered as a possible contact feature.

18 In fact, it appears that the three-way system of encoding verbal deixis found in Rangi may only be found in one other East African Bantu language – Digo, spoken in Kenya. A number of examples from Digo are presented in the current paper in (30) and (39).

We therefore turn our attention to contact languages for Rangi which exhibit a comparable system for the verbal encoding of deixis and which could be considered as possible candidates for the source of borrowing.

Datooga, also spoken in central Tanzania, uses a system of four verbal extensions to encode deictic path. Two of these extensions encode itive and ventive directionality and co-occur with motion verbs. The other two verbal extensions, referred to as the 'mobilitive' or 'associated locomotion', also encode itive and ventive semantics but mainly occur with verbs of perception and manipulation (Kießling 2007, 2015). In Datooga, these verbal extensions indicate that the event introduced by the main verb is accompanied by a concomitant motion event. This can be seen in the examples below where **-aan** marks concomitant motion with the verbs 'pick' and 'see'. Note that in (46a) the subject of the motion event is also the subject of the main verb whilst the subject of the motion event is the object of the verb in (46b).

(46) Datooga (Southern Nilotic)

a. **Gày-gwá-hírjàwàan** **séeŋgá** **ʃábáadì.**
FUT-S3-pick.PURP.MOB.CP leaves.AG fresh.PL
'He will pick green leaves for a special purpose while moving hither.'

b. **Qwà-dàahàan** **dúgà** **àa** **qwá-sájáad-á** **gá-gâl**
S3-see.MOB.CP cattle until S3-turn.MOB.CF-IS S3-pass
qéedà-scàyì (…)
house-3SG.POSS.ALL
'He (the old man) saw the cattle coming his way, until they changed their direction, moving away from him and passing his house.'
Kießling (2007)

In the Cushitic language Iraqw, also spoken in central Tanzania, **-ni** is a deictic marker which encodes movement towards a deictic centre and is also described as a 'hither marker' in the literature (Mous 1993). This marker most commonly occurs with verbs of motion but can also modify non-motion verbs. With verbs of motion, the marker expresses a ventive path. In (47b), the endpoint of the motion expressed by the verb form **hardát** 'arrive' is the location of the speaker, but the interpretation is different when ***ni*** is not present (47a).

(47) Iraqw (Cushitic)

a. **basi** **i-wa** **hardát,** **inós**
bus S3-BACK arrive:3.SG.F 3.SG
ga-ri-rar **tláy.**
O.3:O.F:PAST-CONSEC-INSTR leave.3SG.M
'When the bus arrived, he went with it.'

b. **basi** **ni-wa** **hardát,** **inós**
bus HIT-BACK arrive:3.SG.F 3.SG
nga-ri-rar **tláy.**
O.3:HIT:O.F:PAST-CONSEC-INSTR leave.3SG.M
'When the bus arrived here, he went with it.'
(Mous 1993: 134)

With non-motion verbs, the hither marker may encode one of a number of functions. One function is to mark a temporal relation between the event described and either the speech event or some other event mentioned in the clause (cf. Section 4). The Iraqw hither marker may also locate the event described with respect to the speaker, mark it as visible to the speaker (48a) or mark the addition of a dative argument (48b–c).

(48) Iraqw (Cushitic)
a. **Naa** **'ay'-aay-íin** **lówa** **alé**
hit:s.3:PERF HAB:eat-DUR:3.SG.F very RESPRO
'She was eating a lot.' (the speaker was there or saw her)
b. **da'angw** **gu-na** **óo.**
song O.3:O.M-PAST sing:3.SG.M:PAST
'He sang a song.'
c. **da'angw** **ngu-na** **di-r-ós-i** **ó'.**
song O.3:hit:O.M-PAST place-F-2.SG.POSS.DIR sing:2.SG.M
'You sang a song for him.'
(Mous 1993: 135–136)

The functions of **ni** in Iraqw with non-motion verbs and the Rangi prefixes under examination in the paper are quite different. The prefixes used in Rangi have deictic motional semantics with non-motion verbs, while the Iraqw ventive loses its motional meaning in such contexts and acquires related interpretations, such as tense and benefactive functions.

Burunge (Cushitic) is one of the primary non-Bantu contact languages for Rangi. Burunge also has a ventive marker of the form **ni**. This marker appears as part of the inflectional complex and indicates that the action is carried out in a direction towards the deictic centre (typically the speaker). This can be seen on examination of the examples in (49) below.

(49) Burunge (Cushitic)
a. **'ugu** **haa** **ki/id**[a]
2.SGM 2.1/2-FUT1 come.back
'You will come back.'

b. **‘ugu haani ki/id**[a]
2.SGM 2.1/2-FUT1 come.back
‘You will come back here.’
c. **‘ana haá satisi fa/a**
1.sg s.1/2-PAST move ugali
‘I have moved the *ugali* (over there).’
d. **‘ana haáni satisi fa/a**
1.sg s.1/2-PAST-VEN move ugali
‘I have moved the ugali over here.’
(Kießling 1994: 166)

Whilst none of the systems described in the neighbouring Bantu or non-Bantu contact languages are exactly the same as that identified in Rangi, the presence of a range of complex systems in which spatial relations are encoded by a series of markers within the verb form in the linguistic area may well have played a role in the development of the system in Rangi. High levels of bi- and multi-lingualism and patterns of language shift have been present in the region for centuries, and there has been significant interaction – and interference – between the languages.

However, we follow the proposal developed in Gibson and Marten (2019) that language-internal routes of change can be proposed to account for the rise of all three markers and as such, if contact did indeed play a role, it is only as a catalyst with the interference reflecting neither borrowing of structure nor of form.

6 Concluding remarks

This paper has provided an account of three deictic motion prefixes in the Tanzanian Bantu language Rangi. Bantu languages use a range of strategies to encode motion, including lexical verbs, prepositions, locatives, adverbial prefixes and applicative constructions. The Tanzanian Bantu language Rangi has a dedicated system for the encoding of motion and direction events which involves the prefixes **tóó-**, **joo-** and **koo-** which appear in the verbal complex. All three prefixes are used with both motion and non-motion verbs to encode movement and/or directional meanings. The prefix **joo-** encodes movement towards a deictic centre, **tóó-** conveys movement towards a goal which is not the deictic centre, and **koo-** is used to encode movement away from a deictic centre.

The paper also discussed the possible origins of the three markers. The proposal put forward here is that the markers **tóó-** and **joo-** have their origins in the verbs **-íɪta** ‘go’ and **-ʊja** ‘come’ respectively, whilst the marker **koo-** is related to the consecutive marker **ka-** found in Rangi and throughout Bantu. In addition to its

deictic use, the proposal is that the prefix **joo-** has undergone a process of metaphorical extension whereby it has come to encode a future tense. This pathway of change is also supported by cross-linguistic observations relating to the development of COME and GO verbs into tense-aspect markers, particularly future tense markers (Heine and Kuteva 2002: 70). In the case of Rangi, the grammaticalisation of **joo-** into a future tense marker may have been further aided by the absence of any dedicated future tense morphology in the language.

The relative status of the prefixes and the extent to which they have grammaticalised also varies. In the case of **tóó-,** there is synchronic evidence which suggests that the marker is still undergoing processes of grammaticalisation, with intermediate stages of development still observable. Similarly, for **joo-** an additional grammaticalization pathway appears to have taken place with **joo-** used to convey future tense (see Section 4).

The three-way system for the encoding of motion found in Rangi is unusual from the perspective of comparative East African Bantu. While the presence of an itive marker (often related to the form **ka-**) is quite widespread across the Bantu family, ventive markers are less common. The three-way system found in Rangi is found in only a limited number of other Bantu languages (cf. Section 4 for examples from Digo, see also discussion in Guérois et al. 2021).

Moreover, in the Bantu languages that do have an itive marker, this is most commonly a form related to the prefix **ka-**, meaning that the presence of the markers **tóó-** and **joo-** represent innovative forms. Rangi is spoken in an area of high linguistic diversity and other possible signs of contact-induced change have been identified for the language (Gibson and Marten 2019). However, rather than propose a contact-related account of this system of deictic markers, we propose that they represent two distinct processes of language change. On the one hand, we see the development of the marker **koo-** from the common Bantu marker **ka-**. On the other hand, we see the development of **tóó-** and **joo-** from main verbs, representing the cross-linguistically common development of COME and GO verbs into deictic and directional markers. This means that the deictic system found in Rangi fits within this broader cross-linguistic pattern, despite the seemingly idiosyncratic features of the system from a comparative, cross-Bantu perspective.

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