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Reflexive-Reciprocal Syncretism in Eastern Bantu Languages of Tanzania: Distribution and Origins

Aron Zahran [1,2,*] and Sebastian Dom [1]

[1] Department of Languages and Cultures, Ghent University, 9000 Gent, Belgium; sebastian.dom@ugent.be
[2] Langage, Langues et Cultures d'Afrique/Institut National des Langues et Civilisations Orientales, Centre National de la Recherche Scientifique, 75 016 Paris, France
* Correspondence: aron.zahran@ugent.be

Abstract: This paper presents an overview of the distribution of reflexive-reciprocal syncretism in Eastern Bantu languages spoken in Tanzania. Most Bantu languages encode reflexive and reciprocal constructions by means of two distinct verbal affixes. However, the Tanzanian Eastern Bantu languages under study have developed reflexive-reciprocal syncretism, in which the originally reflexive prefix has developed into a polyfunctional morpheme coding both reflexive and reciprocal constructions, to the detriment of the original reciprocal suffix. In a sample of 79 languages, reflexive-reciprocal syncretism is attested in 27 neighboring languages, thus constituting a clear areal feature. We propose that reflexive-reciprocal syncretism is not a language-internal innovation but was rather adopted from neighboring non-Bantu languages and subsequently spread out to its current distribution. We locate the heart of this contact-induced spread in the Tanzanian Rift Valley, a convergence zone in north-central Tanzania where languages from multiple African language families are spoken and have been in contact for an extensive period.

Keywords: Bantu; reflexive-reciprocal syncretism; Tanzania; Rift Valley; contact-induced spread

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1. Introduction

This paper presents an overview of the distribution of reflexive-reciprocal syncretism in Eastern Bantu languages of Tanzania. We use *syncretism* to mean resemblance in formal coding of two or more grammatically different functions (Bahrt 2021, p. 1). In the case of reflexive-reciprocal syncretism, this means one coding strategy is used in a language to denote both coreferential (reflexive) and symmetric (reciprocal) events. As the example in (1) illustrates, the verbal prefix *i-* in Nilamba is such a polyfunctional morpheme which can, in some (often decontextualized) sentences, result in ambiguity between a reflexive and a reciprocal reading.

(1) Nilamba ([nim], F31A[1]) (Ngwasi 2021, p. 141)

ʊ-Naftali	*na*	*ʊ-Juma*	*a-**i**-yón-ile*
AUG-Naftali	COM	AUG-Juma	SBJ.3PL.2-**REFL/RECP**-see-PFV

i. 'Naftali and Juma saw themselves.' (reflexive interpretation)
ii. 'Naftali and Juma saw each other.' (reciprocal interpretation)

Reflexive-reciprocal syncretism is a relatively common phenomenon in the languages of the world, especially in Indo-European languages (Lichtenberk 1985; Kemmer 1993; Frajzyngier and Curl 2000; Nedjalkov 2007b, pp. 260–61; Heine and Miyashita 2008; Bahrt 2021, pp. 74–76), and has also been described for a number of Bantu languages (see Nedjalkov 2007b, p. 262). Bostoen (2024) gives a detailed historical–comparative account of reflexive-reciprocal syncretism in South-Western Bantu languages spoken in Angola, the Democratic Republic of the Congo, Zambia and Namibia (see also Schadeberg 2003a, p. 76). In Eastern Bantu, it has been reported in the Bantu Botatwe group (Crane 2011, p. 91; Gunnink 2022, pp. 280–82) and as an areal feature in some smaller clusters of Tanzanian languages belonging to three different genealogical subgroups according to Glottolog 5.0

(Hammarström et al. 2024), namely North-East Savanna Bantu (Petzell 2008, p. 108; Petzell and Aunio 2019, p. 579), Nyaturu-Nilamba (Ngwasi 2021), and Mbugwe-Langi (Stegen 2002, p. 139; Mous 2004, p. 14; Dunham 2005, pp. 134–35). In this paper, we show that reflexive-reciprocal syncretism as an areal feature in Tanzania is actually attested in most of Guthrie's (1971) zone F and G languages, i.e., in a major part of Tanzanian Bantu languages.

Most Bantu languages encode reflexive and reciprocal constructions by means of two distinct verbal affixes. The reflexive morpheme is typically an invariable prefix occurring immediately before the verb stem, in the same slot as object index prefixes. It has been reconstructed as a vocalic prefix **(j)í-* in Proto-Bantu (Meeussen 1967, pp. 109–10; Polak 1983, p. 292; Schadeberg 2003b, p. 151), but shows considerable variation in its morphophonological shape throughout the Bantu language family (Polak 1983). The reciprocal morpheme is a verbal suffix occurring in the derivational slot of the verb's morphological template, and is reconstructed to Proto-Bantu as **-an* (Schadeberg 2003a, p. 72). The two different constructions are illustrated in examples (2) and (3) from Swahili.

Swahili ([swh], G42d)

(2) *wa-li-**ji**-on-a*
SBJ.3PL.2-PST-**REFL**-see-FV
'They saw themselves.'

(3) *wa-li-on-**an**-a*
SBJ.3PL.2-PST-see-**RECP**-FV
'They saw each other.'

A reflexive construction as in (2) and (4) entails the co-referencing of two participant roles onto the same referential entity (Kemmer 1993; Faltz 1985; Lichtenberk 1985; Heine and Miyashita 2008; Everaert 2012; Zúñiga and Kittilä 2019, pp. 153–55; Haspelmath 2023). Prototypical or 'canonical' reflexive constructions encode coreference between the A and P arguments (Kulikov 2011, p. 385; Zúñiga and Kittilä 2019, p. 155), as in (4) in which the A and P arguments of the verb *rum* 'bite' refer to the same entity, *embwa* 'dog'.

(4) Luganda ([lug], JE15) (Witzlack-Makarevich et al. 2023, p. 189)

Embwa	*yeeruma.*
embwa	*e-a-**ee**-rum-a*
9.dog	SBJ.3SG.9-PST-**REFL**-bite-FV

'The dog bit itself.'

Reciprocal constructions encode events in which two or more participants are in a symmetrical relation to one another (Lichtenberk 1985; Kemmer 1993; Nedjalkov 2007a, pp. 6–7; Heine and Miyashita 2008; Zúñiga and Kittilä 2019, p. 162). In a prototypical reciprocal construction, each participant is both an agent and patient of the event. Thus, in the Ciluba reciprocal construction in (5), *Mpùku* 'Rat' and *Lubuta* 'Nightjar' both function as Agent and Patient of the event denoted by the verb *kuswa* (*ku-su-a*) 'love'.

(5) Ciluba ([lua], L31a) (Dom et al. 2015, p. 370)

M-pùku	*nè*	*Lu-buta*	*bì-vwa*	*bì-su-**angan**-a*
1-rat	and	11-nightjar	SBJ.3PL.8-PST	SBJ.3PL.8-love-**RECP**-PFV

'Rat and Nightjar loved each other.'

Reflexive and reciprocal constructions have a set of semantic and morphosyntactic features in common which are not collectively shared with other voice constructions like the passive, antipassive, applicative or causative. As noted by Zúñiga and Kittilä (2019, p. 151), "[n]either construction alters semantic valency when compared to their non-REFL/RECP counterparts, but both introduce an element of coreference to the picture"; both prototypical reflexive and reciprocal constructions involve affected subjects; and, on the morphosyntactic level, prototypical reflexive and reciprocal constructions in Bantu languages have similar monotransitive argument structures.[2] These similarities underlie the development of reflexive-reciprocal syncretism.

In most Bantu languages with reflexive-reciprocal syncretism, it is the originally reflexive prefix that develops into a polyfunctional morpheme coding both reflexive and

reciprocal constructions, to the detriment of the original reciprocal suffix. This is illustrated for Kimbundu and Fwe in (6) and (7), respectively.

(6) Kimbundu ([kmb], H21a) (da Silva Maia 1951, p. 95; 139 in Bostoen 2024, p. 349)
a. ***li****-tal-el-e* *mo* *ka-talelu*
REFL-see-APPL-IMP LOC18 12-mirror
'Look at yourself in the mirror.'
b. *a-**li**-soñgon-a* *a-**li**-sol-a*
PP2-**RECP**-marry-FV SBJ.3PL.2-**RECP**-love-SBJV
'Those who marry each other should love each other.'

(7) Fwe ([fwe], K402) (Gunnink 2022, pp. 292–93)
a. *Àtàtìk'ókùrínyàyà kùrínyàyà.*
a-tatik-á *o-ku-**rí**-nyay-a* *ku-**rí**-nyay-a*
SBJ.3SG.1-start-FV AUG-15-**REFL**-scratch-FV 15-**REFL**-scratch-FV
'She starts to scratch herself, scratch herself.'
b. *Tùrìsháká.*
*tu-**ri**$_H$-shak-á*
SBJ.1PL-**RECP**-love-FV
'We love each other.'

There are, however, some Bantu languages where the originally reciprocal suffix has become the polyfunctional reflexive-reciprocal marker. One such example is Bunia Swahili spoken in north-eastern Congo, as illustrated in (8).

(8) Bunia Swahili ([swc], G40G) (Nassenstein and Dimmendaal 2020, p. 844)
*ba-na-zi-pend-**an**-a* *sana*
SBJ.3PL.2-PRS-HAB-love-**REFL/RECP**-FV very
i. 'They love themselves a lot.' (reflexive interpretation)
ii. 'They love each other a lot.' (reciprocal interpretation)

Other cases of reciprocal-based reflexive-reciprocal markers in Bantu include Ewondo ([ewo], A72) in Cameroon and Tsogo ([tsv], B31) in Gabon (Polak 1983, p. 297). In all Tanzanian Bantu languages with reflexive-reciprocal syncretism surveyed in this study, it is the originally reflexive prefix which developed into a reflexive-reciprocal marker, as illustrated for Nilamba in (1).

The first aim of this paper is to establish the distribution of reflexive-reciprocal syncretism in Tanzanian Bantu languages. A second aim is to provide insights into the historical development of the phenomenon. According to Bostoen's (2024) historical discussion of reflexive-reciprocal syncretism in South-Western Bantu, the feature developed as a language-internal innovation in one specific area, most likely the Cokwe-Lucazi language group, and from there gradually spread to neighboring languages. For the Eastern Bantu languages considered in this paper, we propose that reflexive-reciprocal syncretism is not a language-internal innovation but was rather adopted from neighboring non-Bantu languages and subsequently spread out to its current distribution. We locate the heart of this contact-induced spread in the Tanzanian Rift Valley, a convergence zone in north-central Tanzania where languages from multiple African language families are spoken and have been in contact for an extensive period (Kießling et al. 2008, p. 186). This diachronic hypothesis is motivated by two synchronic observations, discussed in more detail in Section 6. First, reflexive-reciprocal syncretism is also attested in South Cushitic and South Nilotic languages that are in close contact with Eastern Bantu languages in the Rift Valley area. Second, the development of reflexive-reciprocal syncretism is the most advanced in those Bantu languages spoken in and around the Tanzanian Rift Valley, and less advanced in Bantu languages further away from this area.

2. Language Sample and Data

The seven languages with reflexive-reciprocal syncretism mentioned in Polak (1983), Ngwasi (2021), and Stegen (2003), i.e., Sukuma ([suk], F21), Nyamwezi ([nym], F22), Sumbwa ([suw], F23), Nilamba ([nim], F31A), Nyaturu ([rim], F32), Langi ([lag], F33),

and Hehe ([heh], G62), constituted the point of departure for mapping the spread of this feature in Tanzanian Bantu languages. The sample used for the present study includes data from languages in adjacent areas, expanding in all directions. A total of 87 Bantu languages were considered, although we were unable to obtain sufficient data for 8 of them, leaving a sample of 79 languages (see Appendix A). The linguistic area covered in the sample includes languages from Guthrie zones D20, E60-70, F10-30, G10-60, JD60, JE20, JE40, M10-30, N10, and P10-20. In addition to Bantu languages, several languages from other families spoken in northern Tanzania were investigated for reflexive-reciprocal syncretism, namely, Iraqw, Gorwaa, Alagwa, and Burunge from the Southern Cushitic branch, a number of varieties from the Datooga and Kalenjin subgroups of the Southern Nilotic languages, the Khoe–Kwadi language Sandawe[3], and the isolate Hadza.

Most of the data were retrieved from published works on individual languages, such as grammars and grammar sketches, articles, and other works containing either descriptions of how reflexive and reciprocal constructions are encoded, or containing (only) translated sentences expressing these situation types. Wordlists and dictionaries were also consulted for lexicalized verbs with reflexes of either the Proto-Bantu reflexive prefix **(j)i-* or reciprocal suffix **-an* (see Section 5). For some languages, we gratefully received unpublished data from researchers working on the respective language. We were also able to obtain new data through elicitation with speakers in Tanzania. The first author conducted onsite elicitation during the first months of 2023 in Dar es Salaam, Kisarawe, Chalinze, Njombe, and Morogoro for data on Kutu, Kwere, Zalamo and Kinga. In 2024, remote elicitation was carried out with a Vidunda speaker via WhatsApp.

3. Distribution of Reflexive-Reciprocal Syncretism in Eastern Bantu

Out of the 79 Bantu languages surveyed in our sample, 27 have a prefix coding both reflexive and reciprocal constructions. Table 1 provides an overview of these 27 languages and lists the form of the reflexive-reciprocal prefix in each language.

Table 1. Bantu languages in Tanzania with a polysemous reflexive-reciprocal prefix.

Guthrie Code	ISO	Language	REFL-RECP Prefix	Source(s)
F12	bdp	Bende	*li-*, *e-*	Abe (2006b, p. 177; 2020, pp. 501, 504)
F21	suk	Sukuma	*i-*	Ngwasi (2021)
F22	nym	Nyamwezi	*i-*	Kanijo (2019, pp. 24, 46); Lodhi (2002)
F23	suw	Sumbwa	*i-*	Kahigi (2008)
F24	kiv	Kimbu	*i-*	Augustino Kagwema, p.c.
F31A	nim	Nilamba	*i-*	Ngwasi (2021)
F31B	isn	Ihanzu	*ki-*	Beletskiy and Diyammi (2019)
F32	rim	Nyaturu	*i-*	Ngwasi (2021)
F33	lag	Langi	*i-*	Stegen (2002)
F34	mgz	Mbugwe	*é-*	Wilhelmsen (2018)
G11	gog	Gogo	*i-*, *ki-*	Cordell (1941)
G12	kki	Kagulu	*ki-*	Petzell (2008)
G32	cwe	Kwere	*i-*	own data, 2023
G33	zaj	Zaramo	*i-*, *ki-*	own data, 2023
G34	ngp	Ngulu	*i-*	Malin Petzell, p.c.

Table 1. *Cont.*

Guthrie Code	ISO	Language	REFL-RECP Prefix	Source(s)
G35	ruf	Luguru	*i-*, *e-*	Mkude (1974, p. 35), Malin Petzell, p.c.
G36	kcu	Kami	*i-*	Petzell and Aunio (2019, p. 579)
G37	kdc	Kutu	*i-*	own data, 2023
G38	vid	Vidunda	*i-*, *e-*	own data, 2024
G39	sbm	Sagala *	*i-*	Bollaert (2017)
G51	poy	Pogolo	*li-*	Nurse (2008, p. 177)
G52	ndj	Ndamba	*i-*	Edelsten and Lijongwa (2010, p. 100), Novotná (2005)
G62	heh	Hehe	*i-*	Ngwasi (2021)
G63	bez	Bena	*i-*	Morrison (2011)
G64	pbr	Pangwa	*i-*	Helen Eaton, p.c.
G65	zga	Kinga	*i-*, *e-*	Chesco Habili, p.c.
P15	mgy	Mbunga *	*i-*	David Odden, p.c.

* Based on very limited data.

Figure 1 shows the geographical distribution of the languages in Table 1, indicated in blue color. The map reveals that reflexive-reciprocal syncretism is widely distributed across Bantu languages in Tanzania, stretching over a continuous area from the southern shores of Lake Victoria in the north-west all the way to the coast in the east and just north of Lake Nyasa/Malawi in the south. The beige color indicates the five Bantu languages for which we did not find sufficient data. The red areas signify Bantu languages included in the sample that do not have reflexive-reciprocal polysemy. The green areas are Bantu languages not included in the sample, and pink areas indicate languages from other languages families than Bantu.

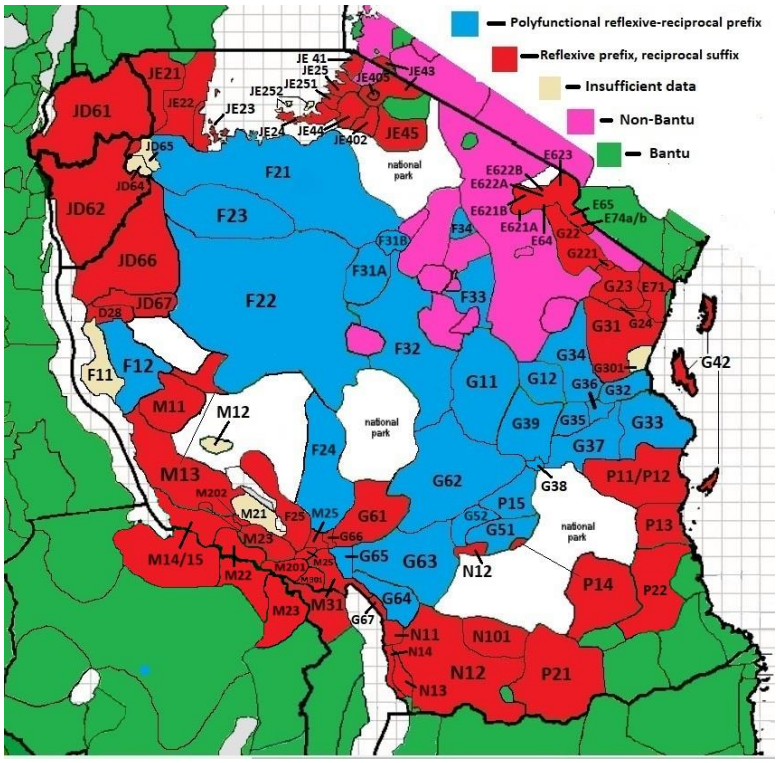

Figure 1. Geographical distribution of Tanzanian Bantu languages with reflexive-reciprocal prefix (map adapted from http://www.muturzikin.com accessed on 5 January 2022).

4. Derivational Productivity of Reciprocal Affixes

The languages under study can be classified according to the productivity of the affixes to derive reciprocal verbs from non-reciprocal verbs. We are specifically concerned here with derivational patterns in which the derived verb denotes the symmetrical occurrence of the situation expressed by the underived verb, as in the Sukuma examples in (9).

(9) Sukuma ([suk], F21) (Batibo 1985, pp. 168, 173)
*sek-**an*** 'laugh at each other' *sek* 'laugh at/with'
***i**-tol* 'hit each other/oneself' *tol* 'hit'

Both affixes also occur with lexicalized verbs denoting symmetrical (reciprocal) events, where the derived verb has undergone a change in meaning besides the expression of reciprocity with respect to the underived verb, or for which no underived verb is attested, as in (10). These lexicalized verbs have not been taken into account for the classification but are discussed in Section 5.

(10) Kwere ([cwe], G32) (Legère 2003)
***i**-gon* 'have intercourse' *gon* 'sleep, lie down'
*fan**an*** 'resemble' ***fan*

Table 2 presents the classification of the languages under study. Sagala, Mbunga and Kimbu are not included due to insufficient data.

Table 2. Classification of languages with a syncretic prefix based on the derivational use of both the syncretic prefix and reciprocal suffix.

Type	Languages
Free alternation between reciprocal suffix and syncretic prefix to form reciprocal verbs.	Ngulu (G34), Kami (G36), Standard Hehe (G62), Bena (G63)
Reciprocal suffix is predominantly attested with reciprocal verbs, but some reciprocal verbs are attested with syncretic prefix.	Ndamba (G52) (as described by Edelsten and Lijongwa 2010)
Syncretic prefix is predominantly attested with reciprocal verbs, but some reciprocal verbs are attested with reciprocal suffix.	Bende (F12), Sukuma (F21), Sumbwa (F23)
Only the syncretic prefix is used to derive reciprocal verbs.	Nyamwezi (F22) (some verbs with both prefix and suffix), Nilamba (F31A) (some verbs with both prefix and suffix), Ihanzu (F31B), Nyaturu (F32), Langi (F33), Mbugwe (F34), Kagulu (G12), Kwere (G32), Zaramo (G33), Luguru (G35), Kutu (G37), Vidunda (G38), Ndamba (G52) (as described by Novotná (2005)), Pogolo (G51), Dzungwa Hehe (G62), Pangwa (G64), Kinga (G65), Gogo (G11) (some verbs with both prefix and suffix).

The first group in Table 2 consists of languages in which both affixes can be used interchangeably, illustrated in examples (11)–(13).

(11) Ngulu ([ngp], G34) (Malin Petzell, p.c.)
a. *cha-**ke**-ung-a*
SBJ.1PL.PRS-**REFL/RECP**-like-FV
'We like ourselves/each other.'
b. *cha-ung-**an**-a*
SBJ.1PL.PRS-like-**RECP**-FV
'We like each other.'

(12) Kami ([kcu], G36) (Malin Petzell, p.c.)
a. *wa-**i**-tow-a*
SBJ.3PL.2-**REFL/RECP**-hit-FV
'They hit themselves/each other.'
b. *wo-tow-**an**-a*
SBJ.3PL.2-hit-**RECP**-FV
'They hit each other/fight.'

(13) Bena ([bez], G63) (Morrison 2011, p. 249)
a. *tu-hu-**i**-won-a*
SBJ.1PL-E-**REFL/RECP**-see-FV
'We see ourselves/each other.'
b. *tu-i-won-**an**-a*
SBJ.1PL-PRES-see-**RECP**-FV
'We see each other.'

In the so-called 'Standard' dialect of Hehe, both affixes are described as being used in free variation to form reciprocal verbs, mainly by older generations (Msamba 2013, p. 59; in Ngwasi 2021, p. 217), e.g., ***i**-hek* and *hek-**an*** 'laugh at each other'. In contrast, free variation is not observed in the Dzungwa variety of Hehe described in Ngwasi (2021), which we thus classify in another group in Table 2. Velten (1899) is an older description of Hehe in which the reciprocal suffix is given as the only option to derive reciprocal verbs, illustrated in comparison to modern Hehe in (14).

(14)

Hehe ([heh], G62)	Velten (1899)	Ngwasi (2021)
'hit each other/fight'	*tow-**án***	***i**-tow*
'see each other'	*won-**án***	***i**-won*

Finally, Sagala could be classified into this group, but more data are needed to confirm this. We only have one example for this language that does illustrate free variation between the syncretic prefix and the reciprocal suffix, namely, ***i**-tow/tow-**an*** 'fight, hit each other' from *tow* 'hit' (Bollaert 2017, pp. 52, 58).

The second group consists of languages in which the reciprocal suffix is predominantly used to form reciprocal verbs, but some reciprocal verbs are attested with the syncretic prefix. Ndamba as described by Edelsten and Lijongwa (2010) is the only language in this group. The reciprocal suffix is described as the dedicated morpheme to derive reciprocal verbs, as in (15a). However, one example of a reciprocal verb with the syncretic prefix is attested in the grammar, shown in (15b).

(15) Ndamba ([ndj], G52) (Edelsten and Lijongwa 2010)

a.	*ving-**an*** 'chase each other'	*ving* 'chase'
b.	***i**-tol* 'marry each other'	*tol* 'marry someone' (only used for male referent as agent participant)

In the description of Ndamba by Novotná (2005), the syncretic prefix is given as the dedicated reciprocal morpheme instead of the reciprocal suffix. We thus classify this variety of Ndamba in another group.[4]

The third group of languages predominantly uses the syncretic prefix to derive reciprocal verbs, but some derived verbs with the reciprocal suffix are attested in the sources. This group includes Sumbwa (F23), Sukuma (F21) and Bende (F12), respectively, illustrated in (16), (17) and (18). In the Sumbwa and Bende sources, some verbs are attested that freely alternate between the syncretic prefix and the reciprocal suffix, as shown in (16c) and (18b), respectively.

(16) Sumbwa ([suw], F23) (Kahigi 2008, 2024)

a.	***i***-*li* 'eat each other'	*li* 'eat'
	i-*taahy* 'say farewell to each other'	*taahy* 'say farewell'
b.	*som*-***an*** 'bite each other'	*som* 'bite'
	leg-***an*** 'denounce each other'	*leg* 'denounce'
	pul-***an*** 'take with force from each other'	*pul* 'take with force'
c.	***i***-*lek/lek*-***aan*** 'leave each other'	*lek* 'leave'
	i-*dod/dod*-***an*** 'sew each other'	*dod* 'sew'

(17) Sukuma ([suk], F21)

a.	***i***-*βón* 'see oneself/each other'	*βón* 'see' (Ngwasi 2021, p. 98)
	i-*tol* 'hit oneself/each other'	*tol* 'hit' (Batibo 1985, p. 168)
b.	*sek*-***an*** 'laugh at each other'	*sek* 'laugh at' (Batibo 1985, p. 168)
	koob-***an*** 'look for each other'	*koob* 'look for' (Batibo 1985, p. 168)

(18) Bende ([bdp], F12)

a.	***i***-*sóól* 'hit each other'	*sóól* 'hit' (Abe 2006b, p. 192)
	i-*lól* 'see each other'	*lól* 'see' (Abe 2006b, p. 192)
	li-*ghájíl* 'hate each other'	*ghájá* 'dislike' (Abe 2006a, p. 15)
b.	*tuk*-***an/i***-*tuk* 'abuse each other'	*tuk* 'abuse' (Abe 2006a, p. 96)
	lógh-***án/í***-*lógh* 'curse each other'	*lógh* 'curse, bewitch' (Abe 2006a, p. 50)

The attestation of the reciprocal suffix with reciprocal verbs in the northern Sukuma variety described by Batibo (1985), in (17b), contrasts Ngwasi's (2021) study of the Ginantuzu dialect in which no reciprocal verbs with the suffix are attested. Still, Batibo (1985, p. 168) describes the reciprocal verbs in (17b) as "random retentions" of the suffix.

A fourth and final group constitutes languages in which reciprocal verbs are only attested with the syncretic suffix, and no reciprocal verbs with the reciprocal suffix. We predict that, with more data, some languages from this group might actually belong to the third group. The fourth group has the most members, namely, Nyamwezi (F22), Nilamba (F31A), Ihanzu (F31B), Nyaturu (F32), Langi (F33), Mbugwe (F34), Kagulu (G12), Kwere (G32), Zaramo (G33), Luguru (G35), Kutu (G37), Vidunda (G38), Ndamba (G52) (as described by Novotná (2005)), Pogolo (G51), Dzungwa Hehe (G62), Pangwa (G64), Kinga (G65), and Gogo (G11). In the consulted descriptions of these 18 languages, the reciprocal suffix is only attested with lexicalized verbs (see Section 5). Some verbs found in the Nyamwezi, Nilamba and Gogo sources have both the syncretic prefix and the reciprocal suffix, illustrated in examples (19)–(21). These verbs are attestations of intermediate stages that verbs can go through from the use of the reciprocal suffix to the syncretic prefix.

(19) Nyamwezi ([nym], F22) (Jonsson 1954, p. 102)
i-*gun*-***an*** 'help each other' *gun* 'help'

(20) Nilamba ([nim], F31A) (Ngwasi 2021, p. 149)
i-*ka*/***i***-*ka*-***an*** 'exchange' *ka* 'change'

(21) Gogo ([gog], G11) (Rugemalira 2019, pp. 36, 99)
i-*tol*-***an*** 'marry each other' *tol* 'marry (for men)'

New data collected on Kinga ([zga], G65) by the first author show that only the syncretic prefix is used to derive reciprocal verbs, illustrated in (22). Older descriptions still attest to earlier stages where the reciprocal suffix occurs with reciprocal verbs, e.g., *gan*-***an*** 'love each other' from *gan* 'love' (Wolff 1905, p. 58).

(22) Kinga ([zga], G65) (Chesco Habili, p.c.)
Ojuma noRehema vahenogwa.
O-juma *na-o-Rehema* *va-hu-**i**-nogw-a*
AUG-Juma COM-AUG-Rehema SBJ.3PL.2-PRS-**REFL/RECP**-love-FV
'Juma and Rehema love themselves/each other.'

In this section, we have classified the languages of our sample according to the use of the syncretic prefix and reciprocal suffix for the derivation of reciprocal verbs from

non-reciprocal verbs. The syncretic prefix is predominant in most of the languages, to the detriment of the reciprocal suffix which either occurs with a small set of reciprocal verbs (group 3) or not at all (group 4). The four groups in the classification represent different stages of a diachronic process in which the syncretic prefix gradually replaces the reciprocal suffix. That is, the functional expansion of one grammatical marker, in this case, reflexes of the reflexive prefix **(j)i-*, onto the domain of another, here, reflexes of the reciprocal suffix **-an*, does not typically entail the immediate replacement of the older marker. Rather, the two usually co-exist for some time (group 1 languages), before the newer one becomes increasingly conventionalized (group 3 languages) and the older one becomes obsolete, as in group 4 languages (cf. Heine and Reh 1984; Heine 2002). All languages in the study have at least some traces of the reciprocal suffix, but the derivational productivity of the syncretic prefix vis-à-vis the reciprocal suffix differs considerably between different languages. This language-internal distribution of the two markers could be seen as an indication of different degrees of progression in a grammaticalization process. Those languages in which the reciprocal suffix still commonly occurs are in an early stage, while languages in which the reciprocal suffix is completely replaced by the syncretic prefix represent the final stage of the evolution.

5. Lexicalization Patterns of Reciprocal Affixes

Lexicalized reciprocal verbs constitute the most conservative context for the retention of the reciprocal suffix. This is clearly shown by Ngwasi (2021) for Hehe (G62), Sukuma (F21), Nilamba (F31A), and Nyaturu (F32), in which almost all occurrences of the reciprocal suffix are found with lexicalized reciprocal verbs. This is further verified in our language sample, with attestations of lexicalized reciprocal verbs with reciprocal suffix in 17 languages.[5] As stated earlier, we define lexicalized reciprocal verbs as verbs carrying derivational morphology, in this case, either the syncretic prefix or the reciprocal suffix, with either a derived stem which differs semantically from the underived verb beyond the addition of reciprocity, or for which no underived stem is synchronically attested in the language. Some examples are presented in (23) for different languages.

(23) Lexicalized reciprocal verbs with the reciprocal suffix

a.	Bende ([bdp], F12) (Abe 2006a)	
	*sáng-**(á)án*** 'assemble'	*sáng* 'find, notice'
	*taagh-**án*** 'be separated'	*taágh* 'abandon, lose'
b.	Sukuma ([suk], F21] (Ngwasi 2021)	
	*gaβ-**an*** 'divide'	*gaβ* 'share'
	*lʊng-**an*** 'be comparable'	(*lʊng* unattested)
c.	Langi ([lag], F33) (Dunham 2005)	
	*sind-**an*** 'race, compete'	*sind* 'win'
	*hak-**an*** 'border on'	(*hak* unattested)
d.	Gogo ([gog], G11) (Rugemalira 2019)	
	*gaw-**an*** 'share'	*gaw* 'divide'
	*zoz-**an*** 'argue, quarrel'	*zoz* 'cry out'
	*sut-**an*** 'differ; miss each other on the way'	(*sut* unattested)
e.	Kwere ([cwe], G32) (Legère 2003)	
	*gol-**an*** 'leave each other'	*gol* 'divide'
	*f-**an-an*** 'resemble'	(*f* and *fan* unattested)
f.	Ndamba ([ndj], G52) (Novotná 2005)	
	*pak-**an*** 'be adjacent to, border'	*pak* 'smear on'

The occurrence of the syncretic prefix with lexicalized reciprocal verbs is also attested in multiple languages, demonstrating that the replacement of the reciprocal suffix by the syncretic prefix has progressed relatively far in these languages. In our database, we have attestations of lexicalized verbs with the syncretic prefix in 14 languages. We give some examples of these in (24). For underdocumented languages in our sample, such as Kami (G36) or Sagala (G39), we lack data but do not interpret the absence of evidence as

evidence of absence. That is, these languages might have lexicalized reciprocal verbs with the syncretic prefix that are simply not documented in the existing sources.

(24) Lexicalized verbs with the syncretic prefix

a. Bende ([bdp], F12) (Abe 2006a; Stegen 2011)

i-*sús*/*sús*-***an*** 'resemble one another'	(*sús* unattested)
ii-*fy*-***an*** 'resemble'	(*fy* or *fyan* unattested)
i-*tand* 'mate (of animals)'	*tand* 'climb; ride; copulate'
i-*kalum*-***an*** 'meet'	(*kalum* or *kalum-an* unattested)

b. Langi ([lag], F33) (Dunham 2005)

ii-*ʃ*-***an*** 'meet'	*ʃ*-***an*** 'find'

c. Mbugwe ([mgz], F34) (Mous 2004; Wilhelmsen 2018)

é-*kúmbater* 'embrace'	(*kumbater* unattested)
é-*kátali* 'argue'	(*kátali* unattested)
é-*rémér* 'quarrel'	(*rémér* unattested)

d. Sukuma ([suk], F21]) (Batibo 1985; Ngwasi 2021)

i-*kol* 'resemble'	(*kol* unattested)

e. Nyamwezi ([nym], F22) (Steere 1882)

i-*kondel* 'agree (be agreed)'	(*kondel* unattested)
i-*fumbat* 'embrace'	(*fumbat* unattested)
i-*kol* 'resemble'	(*kol* unattested)
i-*kol*-***an*** 'become like'	(*kol* or *kolan* unattested)

f. Gogo ([gog], G11) (Rugemalira 2019)

i-*konghol* 'meet, come together'	*konghol* 'collect things together'
i-*taz* 'cooperate, help oneself'	*taz* 'advice, help, serve'
i-*hw*-***an***/***i***-*hw*-***an***-*il* 'resemble, look alike'	(*hwa* unattested)

g. Ndamba ([ndj], G52) (Novotná 2005; Edelsten and Lijongwa 2010)

i-*tol* 'marry each other'	*tol* 'marry someone'
i-*fw*-***an*** 'resemble'	(*fu* or *fwan* unattested)
i-*shosh* 'quarrel'	(*shosh* unattested)

h. Kagulu ([kki], G12) (Petzell 2008)

ki-*f*-***an*** 'resemble'	(*f* or *fan* unattested)

i. Kwere ([cwe], G32) (Legère 2003)

i-*gon* 'have intercourse'	*gon* 'sleep, lie down'
i-*gal* 'resemble; become equal'	*gal* 'send, bring, fetch'
i-*lek* 'separate'	*lek* 'leave (behind)'
i-*longoz* 'follow (in order)'	*longoz* 'reform, set right'
i-*tinh*'***an***il 'be gathered, assembled'	*tinh*'***an***ila 'meet'

j. Luguru ([ruf], G35) (Nurse and Philippson 1975)

i-*bak*-***an*** 'border'	(*bak* or *bak-an* unattested)

k. Kutu ([kdc], G37) (Nurse and Philippson 1975)

i-*fan*-***an*** 'resemble'	*fan-an* 'resemble'

l. Pogolo ([poy], G51) (Nurse and Philippson 1975)

li-*f*-***an*** 'resemble'	(*f* or *fan* unattested)
li-*rew* 'quarrel'	(*rew* unattested)
i-*gir* 'abuse'	(*gir* unattested)

m. Hehe ([heh], G62) (Nurse and Philippson 1975)

bak-***an***/***i***-*bak* 'be adjacent, border'	(*bak* unattested)

The languages under study could be placed on a cline measuring the degree to which the innovated syncretic prefix occurs with lexicalized reciprocal verbs compared to the reciprocal suffix, but data scarcity makes it impossible to make an accurate analysis.

6. A Historical Explanation of the Distribution of Reflexive-Reciprocal Syncretism in Tanzanian Bantu Languages

6.1. Reflexive-Reciprocal Syncretism and Internal Genealogy

We have shown in Section 3 that REFL-RECP syncretism is found in different subgroups of Tanzanian Eastern Bantu languages (see also Appendix B). The most consistent groups from Guthrie's classification in which the feature is attested are F30 and G10. Almost

all languages from Guthrie's zone F have an innovated syncretic prefix, including all the languages in the genealogical group labelled 'West Tanzania' by Nurse (1988, p. 20), i.e., Sukuma (F21), Nyamwezi (F22), Sumbwa (F23), Kimbu (F24), Nilamba (F31A), Ihanzu (F31B), Nyaturu (F32), Langi (F33), and Mbugwe (F34). The only language in Guthrie's zone F group without the reflexive-reciprocal polysemy is Bungu (F25).[6] Bungu's genealogical affiliation is not with the West Tanzania languages, despite its grouping in Guthrie's zone F. It is most likely part of the M30 Nyakyusa-Ndali group, but with a lot of more recent contact with Mwika languages M10-20 (Nurse 1988). REFL-RECP syncretism has not been attested in any of the languages from the M group in South-Western Tanzania, which explains its absence in Bungu (F25).

The innovation is consistently found in the Ruvu languages (G10 and G30), with the exception of the Seuta group in which it is present only in Ngulu (G34) but not in Zigua (G31), Shambala (G23) or Bondei (G24). No data were found for Doe (G301).

Based on preliminary data, REFL-RECP syncretism is found in Mbunga (P15) (see Section 3), though not in the rest of the Rufiji-Ruvuma languages.[7] Mbunga is sometimes also included in the Kilombero group with Pogolo (G51) and Ndamba (G52), most likely as a result of sustained language contact with these languages, although it is genealogically closer to the P10-20 languages of the Rufiji-Ruvuma Group (cf. Nurse 1988, p. 40). The attestation of reflexive-reciprocal polysemy in Ruvu, Kilombero, and Mbunga, but not in the rest of the Rufiji-Ruvuma group indicates that the syncretic prefix is an innovation spread through contact from languages spoken further north. As described by Nurse (1999, p. 12), the Kilombero group has sustained a lot of influence from both the Ruvu languages to the north and the Rufiji-Ruvuma from the south-west. Mbunga (P15) being the only language from the Rufiji-Ruvuma group with REFL-RECP syncretism strongly suggests that this was innovated through contact rather than language-internal innovation.

Finally, in Guthrie's G60 group, Hehe (G62), Bena (G63), Kinga (G65) and Pangwa (G64) all have the polysemous reflexive-reciprocal prefix, while Sango (G61), Wanji (G66), and Kisi (G67) do not. These Southern Tanzania Highland Bantu languages, also including Manda (N11), constitute a fairly close-knit linguistic group, but they have sustained contact with different languages (Nurse 1999, p. 12). Kisi and Manda have been in contact with Nyakyusa (M31), while Bena and Hehe have been in considerable contact with North-East Coastal Bantu languages to the north, especially Gogo (G11). Sango has, according to Nurse (1988, p. 21), also been heavily influenced by Gogo.

There are several factors that strongly indicate that the REFL-RECP prefix is an innovation that spread through contact. The most obvious observation is that the REFL-RECP prefix is distributed throughout an area of consecutively adjacent languages that belong to different genealogical subgroups of Eastern Bantu. In South-Western Bantu, where the same innovated REFL-RECP prefix is attested, it has been claimed that this innovation is prone to contact-induced spread (cf. Bostoen 2024). Additionally, the innovative prefix is not always attested in all languages of genealogical subgroups. For instance, while attested in most languages of the Ruvu group, the syncretic prefix only occurs in Ngulu (G34) in Ruvu's Seuta subgroup. This indicates that reflexive-reciprocal polysemy most likely did not develop in the most recent common ancestor of the Ruvu group. Instead, we propose the feature was adopted through contact between the genealogically closely-knit languages. We predict that the innovation spread from north to south, namely from West Tanzania and Ruvu, especially F30 and G10, followed by F20 and G30 into the more southern subgroups Southern Tanzania Highlands (G60, N11) and Rufiji-Ruvuma (N10, P10-20). Crucially, in these more southern groups, only the members that have been in sustainable contact with the more northern West Tanzanian and/or Ruvu languages have developed the polysemy. We locate the heart of the innovation of reflexive-reciprocal syncretism in Tanzanian Bantu languages specifically in the Rift Valley and suggest that the innovated REFL-RECP prefix is a structural borrowing of non-Bantu origin.

6.2. Reflexive-Reciprocal Polysemy in the Tanzanian Rift Valley

The Rift Valley area in central and northern Tanzania is the only place in Africa where languages from all four major African language families, Cushitic, Nilotic, Bantu, and Khoisan are spoken and have been in contact for an extensive period (Kießling et al. 2008, p. 186). The modern languages listed in Table 3 have all been involved in sustainable language contact in the Rift valley according to Kießling et al. (2008, p. 186).

Table 3. An overview of the Tanzanian Rift Valley languages.

Language Family	Languages
Southern Cushitic	Iraqw ([irk]), Gorwaa ([gow]), Alagwa ([wbj]), and Burunge ([bds])
Southern Nilotic	Datooga dialects
Bantu Zone F	Langi ([lag], F33), Mbugwe ([mgz], F34), and Nyaturu ([rim], F32) (plus Nilamba ([nim], F31A), Ihanzu ([isn], F31B), Kimbu ([kiv], F24), Nyamwezi ([nym], F22) and Sukuma ([suk], F21]) as marginal members)
East African Khoisan	Sandawe ([sad])
Isolate	Hadza ([hts])

Kießling et al. (2008) write that these communities differ vastly both in terms of population size and socio-cultural practices. The Hadza and Sandawe people are traditionally hunter-gatherers; the Nilotic people are cattle nomads, whereas the Bantu and Cushitic communities have been settled agriculturalists, restricted to certain areas of the Rift Valley. The Hadza have sustained a small community of some 500 individuals for a considerable amount of time, whereas, for example, the Iraqw have welcomed immigrants into their community, which has seen them expand substantially to the point of reaching more than half a million speakers. The socio-linguistic landscape of this area has not been stable over time with shifting power dynamics between the groups, and extensive interaction including intermarriage, trade, and conflicts. Except for the more recent introduction of Swahili, there are no indications that there was ever a lingua franca in the area. Instead, there has been a high degree of multilingualism among speakers from the different communities.

Kießling et al. (2008, p. 225) define the historical contact situation in the Rift Valley as "a complex picture of mutual linguistic contacts of varying intensity at several points in time". It is well-established that the languages in the Rift Valley have strongly influenced each other on virtually all linguistic levels, such as lexicon, phonology, semantics, and morphosyntax (see, e.g., Dimmendaal 2017; Dunham 2007; Kießling et al. 2008; Nurse 2000). Kießling et al.'s (2008) study also shows that among the shared, contact-induced, features in the area, only a small minority are direct transfers of morphemes. Most of the shared features are isomorphisms, which are defined as "convergences in syntactic structures and semantic categories where at least one member of the contact zone innovated structures or categories on the basis of an external model, using internal morphological material" (Kießling et al. 2008, p. 224). The hypothesis proposed in this paper is that the REFL-RECP prefix in the Tanzanian Bantu languages is exactly this: a Bantu-external category (i.e., reflexive-reciprocal polysemy), being adopted using Bantu-internal morphological material (i.e., reflexes of the Proto-Bantu reflexive prefix **(j)i-*). In the following paragraphs, reflexive and reciprocal marking in the non-Bantu languages of the Tanzanian Rift Valley will be discussed. It will be shown that reflexive-reciprocal polysemy is widespread in both the Cushitic and Nilotic languages of the Rift Valley, while absent in Sandawe. For the language isolate Hadza, further data are needed.

In the Southern Cushitic languages, reflexive and reciprocal constructions are encoded by a polyfunctional preverbal marker. Iraqw (25) and Gorwaa have the same morpheme *ti* (Andrew Harvey p.c.), whereas Alagwa (26) has the pronoun *kun(u)*. In all consulted Southern Cushitic languages, the marker is reflexive with singular subjects whereas it might

be ambiguous between reflexive or reciprocal with plural subjects. Mous (2016, p. 175) as well as Mous and Qorro (2000, p. 159) argue that reciprocity is the 'core' or 'basic' meaning of the morpheme in Alagwa and Iraqw, respectively.

(25) Iraqw ([irk]; Cushitic) (Mous and Qorro 2000, pp. 159–60)
a. *dir* ***ti*** *doge'*
place **RECP** meet.SBJ.2PL.PST
'Where did you meet?'
b. *mos* ***ti*** *tareree*
3SG **REFL** hang.SBJ.3SG.M
'He will hang himself.'

(26) Alagwa ([wbj]; Cushitic) (Mous 2016, p. 176)
a. ***kunu*** *ariir-im-an*
RECP see.HAB-IMPF-SBJ.1PL
'We will see each other.'
b. ***kunu*** *arar-im*
REFL see.HAB-IMPF.SBJ.1SG
'I see myself.'

In Burunge, the reflexive-reciprocal marker is allomorphemic between *ndi* or *ngi*, a cognate of *ti* in Iraqw and Gorwaa (Kießling 1994, p. 176). Nevertheless, even though the same morpheme is used with both reflexive and reciprocal verbs, there is a formal distinction between reflexive and reciprocal constructions in Burunge. Reciprocal constructions require a progressive form of the verb stem, such as *'ariirim* 'see' in (27b), in contrast to the simple imperfective verb form used in reflexive constructions, such as *'arim* in (27a) (Kießling 1994, p. 176).

(27) Burunge ([bds]; Cushitic) (Kießling 1994, p. 176)
a. *'inay* ***hingi*** *'arinay*
3PL **SBJ3.REFL** see.3SG.IPFV.3PL
'They see themselves.'
b. *'inay* ***hingi*** *'ariirinay*
3PL **SBJ3.RECP** see.PROG.3SG.IPFV.3PL
'They see each other.'

The Nilotic language Datooga also has reflexive-reciprocal polysemy. Bijanjida, the southernmost variety, has the reflexive marker *-ge:wi* (28a) in the singular and *-ge:di* (28b) in the plural. The plural form (28b) is ambiguous between a reflexive and reciprocal interpretation. This is also the case in other Datooga dialects, such as Asimjeeg (29), where the plural form is *gíjɛ:t/gájɛɛ:t*.

(28) Bijanjida (Datooga, Nilotic) (Rottland 1982, p. 191; no glossing in original source)
a. *qána:lji****ge:wi*** 'I teach (it) to me.' (I learn.)
b. *génulji****ge:di*** 'We see/look at ourselves/each other.'

(29) Asimjeeg (Datooga, Nilotic) (Griscom 2019, pp. 108, 111)
a. *g-ɛɛ:-fúɲ* ***gíjɛɛ̀:t***
AFF-IMPERS-hide **REFL.PRO.PL**
'They hide themselves.'
b. *g-à-gùr-sí:n* ***gájɛɛ́:t***
AFF-3-call-TERM **RECP.PRO.PL**
'They call each other.'

Sandawe ([sad]) and Hadza ([hts]) are the only Rift Valley languages listed in Table 3 that do not belong to either Bantu, Cushitic, or Nilotic. We did not find data on Hadza. Sandawe stands out as the only language in the Rift Valley area with a clear distinction between reflexive and reciprocal marking. In Sandawe, reflexive verbs are mostly marked with the postverbal middle marker *-ts'í* as shown in (30a). The marker extends to different middle voice functions, e.g., expressing agentless events, but not to reciprocity (Steeman 2011, p. 160). Reciprocal verbs in Sandawe are typically marked with the morpheme *-ŋki*,

often preceded by the direct object plural marker *-wá/ʔwá* (30b). With some reciprocals, the marker is just *-ki* (30c). For reciprocal events with non-direct object arguments and collectives, the element *k-* precedes the plural marker *-wá//ʔwá*, followed by the common reciprocal marker *-ŋki*, as in (30d).

(30) Sandawe (Khoisan) (Steeman 2011, p. 160)

a.	*dùbé-**ts'í*** 'hit oneself with fist'	*dùbé* 'hit with fist'
b.	*mèénà-**wá-ŋki*** 'love each other'	*mèénà* 'love'
c.	*‖'àá-**ki*** 'follow each other'	*‖'àá* 'follow'
d.	*tùrìté-**kwá-ŋki*** 'rest together'	*tùrìté* 'rest'

Figure 2, below, illustrates the languages with reflexive-reciprocal polysemy in the Tanzanian Rift Valley.

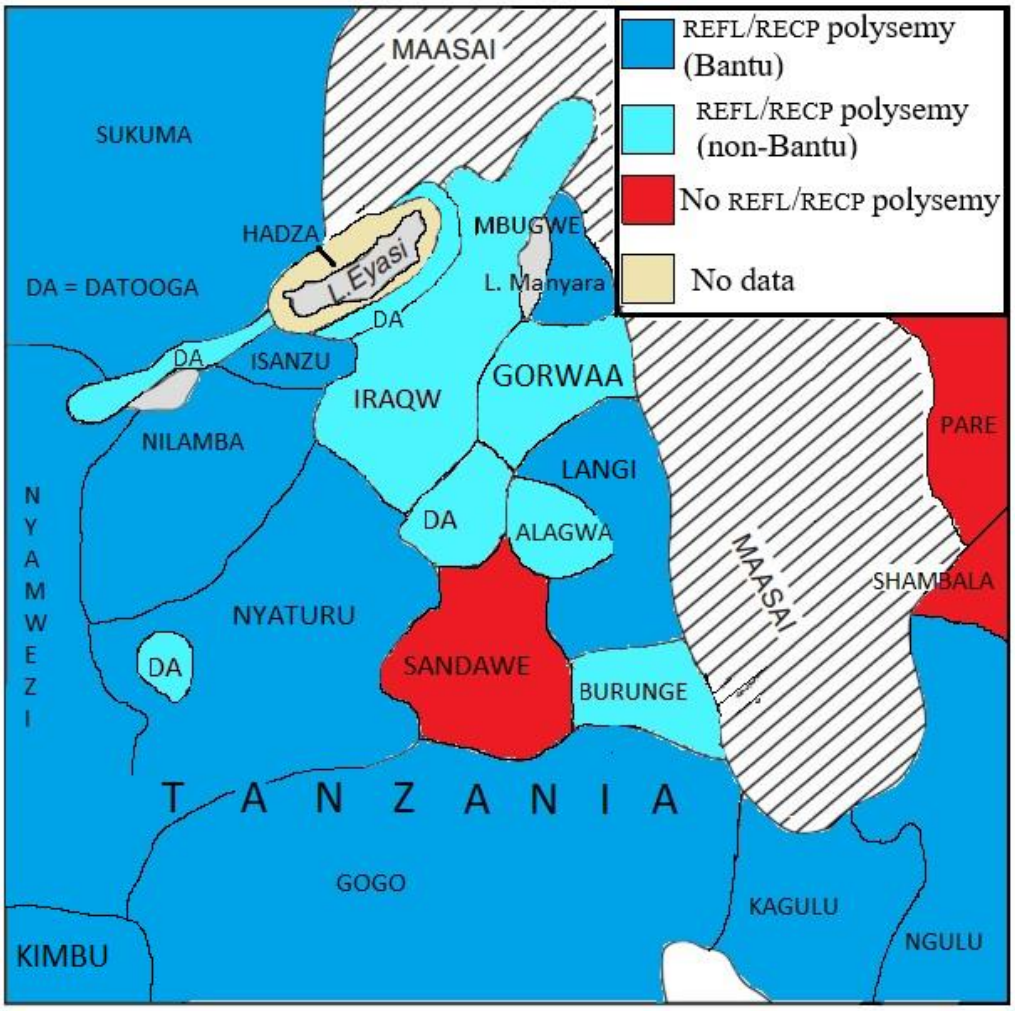

Figure 2. Reflexive-reciprocal polysemy in the Tanzanian Rift Valley and surrounding languages[8]. (Map adapted from Kießling et al. (2008)).

Reflexive-reciprocal polysemy in Cushitic and Nilotic languages is not restricted geographically to languages around the Rift Valley area. It expands across big parts of Eastern Africa to languages spoken within the country borders of Kenya, Uganda, South Sudan, Somalia, Ethiopia, Eritrea, and Djibouti. Investigating the distribution of reflexive-reciprocal polysemy across the two language families goes beyond the scope of this study, but it is worth mentioning that it is widespread both geographically and within different genealogical subgroups. In Cushitic, it is found in all modern southern Cushitic languages (i.e., West Rift), but also in East Cushitic languages outside Tanzania, like Afar

([aar]), Oromo, and Somali ([som]) (albeit with etymologically unrelated markers) (Mous 2001). In the Nilotic family, it is found in languages from all three major sub-groups, i.e., Western Nilotic (e.g., Dholuo ([luo]); Onyango and Nandelenga (2023)), Eastern Nilotic (e.g., Parakuyo Maasai ([mas]); Karani (2018, p. 244)), and all Southern Nilotic languages (i.e., Kalenjin ([kln]) and Datooga; Rottland (1982, p. 133)). To what extent the polysemy is inherited, innovated, or contact-induced in the Cushitic and Nilotic languages is a question that will not be investigated here. The implication that follows from the prevalence of reflexive-reciprocal polysemy in Bantu and non-Bantu families of the Rift Valley, especially against the background of the complex contact situation in the area, is that it becomes extremely difficult to trace the transfer into a specific Bantu language from any specific group of non-Bantu speakers. What is certain is that the widespread multilingualism in the Tanzanian Rift Valley constitutes a key facilitating factor for the transfer of REFL-RECP syncretism into languages with a previously clear distinction between the coding of reflexive and reciprocal verbs.

7. Conclusions

This paper has investigated and mapped the distribution of an innovative feature of REFL-RECP syncretism in Tanzanian Bantu languages. Our study has found that 27 languages in a sample of 79 have a polysemous verbal prefix coding both reflexivity and reciprocity. The languages concerned belong to different phylogenetic subgroups and are all spoken in an area of continuous language contact. A typology of these languages according to the derivational productivity of the syncretic prefix and reciprocal suffix reveals four different groups, reflecting different stages of a diachronic process in which the syncretic prefix gradually replaces the reciprocal suffix. We have shown that reflexive-reciprocal polysemy is a widespread category in the Cushitic and Nilotic languages spoken in the Tanzanian Rift Valley. Against the background of structural borrowings between Bantu, Cushitic, and Nilotic languages being commonplace in the Rift Valley as a result of substantial language contact and multilingualism (cf. Kießling et al. 2008), we propose that the REFL-RECP prefix was introduced into Bantu by multilingual speakers in the area. The region's deep-time sociolinguistic history is complex and not well understood, as indicated by Kießling et al. (2008, p. 189):

> *"Interaction between the various communities occurred for various reasons: for trade; because of intermarriage; by acceptance of individuals extradited from their community; due to recurrent immigration of individuals and their families sometimes linked to a shift in mode of economy; and by long-standing long-distance trade partnerships between families. There have probably always been various patterns of bilingualism and language shift of smaller and larger groups."*

This complicates a thorough sociolinguistic historical explanation of the contact-induced hypothesis proposed here, which we therefore leave for future research.

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Abbreviations

1, 2, 3...	noun class 1, 2, 3...
1PL, 2PL, 3PL	1st, 2nd, 3rd person plural
1SG, 2SG, 3SG	1st, 2nd, 3rd person singular
AFF	affirmative
APPL	applicative
AUG	augment
COM	comitative
E	epenthetic morpheme
FUT	future
FV	final vowel
HAB	habitual
IMP	imperative
IMPERS	impersonal
IMPF	imperfective
LOC	locative
M	masculine
PFV	perfective
PL	plural
PP	pronominal prefix
PRO	pronoun
PROG	progressive
PRS	present
PST	past
RECP	reciprocal
REFL	reflexive
SBJ	subject marker
SBJV	subjunctive
SG	singular
TERM	terminal applicative

Appendix A. Language Overview

Overview of all 87 Bantu languages considered for this study, their reflexive and reciprocal affixes, yes/no-value feature for reflexive-reciprocal syncretism, and data sources.

Guthrie Code	ISO	Language	REFL Marker	RECP Marker	REFL-RECP Prefix	Reference
D20						
D28	hoo	Holoholo	*i-*	*-an*	**NO**	Kamba-Muzenga (1987, pp. 324, 344)
E60						
E621A	rwk	Rwa	*kú-*	*-an*	**NO**	Philippson and Montlahuc (2003, pp. 492, 494)
E621B	jmc	Machame	*kú-*	*-an*	**NO**	Philippson and Montlahuc (2003, pp. 492, 494)
E622A	old	Mochi	*kú-*	*-an*	**NO**	Philippson and Montlahuc (2003, pp. 492, 494)

Guthrie Code	ISO	Language	REFL Marker	RECP Marker	REFL-RECP Prefix	Reference
E622C	vun	Wunjo	*kú-*	*-an*	**NO**	Philippson and Montlahuc (2003, pp. 492, 494)
E623	rof	Rombo	*kú-*	*-an*	**NO**	Philippson and Montlahuc (2003, pp. 492, 494)
E64	hka	Kahe	*kú-*	*-an*	**NO**	Philippson and Montlahuc (2003, pp. 492, 494)
E65	gwe	Gweno	*kú-*	*-an*	**NO**	Philippson and Montlahuc (2003, pp. 492, 494)
E70						
E71	dig	Digo	*dzi-*	*-an*	**NO**	Nicolle (2013, pp. 96, 110)
E74a	dav	Dawida	*kú-*	*-an*	**NO**	Philippson and Montlahuc (2003, pp. 492, 494)
E74b	tga	Sagalla	*ku-*	*-an*	**NO**	Nurse (1981, p. 171)
F10						
F11	tny	Tongwe	-	-	**-**	-
F12	bdp	Bende*	*li-, e-*	*li-, e-, -an*	**YES**	Abe (2006b, p. 177; 2020, pp. 501, 504)
F20						
F21	suk	Sukuma	*i-*	*i-*	**YES**	Ngwasi (2021)
F22	nym	Nyamwezi	*i-*	*i-, -an*	**YES**	Lodhi (2002); Kanijo (2019, pp. 24, 46)
F23	suw	Sumbwa	*i-*	*i-, -an, -aan,*	**YES**	Kahigi (2008, pp. 66–67)
F24	kiv	Kimbu	*i-*	*i-*	**YES**	Augustino Kagwema, p.c.
F25	wun	Bungu	*i-, ji-*	*-an*	**NO**	Gray (2020, pp. 8, 76)
F30						
F31A	nim	Nilamba	*i-*	*i-*	**YES**	Ngwasi (2021)
F31B	isn	Ihanzu	*ki-*	*ki-*	**YES**	Beletskiy and Diyammi (2019, p. 14)
F32	rim	Limi / Nyaturu	*i-*	*i-*	**YES**	Ngwasi (2021)
F33	lag	Langi	*i-*	*i-*	**YES**	Stegen (2002, p. 139)
F34	mgz	Mbugwe	*é-*	*é-*	**YES**	Wilhelmsen (2018, p. 143)
G10						
G11	gog	Gogo	*i-*	*i-*	**YES**	Cordell (1941, p. 75)
G12	kki	Kagulu	*ki-*	*ki-*	**YES**	Petzell (2008, p. 103)
G20						
G221	mhd	Mbugu	*kú-*	*-an*	**NO**	(Mous 2013, pp. 115, 154)
G22	asa	Asu	*kú-*	*-an*	**NO**	Mreta (1998, pp. 68, 78)
G23	ksb	Shambala	*ki-*	*-an*	**NO**	Dammann (1954, p. 169); Riedel (2009, p. 87)
G24	bou	Bondei	*e-*	*-an*	**NO**	Woodward (1882, p. 21); Meinhof (1906, p. 279)

Guthrie Code	ISO	Language	REFL Marker	RECP Marker	REFL-RECP Prefix	Reference
G30						
G301	doe	Doe	-	-	**-**	-
G31	ziw	Zigula	*kwe-*	*-an*	**NO**	Meinhof (1906, p. 292); Kenstowicz and Kisseberth (1990, p. 166)
G32	cwe	Kwere	*i-*	*i-*	**YES**	own data (2023)
G33	zaj	Zaramo	*i-, ki-*	*i-, ki-*	**YES**	own data (2023)
G34	ngp	Ngulu	*i-*	*i-, -an*	**YES**	Malin Petzell, p.c.
G35	ruf	Luguru	*i-, e-*	*i-, e-,*	**YES**	Mkude (1974, p. 35); Malin Petzell, p.c.
G36	kcu	Kami	*i-*	*i-, -an*	**YES**	Petzell and Aunio (2019, p. 579)
G37	kdc	Kutu	*i-*	*i-*	**YES**	own data (2023)
G38	vid	Vidunda	-	-	**-**	-
G39	sbm	Sagala*	*i-,*	*i-, -an*	**YES**	Bollaert (2017, pp. 52, 58)
G40						
G42	swh	Swahili	*ji-*	*-an*	**NO**	Ashton (1947, pp. 220, 241)
G50						
G51	poy	Pogolo	*li-*	*li-*	**YES**	Nurse (2008, p. 177)
G52	ndj	Ndamba	*i-*	*i-, -an*	**YES**	Edelsten and Lijongwa (2010, pp. 100)
G60						
G61	sbp	Sango	*yi-*	*-an*	**NO**	Kaajan (2012, pp. 78, 88)
G62	heh	Hehe	*i-*	*i-*	**YES**	Ngwasi (2021)
G63	bez	Bena	*i-*	*i-, -án*	**YES**	Morrison (2011, p. 249)
G64	pbr	Pangwa	*i-*	*i-, -an*	**YES**	Stirnimann (1983, pp. 39, 86) Helen Eaton, p.c.
G65	zga	Kinga	*i-, e-, jV-*	*i-, -an*	**YES**	Chesco Habili, p.c.
G66	wbi	Wanji	*i-*	*-an*	**NO**	Eaton (2019, p. 633)
G67	kiz	Kisi	*i-*	*-an*	**NO**	Gray (2018, pp. 47, 51)
JD60						
JD61	kin	Kinyarwanda	*íi-*	*-an*	**NO**	Zorc and Nibagwire (2007, pp. 42, 285)
JD62	run	Kirundi	*íi-*	*-an*	**NO**	Zorc and Nibagwire (2007, pp. 42, 285)
JD64	suj	Subi	-	-	**-**	-
JD65	han	Hangaza	-	-	**-**	-
JD66	haq	Ha	*i-*	*-an*	**NO**	Harjula (2004, pp. 158–59)
JD67	vin	Kivinza	*i-*	*-an*	**NO**	Ko (2014, pp. 69–70)

Guthrie Code	ISO	Language	REFL Marker	RECP Marker	REFL-RECP Prefix	Reference
JE20						
JE21	now	Nyambo	*e-*	*-angan, -an*	**NO**	Rugemalira (1993, pp. 148–50)
JE22	hay	Haya	*ee-, ye-*	*-an, -angan*	**NO**	Byarushengo et al. (1977, p. 47); Bastin (2003, p. 526)
JE23	zin	Zinza	-	*-an*	**NO**	Odden (2000); Odom (2016b, p. 21)
JE24	ked	Kerebe	-	*-an*	**NO**	Odden (1998, p. 179)
JE25	jit	Jita	*i-*	*-an*	**NO**	Downing (1990, pp. 25, 27)
JE251	kya	Kwaya	-	*-an*	**NO**	Odom (2016a, p. 20)
JE252	reg	Kara	-	-	**-**	-
JE40						
JE402	ikz	Ikizu	*i-*	*-an*	**NO**	Walker (2013, p. 197); Aunio et al. (2019, p. 519)
JE405	cwa	Kabwa	*i-*	*-an*	**NO**	Walker (2013, p. 219)
JE41	rag	Logooli	*i-*	*-an,*	**NO**	Gluckman (2019)
JE43	kuj	Kuria	*i-*	*-an, -ain*	**NO**	Charwi (2017, pp. 23, 219)
JE44	zak	Zanaki	*i-*	*-an*	**NO**	Walker (2013, pp. 260, 277)
JE45	ntk	Ikoma	*i-*	*-an*	**NO**	Walker (2013, p. 208)
M10						
M11	piw	Pimbwe	*li-*	*-an*	**NO**	Weiss (2020, pp. 64, 72)
M12	rnw	Rungwa	-	-	**-**	-
M13	fip	Fipa	*i-*	*-an*	**NO**	Struck (1911, pp. 974, 976)
M20						
M21	wbh	Wanda	-	-	**-**	-
M23	nih	Nyiha	*yi-*	*-an*	**NO**	Asheli (2013, pp. 85, 90)
M24	mgq	Malila	*yi-*	*-an*	**NO**	Eaton (2015, p. 8); Helen Eaton, p.c
M25	sbk	Safwa	*ji-*	*-an*	**NO**	Voorhoeve (1967)
M30						
M31	nyy	Nyakyusa	*i-*	*-an*	**NO**	Persohn (2017, pp. 64, 89)
N10						
N101	dne	Ndendeule	*ki-*	*-an*	**NO**	Ngonyani (1998, pp. 77, 78)
N11	mgs	Manda	*yi-, ji-, ki-*	*-an*	**NO**	Bernander (2017, pp. 96, 104)
N12	ngo	Ngoni	*ji-*	*-an*	**NO**	Ngonyani (2003, pp. 67, 98)
N13	mgv	Matengo	*ji-*	*-an*	**NO**	Zimmer (1947, p. 11); Yoneda (2000)
N14	mpa	Mpoto	-	*-an*	**NO**	Botne (2019, p. 712)

Guthrie Code	ISO	Language	REFL Marker	RECP Marker	REFL-RECP Prefix	Reference
P10						
P11/12	ndg	Ndengereko	-	*-an*	**NO**	Ström (2013, p. 210)
P13	mgw	Matuumbi	*i-*	*-an*	**NO**	Odden (1996, p. 208; 2003, p. 538)
P14	nnq	Ngindo *	*ki-*	*-an*	**NO**	Gromova and Urmanchieva (2005, p. 273); David Odden, p.c.
P15	mgy	Mbunga *	*i-*	*i-*	**YES**	David Odden, p.c.
P20						
P21	yao	Yao	*i-*	*-an*	**NO**	Odden (2003, p. 539); Marlo (2013)
P22	mwe	Mwera	*i-*, *li-*	*-an*, *-igan*, *egan*	**NO**	Harries (1950, pp. 73, 91)

* Limited data.

Appendix B. Subgroups of Eastern Bantu Languages with REFL-RECP Prefix (Subgroups According to Hammarström et al. 2024)

Language	Eastern Bantu Subgroup
Bende ([bdp], F12)	Northeast Savanna Bantu > Unclassified > Bende-Tongwe
Sukuma ([suk], F21)	Sukuma-Nyamwezi > Nyamwezic
Nyamwezi ([nym], F22)	Sukuma-Nyamwezi > Nyamwezic
Sumbwa ([suw], F23)	Sukuma-Nyamwezi
Kimbu ([kiv], F24)	Sukuma-Nyamwezi > Nyamwezic
Nilamba ([nim], F31A)	Nyaturu-Nilamba
Ihanzu ([isn], F31B)	Nyaturu-Nilamba
Nyaturu ([rim], F32)	Nyaturu-Nilamba
Langi ([lag], F33)	Mbugwe-Langi
Mbugwe ([mgz], F34)	Mbugwe-Langi
Gogo ([gog], G11)	Northeast Coastal Bantu > Ruvu
Kagulu ([kki], G12)	Northeast Coastal Bantu > Ruvu
Kwere ([cwe], G32)	Northeast Coastal Bantu > Ruvu > East-Ruvu-Luguru
Zaramo ([zaj], G33)	Northeast Coastal Bantu > Ruvu > East-Ruvu-Luguru
Ngulu ([ngp], G34)	Northeast Coastal Bantu > Ruvu > Seuta
Luguru ([ruf], G35)	Northeast Coastal Bantu > Ruvu > East-Ruvu-Luguru
Kami ([kcu], G36)	Northeast Coastal Bantu > Ruvu > East-Ruvu-Luguru
Kutu ([kdc], G37)	Northeast Coastal Bantu > Ruvu > East-Ruvu-Luguru
Vidunda ([vid], G38)	Northeast Coastal Bantu > Ruvu > West Ruvu
Sagala ([sbm], G39)	Northeast Coastal Bantu > Ruvu > West Ruvu
Pogolo ([poy], G51)	Kilombero
Ndamba ([ndj], G52)	Kilombero

Language	Eastern Bantu Subgroup
Hehe ([heh], G62)	Northeast Savanna Bantu > Southern Tanzania Highlands Bantu > Bena-Hehe
Bena ([bez], G63)	Northeast Savanna Bantu > Southern Tanzania Highlands Bantu > Bena-Hehe
Pangwa ([pbr], G64)	Northeast Savanna Bantu > Southern Tanzania Highlands Bantu > Kisi-Pangwa
Kinga ([zga], G65)	Northeast Savanna Bantu > Southern Tanzania Highlands Bantu > Kinga-Magoma
Mbunga ([mgy], P15)	Rufiji-Ruvuma > Rufigic > Matengic > Ndendeule-Ngindo

Notes

[1] All examples from Bantu languages in this paper are specified with an ISO-639 and a Guthrie code. The latter is a referential classification of the Bantu languages (Guthrie 1971; Maho 2009; Hammarström 2019).

[2] Many Bantu languages have multiple, syntactically different, reciprocal constructions (Bostoen et al. 2015, pp. 761–64). We are specifically referring to prototypical, i.e., monovalent, reciprocal construction here.

[3] Sandawe's genetic affiliation is debated and the language is sometimes considered an isolate (see, e.g., Blench 2013, p. 51 or Witzlack-Makarevich and Nakagawa 2019, pp. 384–85).

[4] It is not clear to us in what sense the Ndamba varieties differ from each other between the two sources. Both refer to Ndamba from the same location, i.e., Malinyi (Edelsten and Lijongwa 2010, p. 11; Novotná 2005, p. 13). We treat these as two different doculects (Cysouw and Good 2013) of Ndamba.

[5] The ten languages for which we did not find lexicalized reciprocal verbs with reciprocal suffix in the consulted sources are Sumbwa (F23), Kimbu (F24), Kagulu (G12), Zaramo (G33), Kami (G36), Sagala (G39), Pogolo (G51), Bena (G63), Pangwa (G64) and Mbunga (P15).

[6] There are currently no data available for Tongwe ([tny], F11). However, being geographically and linguistically very close to Bende ([bdp], F12) (cf. Abe 2020, p. 495), it is plausible that Tongwe has REFL-RECP syncretism.

[7] Data for Ngindo ([nnq], P14) are also very limited but indicate that there is no reflexive-reciprocal polysemy.

[8] The Maasai varieties are outside the immediate contact zone of the Rift Valley and have therefore not been included here. Even so, reflexive-reciprocal polysemy is found in at least some Maasai varieties, such as Parakuyo Maasai (cf. Karani 2018, p. 244).

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