

THE AMA DUAL SUFFIX: AN INTERNAL RECONSTRUCTION¹

Russell Norton

1 Summary of the Ama dual

Ama [nyi], also known as “Nyimang” in the literature after Stevenson (1938, 1956–57), is a North Eastern Sudanic language spoken in villages of the north-west Nuba Mountains of Sudan, and in urban diaspora communities in Khartoum and other towns (Rilly 2010). The Ama verb system has a rare dual suffix that occurs with dual participants in a wide range of positions in the clause (Stevenson, Rottland & Jakobi 1992; Norton 2012). This paper considers three possible historical scenarios for the origin of the Ama dual suffix: incorporation, borrowing, or semantic shift. It is argued that the dual arose by semantic shift in an old reciprocal suffix. This internal reconstruction is supported by a comparison of the form of the Ama dual suffix with reciprocal suffixes in other Eastern Sudanic languages.

As described in Norton (2012), the Ama dual suffix is neither a subject marker nor an object marker, rather it occurs in clauses with dual participants in a wide range of positions – subject, direct object, indirect object, copula complement, and reciprocal constructions. The suffix has the functions of dual agreement, dual reference, and dual reciprocal:

Dual agreement

Agreement with a noun phrase containing the numeral ‘two’

- (1) nórđó ārbā bā wòóŋ n-ēn
book two DECL 1SG.POSS be-DU
‘The two books are mine.’

Agreement with a complex argument of two nouns

- (2) fōrāŋ-ō m̀òr bā ìr g̀ìl-ì n-ēn
rabbit-GEN friend DECL elephant dog-DAT be-DU
‘The friends of Rabbit were Elephant and Dog.’

In Ama, two nouns in a complex argument are not linked by a conjunction, instead the second noun is in dative case used with a comitative function, expressing accompaniment to the first noun. So example (2) reads literally ‘the friends of Rabbit were Elephant with Dog’.

Dual reference

Dual reference of a personal pronoun

- (3) ē ní ǰū ǰā k̀èern-èi kó ǰwōr-ēn
and 2PL TOPIC now peace-ABL CFOC:DEON come-DU
‘You two must now only come in peace.’

Dual reference of a rational noun

- (4) àì bā dōrēŋ-ì wáǰà áǰínāsō-n-ēn
1SG DECL children-DAT story tell-APPL-DU
‘I told a story to two children.’

¹ I am grateful to the Colloquium audience and to Andrew Spencer, Noura Ramli, and John Roberts for their comments.

Unlike dual agreement, dual reference can be assigned only for rational participants. In (3) the subject pronoun is plural, as the Ama pronoun system distinguishes singular and plural for 1st, 2nd, and 3rd person, but if the plural pronoun is used when there are specifically two referents, then the dual suffix will occur on the verb. Most nouns in Ama are not marked for number, but if a rational noun is used when there are specifically two referents, then likewise the dual suffix will occur on the verb, as in (4).

Dual reciprocal

Dual reciprocal transitive clause

- (5) kér bā kwēj-ō kā bāl̥j̥īŋ-ēn-àg
 woman DECL man-ACC VFOC love-DU-NACT
 ‘The woman really loves the man and vice versa.’

Dual reciprocal stative clause

- (6) ē ir ḡū fōrāŋ-ō mōr n-ēn
 and elephant TOPIC rabbit-GEN friend be-DU
 ‘Elephant was a friend of Rabbit and vice versa.’

In transitive reciprocal constructions, the participants of the reciprocal event occur in subject and object positions, and the verb has a nonactive suffix. If there are precisely two participants in the reciprocal event, as in (5), then the dual suffix is also present. In stative clauses, when two participants are stated to be in a reciprocal relationship, the verb is marked as dual, as in (6). The nonactive suffix does not occur in stative clauses.

The Ama dual functions over the whole clause, both in the sense that it can mark dual arguments in a variety of positions in the clause, and in the sense that it can mark two paired participants in different positions of a reciprocal clause. Since it functions over the whole clause it is a category of verbal number. But the Ama dual is an unusual verbal number marker – universally, comparatively, and paradigmatically.

Universally, dual verbal number is *very rare* in known languages, especially as a productive inflection available to all verbs of a language (Corbett 2000).

Comparatively, the verbal dual in Ama is *unique in Nilo-Saharan*, although in Afitti (the language closest to Ama, in the Nyima group within North Eastern Sudanic) it is reported that verbal dual is zero-marked by omission of the verbal plural marker (de Voogt 2011). Pronominal dual markers occur on verbs in some other Nilo-Saharan languages (Otero, this volume), but these are not the same as verbal dual markers that function over the whole clause.

Paradigmatically, the Ama verbal dual is unusual as a *dual without a plural counterpart*. According to Corbett (2000), nouns and pronouns of the world’s languages always comply with Greenberg’s universal 34 that if a language has a dual then it also has a plural, but Norton (2012) argues that universal 34 does not hold for verbal number because Ama has a verbal dual but does not have a true verbal plural. The argument that Ama has no verbal plural is a subtle one, because there is a putative plural of Ama verbs reported in Stevenson (1938, 1957) and Stevenson, Rottland and Jakobi (1992), and it does pattern in the expected way for intransitive verbs where it marks subjects of three or more referents (Norton 2012: 79). On transitive verbs, however, it becomes clear that “plural” marking is more correctly described as a verbal distributive rather than a verbal plural, because it is not obligatory but when added it distributes the event either over several object referents or over a series of sub-events. This is not the same as a verbal plural, which would mark an event that either has several object referents or is repeated several times. The following examples (7) to (9) show distributive marking on sentences and the difference of meaning from verbal plural (Norton 2012: 77–78):

- (7) a. ài bā ḡōlār ḡār mōl tí
 1SG DECL dollar 20x 5 take
 ‘I took 100 dollars.’

- b. àì bā ḡḡlār ḡār mōl bùò
1SG DECL dollar 20x 5 take:DISTR
'I took 100 dollars in a series of instalments.' (*'I took 100 dollars many times over.')
- (8) a. àḡí bā dōrēḡ mōl dēéí
1PL DECL children 5 hit
'We beat 5 children.'
- b. àḡí bā dōrēḡ mōl dē-íḡ-í
1PL DECL children 5 hit-DISTR-TH
'We beat each of 5 children.', 'We beat until we had beaten 5 children.'
(*'We beat 5 children many times over.')
- (9) a. àì bā kī=ḡḡ mōdā
1SG DECL thing=ACC tie
'I tied the thing or things up.'
- b. àì bā kī=ḡḡ mōd-óḡ-ā-r
1SG DECL thing=ACC tie-DISTR-TH-DISTR
'I tied until I had tied the thing up.', 'I tied each thing up.', 'I tied until I had tied each thing up.'
(*'I tied the thing up many times over.', *'I tied many things up.')

There are several other details in Norton (2012) supporting the conclusion that the Ama distributive does not pattern as a successor to the verbal dual in a scale of increasing number. So when we consider the origin of the dual suffix, our reconstruction should account for the development of a verbal dual without the development of a verbal plural counterpart.²

2 Possible origins

We may wonder how there came to be a verbal dual suffix in Ama, given the rarity of dual verbal number in the world's languages, its absence in other Nilo-Saharan languages, and its presence in Ama without a true verbal plural counterpart. We will consider three possible historical scenarios for the origin of the dual suffix: *incorporation* of a dual word, *borrowing* of a dual suffix, or *semantic shift* in an existing verb suffix.

2.1 Incorporation

Candidates for incorporation would be dual pronouns or quantifiers. Pronoun incorporation on the verb is a widespread feature in language (e.g. Schröder 2012), and the incorporation of a dual pronoun form could offer a natural account of the suffix's dual agreement and dual reference functions, as the suffix can stand pronominally for a dual noun phrase as in (10) below, as well as agreeing with an overt dual noun phrase as in (1):

- (10) àì bā kōēīn-ēn
1SG DECL light-DU
'I am lighting (two fires).'

In the Nilo-Saharan phylum, the candidate dual pronoun is found in Kunama, whose apparent connection with Ama (Nyimang) was noted by Lionel Bender:

"Kunama is one of the minority of N-S languages having an inclusive-exclusive distinction ... [it] has the most developed such system, having also dual person, found otherwise only in Nyimang of East Sudanic." (Bender 1996a: 17)

² Thus, we depart here from the hypothesis in Stevenson, Rottland & Jakobi (1992: 32) that formerly there was singular/dual/plural number inflection on the Ama verb for both subject and object.

The Kunama pronouns are shown in Table 1 in four quadrants, with inclusive pronouns in the first quadrant +speaker +hearer. Each quadrant has lines for singular, dual, and plural.

Table 1: Kunama pronouns (Abraha & Wedekind 1998)

	+Speaker		-Speaker	
+Hearer	-	-	ena	2 SG
	kiime ~ kimme	1 DU.INCL	eeme ~ emme	2 DU
	kime	1 PL.INCL	eme	2 PL
-Hearer	aba	1 SG	unu	3 SG
	aame ~ amme	1 DU.EXCL	iime ~ imme	3 DU
	ame	1 PL.EXCL	ime	3 PL

In all four quadrants, the dual has the form of the plural with the first syllable augmented, either by lengthening the vowel, in the Marda dialect, or geminating the medial consonant, in the Barka dialect. Either way, dual is marked by augmenting the first syllable with a second mora. The problem is that this augmentative dual mora has no segmental content of its own, and therefore no phonological resemblance to the Ama suffix /-ēn/. Without a phonological correspondence there is no prospect of directly reconstructing the Ama suffix /-ēn/ as an incorporated version of the Kunama dual. Moreover, Ama (Nyimang) is Eastern Sudanic and Kunama is not very close to it on the existing Nilo-Saharan trees (Bender 1996b; Ehret 2001), so any dual pronoun form that is the origin of both the Kunama and Ama dual morphemes would have to have disappeared or shifted a great many times in all other branches of Eastern Sudanic and some other branches of Nilo-Saharan. Again, the drastically reduced Kunama dual morpheme offers no independent evidence on the possible form of this hypothetical dual pronominal root.

Perhaps a clearer pathway for dual incorporation might be through cliticisation of a dual quantifier in post-verbal position. This possibility is suggested by the fact that Ama has a post-verbal plural quantifier /gàì/, which optionally highlights a plural argument of the clause as shown in (11).

Ama post-verbal plural quantifier /gàì/ (Norton 2012: 83)

- (11) a. dōrēŋ bā wūḍēŋ t̪ɛ̀l̪ē gài
 children DECL child see PL
 ‘The children saw a child.’
- b. wūḍēŋ bā dōrēŋ t̪ɛ̀l̪ē gài
 child DECL children see PL
 ‘The child saw children.’

Perhaps the dual suffix was formerly a post-verbal dual quantifier which cliticised to the verb and then was re-interpreted as a suffix. One advantage of this potential origin is that the post-verbal quantifier in (11) is not specific to subject or to object but can mark either, as the dual suffix also can. In addition, most Ama verb suffixes have a VC shape, and this fact could have supported the re-interpretation of /-ēn/ as a suffix, but left the plural quantifier /gàì/ as a separate word. Hence, this pathway could account for why there is a verbal dual without a verbal plural counterpart in the Ama verb.

Since there currently is no dual post-verbal quantifier in Ama, a place to look for possible quantifier roots is in the noun phrase.³ Ama has a nominal plural particle /gī/ somewhat phonetically similar to the post-verbal plural quantifier /gàì/, and there is also a nominal dual quantifier /kónè/ ‘both’ which shows

³ Compare the pre-verbal use of English nominal quantifiers: “All the children saw ...” ~ “The children all saw ...”

the adjectival prefix /kw-/ (Stevenson 1981) on a root /nê/,⁴ which is somewhat phonetically similar to the current dual suffix /-ēn/.

A problem is that /gàì/ can be added to a dual clause as in (12). So /gàì/ means plural in the sense of ‘more than one’, not plural as successor to dual in a scale of increasing number.

- (12) fōrā ḍū mògūr-ūḡ bè n-ēn gài
 rabbit TOPIC monkey-GEN enemy be-DU PL
 ‘Rabbit and Monkey they were enemies of each other.’

Perhaps the use of /gàì/ with a dual clause developed after the dual quantifier had been incorporated into the verb, when the functions of /gàì/ and /-ēn/ began to evolve separately. But that is speculative, and the use of /gàì/ with a dual clause hinders an internal reconstruction of a dual quantifier because there is no gap in the system of quantification that a post-verbal dual quantifier would have filled. Also, the VC shape of the dual suffix /-ēn/, which arguably supported its re-interpretation from a word to a suffix, could also simply mean that it always was a suffix.

So although the existence of a post-verbal plural quantifier in Ama opens up the possibility of a cliticisation origin of the dual suffix, the cliticisation theory rests on rather weak circumstantial evidence. As Dimmendaal (2011: 149) states, “today’s morphology is not necessarily yesterday’s syntax”.

2.2 Borrowing

Another scenario to consider for the origin of the Ama dual suffix is borrowing a dual suffix from another language. Ama has borrowed from Nubian languages (Jakobi & Rottland 1991), but Nubian languages do not have a dual suffix. However, Sudanese Arabic has a nominal dual suffix *-een* which matches the form of the Ama dual suffix with a mid front vowel and an alveolar nasal.

A borrowing solution might seem only to shift the problem of the unusualness of the Ama suffix to another language, but in Arabic dual is typologically much less unusual, fitting into a well-attested singular-dual-plural nominal paradigm. What is highly marked in this scenario is the borrowing process itself, where an affix is borrowed from nouns of the source language onto verbs in the recipient language. I am not aware of any clear example where this has happened, but borrowing a noun affix onto verbs might be possible if the verb system in the recipient language is a good fit for the affix typologically (Thomason 2001: 77). This is true of Ama, because Ama nouns are typologically unusual in having no number morphology (Dimmendaal 2000) and number is expressed on the verb through distributive marking (Norton 2012). Hence, in Ama the verb is a better site for a number affix than the noun.

The typological argument alone does not prove a borrowing origin, however, since it would equally favour the development of a dual verb marker internally. The borrowing hypothesis also needs a plausible pathway for the borrowed dual to reach the Ama verb. Language structure is only borrowed when lexical borrowing is also present (Thomason 2001: 70), and a possible pathway for the dual suffix, which is a nominal suffix in Arabic, would be that it occurred on nominalisations of Arabic verbs which were then borrowed into Ama. When finite verbs were created from the borrowed nominalisations, the dual suffix was present and available as a new verb inflection on other verbs. However, this pathway is blocked by the fact that there has been almost no lexical borrowing from Arabic into Ama until very recently as Ama people have settled in towns. There is also a more specific problem that when verbs are borrowed in Ama they are borrowed as co-verbs in a co-verb-light-verb construction, as in the recent loan /rēkb-ēn eìē/ ‘ride’ < Arabic *rikib*. Confusingly, the co-verb marker is also /-ēn/, but verbal inflection goes on the light verb so that the dual form is /rēkb-ēn eì-ēn/. If a dual nominalisation were borrowed from Arabic, then as a finite verb the dual suffix would be on the co-verb rather than the light verb, hence it would not be in a position in which it could be interpreted as an inflection available to other verbs.

The Arabic borrowing hypothesis can also be eliminated by looking at the history of the suffixes, since both of them are known to have had different vowels in the past as shown in (13). The shared mid front vowel today is actually a coincidence, the result of separate changes. The earlier high front vowel of the Ama dual suffix is found in Stevenson (1938).

⁴ Compare the Nilo-Saharan root 1297 *à-ré (ADJ-split) ‘two’ in Ehret (2001).

Historical Changes to Dual Suffixes

- (13) Sudanese Arabic *-ain(i) > -een
 Ama *-īn > -ēn

Standard Arabic also has dual suffixes *-aa*, *-aan(i)*, *-anni* on verbs in pronominal subject and object paradigms. Although like the Ama dual these are verb suffixes, and are not confined only to subject or only to object, they cannot be the source of the Ama dual because the low vowel does not match the original high Ama vowel, because they are not used in Sudanese Arabic anyway, and because any verb that was borrowed from Arabic would appear as a co-verb so any suffixes would never be in a position where they could be interpreted as inflections available to other verbs.

2.3 Semantic shift

Having considered incorporation or borrowing as the origin of the dual suffix, we turn to a possible origin within the Ama verb itself. The candidate semantic shift that could account for the dual suffix is that it was originally a reciprocal marker. A reciprocal origin is suggested by the observation earlier in example (6) that the dual suffix can reciprocalise a stative clause. This clausal operation would be a surprising innovation if the dual suffix had been incorporated or borrowed from a nominal origin, but would fit well if the suffix had always been verbal. Thus, reciprocalisation of a stative clause looks like a relic of the suffix's earlier function.

Reciprocal in Ama today is expressed by the voice system, as in Table 2. Passive, middle, and reciprocal have distinct suffixes in perfective aspect, but they all neutralise to the same suffix in imperfective aspect:

Table 2: Ama voice morphology

	perfective	imperfective
passive	āsīdāī-áí 'was painted'	āsīdāī-àg 'am being painted'
middle	bāljīṅ-éí 'was loved'	bāljīṅ-àg 'am loved'
reciprocal	bāljīṅē-àg 'loved each other'	bāljīṅ-àg 'love each other'

The suffix used in the imperfective for all non-active voices is identical to the reciprocal suffix in the perfective, where it appears with a theme vowel suffix that distinguishes the perfective from the imperfective. From this we propose the reconstruction that the non-active voice suffix /-àg/ in the imperfective developed a reciprocal reading, then this suffix was also extended to mark reciprocal in the perfective as well.

The proposal that Ama has innovated a reciprocal voice explains the anomaly of stative clauses. Since the voice system is for transitive verbs, the new reciprocal voice can only occur in transitive clauses, not in stative clauses. Therefore, the previous reciprocal marker is still needed for stative clauses. Hence, the dual suffix that reciprocalises stative clauses like (6), repeated here, is the old reciprocal.

Dual reciprocal stative clause

- (6) ē ir ḍū fōrāṅ-ō m̀òr n-ēn
 and elephant TOPIC rabbit-GEN friend be-DU
 'Elephant was a friend of Rabbit and vice versa.'

Without a dual suffix, the meaning is "Elephant was a friend of Rabbit" as expected from the syntax of the clause, but the dual suffix reciprocalises the relationship between the two participants, so the dual suffix functions as a dual-reciprocal operator.

We can see the lexical extent of the dual-reciprocal function of the dual suffix in Table 3. These are all verbs with a symmetric lexical semantics, verbs which conceptually require two participants functioning reciprocally – verbs of greeting, fighting, sex, and mutual relationship states.

Table 3: Verbs where the dual suffix gives a dual-reciprocal reading

<i>gloss</i>	<i>singular</i>	<i>dual reciprocal</i>
be a friend of	mōr n-ē	mōr n-ēn
duel	---	lū-ēn
greet ⁵	wòsò	wòs-ēn
exchange	wòsō	wòs-ēn
make love ⁶	ṭúwárḍō	ṭúwárḍ-ēn

The first two verbs in Table 3 call for particular comment. The predicate ‘be a friend of’ takes a dual suffix only for the reason already mentioned that the copula verb is not transitive and cannot use voice marking. But it also fits this class of verbs because ‘friend’ is a symmetric relational noun, so that ‘be a friend of’ is a symmetric complex predicate.⁷ Other symmetric relational nouns with the copula verb such as ‘be an enemy of’ would also fit here.

In the verb /lū-ēn/ ‘duel’, the dual suffix is obligatory. The root also occurs in /lū-ā/ ‘die’, so the root /lū/ by itself does not have a symmetrical semantics, rather the symmetrical meaning ‘duel’ arises only from the combination of root and dual suffix. The obligatory role of /-ēn/ for assigning the dual-reciprocal meaning ‘duel’ is further evidence that /-ēn/ is originally reciprocal.

Table 4 shows further examples of dual reciprocals where a voice strategy is used. Here, we see that dual-reciprocal voice marking is distinct from the reciprocal voice given above in Table 2. Dual-reciprocal voice uses a middle suffix which is placed before the dual suffix. Some verbs (greet, make love) have been found to use either dual-reciprocal voice or the dual suffix alone.

Table 4: Ama dual-reciprocal voice

<i>gloss</i>	<i>singular</i>	<i>dual reciprocal</i>
love	bāljīṅē	bāljīṅ-éṅ-ēn (impf. bāljīṅ-ēn-àg)
greet	wòsò	wòsī-éṅ-ēn
touch	sōò éíē	sōò éí-éṅ-ēn
marry	ṭòṅ (man), ṭòṅ-éí (woman)	ṭòṅ-éṅ-ēn
make love	ṭúwárō (man), ṭúwár-áí (woman)	ṭúwár-éṅ-ēn
copulate	ṭīmīdò (man), ṭīmīd-éí (woman)	ṭīmīd-éṅ-ēn

This further establishes that in Ama, reciprocal is a voice category, with a dual-reciprocal voice using the middle suffix as a second innovation of the system in addition to a reciprocal voice using the nonactive suffix. The verbs in Table 4 that use dual-reciprocal voice marking include verbs with a conjugal semantics (marry, make love, copulate) which are not fully symmetric because they assume a man participant and a woman participant. Since the middle suffix is used with a woman subject in these

⁵ For ‘greet’, symmetry is present in intra-generational greeting but not inter-generational greeting: “People from the same generation greet each other by sliding the palm over the back of the other person’s hand. Youths shake each other’s hands vigorously, which is how they display their strength to one another. When an adult greets a child, they place their hand on the top of their head.” (en.wikipedia.org/wiki/Nyimang_people, accessed 28 November 2013)

⁶ The form shown here includes a punctual suffix /-ḍ/.

⁷ See Fiedler (2013) on complex predicates as a general phenomenon in Ama.

verbs,⁸ I suggest that this is the origin of the use of the middle suffix for dual-reciprocal voice,⁹ first by extension from woman subjects to dual reciprocal subjects in the class of conjugal verbs, and then on other verbs of the language. As a result, middle and dual marking is ambiguous on conjugal verbs between a dual reciprocal reading and a dual reference reading:

(7) nēñēn gī kā t̥òŋ-éɪ-ēn
 sibling PL VFOC marry-MID-DU
 ‘The sisters are both married.’

(8) kwēī bā kér-ì t̥òŋ-ìd-éɪ-ēn
 man DECL woman-DAT marry-PCT-MID-DU
 ‘The man got married to the woman and vice versa.’

For verbs where dual reciprocal readings are obtained from the dual suffix only, we can make the following internal reconstruction. As Ama adopted a reciprocal voice strategy, the old reciprocal suffix was retained in stative clauses where voice marking cannot occur, and in other predicates that conceptually require two symmetrical participants. Thus, the suffix narrowed from reciprocal to dual-reciprocal meaning. Having become associated with dual meaning, the suffix was then extended to dual reference and dual agreement as well. As a result, dual marking on verbs that conceptually require symmetrical participants is ambiguous between a dual reciprocal reading and a dual reference reading:

(9) a. àní bā wòs-ēn ‘We (two) greeted each other, we (two) greeted someone.’
 b. àì bā wòs-ēn ‘I greeted (two people).’

The shift from reciprocal to dual-reciprocal to verbal dual following the innovation of reciprocal voice also explains the development of a verbal dual in Ama without a verbal plural counterpart.

So we have a new reciprocal voice strategy in transitive clauses through extended uses of the nonactive and middle suffixes, and we have an old reciprocal suffix found in stative clauses and more generally in symmetric predicates, giving it a dual semantics.

3 Reciprocal in Eastern Sudanic

The internal reconstruction of the dual suffix as originally reciprocal is corroborated in Table 5 by its phonetic similarity to reciprocal suffixes in a number of other Eastern Sudanic languages. The vowel of the Ama dual suffix was formerly high (Stevenson, Rottland & Jakobi 1992) and the combination of high front vowel and alveolar nasal lines up well with the other languages.

With reflexes in North, South, and Kuliak branches of Eastern Sudanic, we can suggest #-īn as the form of the proto-Eastern-Sudanic reciprocal suffix. The South Eastern Sudanic languages show greater diversity of form and function, with erosion of the final *n* and apparent fusion with a preceding consonant for reciprocal/reflexive meaning. The widespread occurrence of #-īn for reciprocal across Eastern Sudanic also supports the claim that reciprocal voice is an Ama innovation.

⁸The data is from a male language consultant.

⁹A disadvantage of using the non-active suffix /-àg/ in perfective dual reciprocals is that there would be neutralisation between perfective and imperfective, as the theme vowel would be lost in hiatus with the dual suffix vowel (Norton 2012: 90). But since this neutralisation occurs in other dual verb forms it cannot be assumed decisive here in selecting the middle suffix over the nonactive suffix. A semantic motivation is also needed for the origin of the middle suffix in dual reciprocals, such as the one proposed in the main text.

Table 5: Similarity to reciprocal in other Eastern Sudanic languages

Suffix	Gloss	Language	Classification	Source
-īn,-ēn	verbal dual	Ama	Nyima, North ES	Norton (2012), Stevenson et al (1992)
-īn,-ēn	reciprocal	Uncu	Kordofan Nubian, North ES	Williams (2009)
-in	reciprocal	Dilling with Kudur	Kordofan Nubian, North ES	Kauczor (1920), Jakobi (<i>pers.comm.</i>)
-in	reciprocal	Kururu (Tagle)	Kordofan Nubian, North ES	Jakobi (<i>pers.comm.</i>)
-Vn	reciprocal	Karko	Kordofan Nubian, North ES	Jakobi (<i>pers.comm.</i>)
-ín,-ím	reciprocal	Ik ¹⁰	Kuliak	Heine (1983)
-din	reciprocal/reflexive	Daju DarDaju	Daju, South ES	Aviles (1997)
-ri	reciprocal/reflexive	Shilluk	W Nilotic, South ES	Gilley (<i>pers.comm.</i>)
-kee	reciprocal/reflexive	Kalenjin	S Nilotic, South ES	Toweett (1979)
-ε	reciprocal/collective	Temein ¹¹	Temein, South ES	Stevenson (1957)
-ən	agentless passive	Gaam ¹²	Eastern Jebel, South ES	Bender & Ayre (1986)

4 Conclusion

The unique Ama verbal dual suffix is internally reconstructed as an old reciprocal suffix. This would mean that the Ama dual suffix is unrelated to Kunama dual pronouns, unrelated to the Ama dual quantifier, unrelated to the Sudanese Arabic dual suffix, and instead a cognate of reciprocal suffixes in other Eastern Sudanic languages.

Abbreviations

ABL	ablative	GEN	genitive
ACC	accusative	INCL	inclusive
APPL	applicative	MID	middle
CFOC	contrastive focus	NACT	non-active
DAT	dativ	PCT	punctual
DECL	declarative	POSS	possessive
DEON	deontic	PL	plural
DISTR	distributive	SG	singular
DU	dual	TH	theme
EXCL	exclusive	VFOC	verb focus

¹⁰ Reciprocal verbs in Ik have a long extension /-in-ós ~ -im-ós/, of which /-ós/ can be identified as the passive suffix (Heine 1983: 161). Regressive tone spreading from the passive suffix may be responsible for the atypical high tone on the reciprocal suffix (back vowel quality also variably spreads regressively to the reciprocal suffix vowel).

¹¹ Reciprocal verbs in Temein have a long extension /-an-ε/ of which /-an/ can be identified as the passive suffix (Stevenson 1957: 187).

¹²The Gaam reciprocal suffix has a different form /-asa/ (Bender & Ayre 1986: 16).

References

- Aviles, Arthur. 1997. The phonology and morphology of the Dar Daju Daju language. MA Dissertation, University of North Dakota.
- Abraha, John & Klaus Wedekind. 1998. Kunama. Review of Bender (1996). *Notes on Linguistics* 80: 27–30.
- Bender, M. Lionel. 1996a. *Kunama*. Munich: Lincom.
- Bender, M. Lionel. 1996b. *The Nilo-Saharan Languages: A Comparative Essay*. Munich: Lincom.
- Bender, M. Lionel & Malik Agaar Ayre. 1986. *Gaam-English-Gaam Dictionary*. Southern Illinois University.
- Corbett, Greville. 2000. *Number*. Cambridge: Cambridge University Press.
- Dimmendaal, Gerrit. 2000. Number marking and noun categorisation in Nilo-Saharan languages. *Anthropological Linguistics* 42: 214–261.
- Dimmendaal, Gerrit. 2011. *Historical Linguistics and the Comparative Study of African Languages*. Amsterdam/Philadelphia: Benjamins.
- Ehret, Christopher. 2001. *A Historical-Comparative Reconstruction of Nilo-Saharan*. Cologne: Köppe.
- Fiedler, Ines. 2013. Complex predicates in Ama. In Thilo Schadeberg & Roger Blench (eds.), *Nuba Mountain Language Studies*, pp. 433–450. Cologne: Köppe.
- Heine, Bernd. 1983. The Ik language. Unpublished manuscript, University of Cologne.
- Jakobi, Angelika & Franz Rottland. 1991. Loan word evidence from the Nuba Mountains: Kordofan Nubian and the Nyimang Group. In Daniela Mendel & Ulrike Claudi (eds.), *Ägypten im afro-orientalischen Kontext. Aufsätze zur Archäologie, Geschichte und Sprache eines unbegrenzten Raumes. Gedenkschrift Peter Behrens (Afrikanistische Arbeitspapiere)*, pp. 249–269. Institut für Afrikanistik, University of Cologne.
- Kauczor, Daniel. 1920. *Die Bergnubische Sprache*. Vienna: Akademie der Wissenschaften.
- Norton, Russell. 2012. Number in Ama verbs. *Occasional Papers in the study of Sudanese Languages* 10: 75–94.
- Otero, Manuel. 2015. Dual number in Komo verbs. In Angelika Mietzner & Anne Storch (eds.), *Nilo-Saharan: Models and Descriptions*, pp. 127–140. Cologne: Köppe.
- Rilly, Claude. 2010. *Le Méroïtique et sa famille linguistique*. Leuven: Peeters.
- Schröder, Helga. 2012. Incorporated subject pronouns in word order typology. In Matthias Brenzinger & Anne-Marie Fehn (eds.), *Proceedings of the 6th World Congress of African Linguistics, Cologne 2009*, pp. 181–192. Cologne: Köppe.
- Stevenson, Roland. 1938. Nyimang grammar. Unpublished manuscript.
- Stevenson, Roland. 1956–57. A survey of the phonetics and grammatical structure of the Nuba Mountain languages. *Afrika und Übersee* 40: 73–84, 93–116, *Afrika und Übersee* 41: 27–65, 117–152, 171–196.
- Stevenson, Roland. 1981. Adjectives in Nyimang, with special reference to k- and t- prefixes. In Thilo Schadeberg & Lionel Bender (eds.), *Nilo-Saharan (Proceedings of the First Nilo-Saharan Linguistics Colloquium, Leiden, September 8–10, 1980)*, pp. 151–165. Dordrecht: Foris.
- Stevenson, Roland, Franz Rottland, & Angelika Jakobi. 1992. The verb in Nyimang and Dinik. *Afrikanistische Arbeitspapiere* 32: 5–64. Institut für Afrikanistik, University of Cologne.
- Thomason, Sarah G. 2001. *Language Contact: An Introduction*. Edinburgh: Edinburgh University Press.
- Toweett, Taitta. 1979. *A Study of Kalenjin Linguistics*. Nairobi: Kenya Literature Bureau.
- de Voogt, Alex. 2011. Dual marking and kinship terms in Afitti. *Studies in Language* 35.4: 898–911.
- Williams, Robert. 2009. Reflexivization and reciprocalization in Uncunwee. Presented to the 6th World Congress of African Linguistics, August 2009, University of Cologne.