

# Cuwabo relativization: accessibility hierarchy and the typology of Bantu inversion constructions

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## 1 Introduction

This paper discusses a possible analysis of the *noun – relative clause* construction in Cuwabo (Bantu P34) spoken in the North of Mozambique. This analysis aims at explaining why, in Cuwabo relativization, as in many other Bantu languages, when the relativized NP is not the subject, verb agreement is not controlled by the subject, but by the head noun.

The paper is organized as follows: Section 2 gives an overview of the typological parameters accounting for the variation observed across Bantu languages in the *noun – relative clause* construction. Section 3 discusses in more detail agreement in the *noun – relative clause* construction. Section 4 presents the subject and non-subjects relatives of Cuwabo. Section 5 proposes an analysis of the apparently quirky agreement found in the non-subject relatives of Cuwabo. Section 6 concludes the paper by a discussion of our proposal in the context of the typology of inversion constructions in Bantu languages.

Cuwabo data presented here stem from Guérois (2015).

## 2 Basic typology of Bantu relatives

Since Nsuka Nkutsi (1982), relatives in Bantu has been a much investigated topic – see among others Downing et al. (2010), Grollemund and Atindogbé (eds.) (Forthcoming). The parameters accounting for the variation observed across Bantu languages in the *noun – relative clause* construction can be summarized as follows:

- a relativizer (or relative linker) may be present, with three possible positions: at the junction between the head noun and the relative clause, attached to the right of the verb of the relative clause, or inserted within the verb or the relative clause;
- relativizers may be invariable, or agree in class with the head noun;
- the relativizers that show class agreement may be formally identical to a demonstrative, or to the genitival linker;
- in comparison with the verb forms heading independent assertive clauses, the verb forms in relative clauses may involve modifications other than the mere attachment of a relativizer;
- relative clauses may have the same SVO constituent order as independent assertive clauses, or a verb-initial constituent order;
- when the relativized NP is not in subject function, it may happen that the agreement slot in the verb form normally controlled by the subject is not controlled by the subject, but by the head noun.

Ex. (1) and (2) illustrate some of these parameters.<sup>1</sup>

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<sup>1</sup> In some of the examples we quote, we have simplified the glosses (in particular, by ignoring the possible segmentation of verb stems), in order to make more apparent the elements that are directly relevant to our point.

- (1) Tswana S31 (Denis Creissels, pers.doc.)
- (1a) **Lì-búrú**      <sup>+</sup>**lí-rékílé**      **dí-q<sup>h</sup>ò:mó.**  
 5-Afrikaner    SM5-bought    10-cow  
 ‘The Afrikaner bought cows.’
- (1b) **Lì-búrú**      **lí-dì-rékî:lè.**  
 5-Afrikaner    SM5-OM10-bought  
 ‘The Afrikaner bought them (the cows).’
- (1c) **dì-q<sup>h</sup>òmó**    **tsé**      **lì-búrú**      **lí-dì-rékîlè:-<sup>7</sup>ǀ**  
 10-cow      10.REL    5-Afrikaner    SM5-OM10-bought-REL  
 ‘the cows that the Afrikaner bought’
- (2) Swahili G42 (Zwart 1998)
- (2a) **Wa-toto**    **wa-li-soma**      **ki-tabu.**  
 2-child      SM2-PFV-read    7-book  
 ‘The children read a book.’
- (2b) **Wa-toto**    **wa-li-ki-soma.**  
 2-child      SM2-PFV-OM7-read  
 ‘The children read it (the book).’
- (2c) **ki-tabu**    **wa-li-cho-ki-soma**      **wa-toto**  
 7-book      SM2-PFV-7.REL-OM7-read    2-child  
 ‘the book that the children read’

Ex. (1c) shows that, in Tswana, relative clauses have the same constituent order as independent assertive clauses, and the subject of the relative clause controls verb agreement in the same way as in independent clauses. Two relativizers are present. One of them is inserted between the head noun and the relative clause; it is identical to the demonstrative and expresses class agreement. The other is invariable, and occupies the post-final position in the verb form. Moreover, although this is not apparent in this particular example, TAM-polarity marking in the relative clauses of Tswana differs from TAM-polarity marking in independent clauses, and is rather similar to that found in circumstantial verb forms (a set of dependent verb forms used for adverbial subordination). Similarly, the set of subject indexes in the relative verb forms of Tswana is not identical to that used in independent assertive clauses, and is more similar to that used in other types of dependent verb forms.

Ex. (2c) shows that, in Swahili, relative clauses are characterized by subject inversion, but the inverted subject controls verb agreement like the preverbal subject in independent clauses. A relativizer expressing class agreement with the head noun is inserted between the TAM marker and the object index.

### 3 Agreement in the *noun – relative clause* construction

The studies on agreement in the *noun – relative clause* construction (Demuth & Harford 1999, Zeller 2004, Henderson 2007 among others) generally agree that, in Bantu languages,

there are three possible types of agreement in non-subject relatives. Henderson (2007: 167) posits these three types as follows:

- Type 1: Agreement with the subject and relativized NP.
- Type 2: Agreement with subject only.
- Type 3: Agreement with relativized NP only.

### 3.1 Type 1

This type is characterized by the combination of two distinct agreement mechanisms. First, the relative linker displays agreement with the head noun. Second (and as expected), the subject prefix of the verb displays agreement with the subject (either inverted or in its canonical pre-verbal position). This double agreement can be illustrated by Shona: in Ex. (3), the proclitic relative linker *dza-* agrees with the head noun *mbatya* ‘clothes’ while the verb agrees with the subject NP of the relative clause *vakadzi* ‘woman’.

(3) Shona S10 (Demuth & Harford 1999)

**m-batya<sub>i</sub> dza<sub>i</sub>-va<sub>j</sub>-kasonera va-kadzi<sub>j</sub> mw-eng<sub>a</sub>**  
 10-cloth 10.REL-SM2-sewed.APPL 2-woman 1-bride  
 ‘clothes which the women sewed for the bride’

In Shona, the subject of the relative clause is in post-verbal position, but this type of double agreement is also found with the subject of the relative clause in pre-verbal position, for example in Tswana – see Ex. (1) above. As regards the position of the relativizer expressing agreement with the head noun, it is most commonly found at the junction between the head noun and the relative clause, but it may also be found in other positions, as in Swahili – see Ex. (2) above. As illustrated by the Tswana and Swahili examples, agreement with the head noun may also be expressed by a resumptive pronoun or object index.

### 3.2 Type 2

This type, illustrated in Ex. (4) by Swati, is characterized by one type of agreement only: the verb of the relative clause agrees with its subject as in independent assertive clauses, and if relativizers are present (as in Swati), they do not display agreement with the head noun. Note however that, in the relative clauses of Swati, the head noun is systematically resumed in the same way as a topicalized NP in an independent clause (hence the presence of an object marker of class 1 in this example) – Zeller 2004.

(4) Swati S43 (Zeller 2004: 79)

**umfati tintfombi; la-ti<sub>i</sub>-m-elekelela-ko<sup>2</sup>**  
 1.woman 10.girl REL-SM10-OM1-help-REL  
 ‘the woman whom the girls help’

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<sup>2</sup> **la-ti-melekelelako** is the underlying form, which surfaces as **le-ti-melekelelako**. The change from [a] to [e] is triggered by the vowel of the following subject prefix.

### 3.3 Type 3

In this type, no relative linker expressed as a distinct segment can be isolated, and when the relativized NP is not the subject, the agreement slot in the verb form controlled by the subject in independent assertive clauses is controlled by the head noun. Moreover, the subject argument is in postverbal position, which means that it loses the two properties that characterize canonical Bantu subjects: pre-verbal position and control of subject agreement.

Many Central Bantu languages display this type of relativization.

- (5) Lingala C30b (Henderson 2007: 169)

**mu-kanda** **mu-tindaki** **Poso**  
 3-letter SM3-sent (1)Poso  
 ‘the letter that Poso sent’

- (6) Mongo C60 (Hulstaert 1965: 569)

**li-lako** **li-tóná** **ba-ékoli**  
 5-lesson SM5-hate 2-student  
 ‘a lesson that the students hate’

- (7) Ciluba L31a (Willems 1970: 149)

**lu-kàsù** **lù-fùdìlè** **mu-fùdi**  
 11-hoe SM11-has\_forged 1-blacksmith  
 ‘the hoe that the blacksmith has forged’

In this three-way typology, summed up in Table 1, Cuwabo belongs to the third type (as well as neighbouring Makuwa (van der Wal 2009) and Sena (Torrend 1900). Note that, in this chart, we ignore an additional parameter which is not directly relevant to our point, namely the possibility of morphological distinctions (in particular at tonal level) between the verb forms found in relative clauses and those heading independent assertive clauses.

**Table 1** Summary of Bantu relativization typology (including Cuwabo)

Language	S-V inversion	Rel. linker	Rel. lk. agrees with head noun	Slot for subj. agr. controlled by head noun
Tswana - T1	no	yes	yes	no
Swahili - T1	yes	yes	yes	no
Shona - T1	yes	yes	yes	no
Swati - T2	no	yes	no	no
Lingala - T3	yes	no	–	yes
<b>Cuwabo - T3</b>	<b>yes</b>	<b>no</b>	–	<b>yes</b>

## 4 Cuwabo relatives

### 4.1 Relative verb forms

Whereas most Bantu languages make use of relative linkers (types 1 and 2 above), at first sight, Cuwabo has no morphological marker of relativization. In relative clauses, Cuwabo uses verb forms that are formally almost identical to the conjoint forms found in independent clauses. However, the verb forms found in relative clauses have properties that justify distinguishing them from the conjoint forms found in independent clauses, as will be demonstrated below.

In Cuwabo, seven tenses/conjugations display the conjoint/disjoint alternation:<sup>3</sup> present (imperfective), past imperfective, perfective, past perfective, future, future imperfective and hypothetical. Table 2 below compares conjoint and relative verb forms.

**Table 2** Conjoint versus Relative verb forms in Cuwabo

	Conjoint	Relative
PRS IPFV	<b>oṅúlihá</b> <sup>4</sup> nigagádda 'he is selling dry cassava'	<b>oṅúliha</b> (nigagádda) 'who is selling (dry cassava)'
PST IPFV	<b>waágúla</b> nyumba 'he was buying a house'	<b>waágúla</b> (nyumba) 'who was buying (a house)'
PFV	<b>ofullé</b> mútede 'he washed the dress'	<b>ofúllé</b> (mútede) 'who washed (the dress)'
PST PFV	<b>waaveéttile</b> mbuga 'he had winnowed the rice'	<b>waaveéttile</b> (mbuga) 'who had winnowed (the rice)'
FUT	<b>onaábúddúgélé</b> guluwe 'he will attack the pig'	<b>onaábúddúgélé</b> (guluwe) 'who will attack (the pig)'
FUT IPFV	<b>ogásákula</b> kalruúnga 'he will be choosing the hoe'	<b>ddigásákula</b> (kalruúnga) 'who will be choosing (the hoe)'
HYP	<b>ogaattukúlle</b> nyangaséra 'he would carry the fishing basket'	<b>ogaattukúlle</b> (nyangaséra) 'who would carry (the fishing basket)'

Table 2 shows that the verb forms found in the relative clauses of Cuwabo have no specific morphology, nor do they exhibit a specific tone pattern, except for the perfective tense, in which an additional H tone stands on S2, or S1 in case of bisyllabic stems (see the conjoint form **ofullé** versus the relative form **ofúllé**). The reason why a tonal difference between conjoint and relative forms exists only for the perfective is still unclear at this moment.

This raises the following question: what may justify positing a distinction between relative and conjoint verb forms if they are strictly identical (except for the perfective)? One first important thing to have in mind is that conjoint forms cannot occur in sentence-final position. Moreover, in the case of transitive verbs, the tone pattern of the object following the verb distinguishes relative verb forms from conjoint verb forms: after a conjoint form, First H tone deletion (H1D) occurs, i.e. the augment, which is purely tonal in Cuwabo, is deleted, as

<sup>3</sup> The conjoint/disjoint distinction is an alternation in verb inflection, where one verb form (typically the marked form) can occur in clause-final position and often implies predicate focus ('disjoint'), while the other form (typically the unmarked form) cannot occur clause-finally and often implies term focus on the following phrase; found among others in Bemba, Kinyarwanda, Kirundi, Makuwa, Tswana, and Zulu (cf. Hyman and van der Wal Forthcoming)

<sup>4</sup> Note that the tone difference between the CJ and the REL forms is not relevant here and is explained by constraints on High Tone Doubling (HTB).

illustrated in (8a), whereas after a relative verb form the object appears in its citation form, without any tonal alteration, as in (8b). Note that the structural form of ‘dry cassava’ is **nígagádda**, converted into **nígagádda** by HTD, and into **nigagádda** by H1D.

(8) Cuwabo P34

(8a) CJ **Múyaná ońgúlíhá nigagádda.**  
**mú-yaná o-ní-gúl-íh-á ní-gagádda**  
 1-woman SM1-IPFV-buy-CAUS-FV.CJ 5-dry.cassava.H1D  
 ‘the woman is selling dry cassava’

(8b) REL **múyaná ońgúlíha nígagádda ...**  
**mú-yaná [o-ní-gúl-íh-a ní-gágádda]<sub>REL</sub>**  
 1-woman SM1-IPFV-buy-CAUS-FV.REL 5-dry.cassava  
 ‘the woman who is selling dry cassava...’

## 4.2 Subject relatives

The relativization of the subject NP is illustrated by Ex. (8) above. The subject of the relative clause, being co-referent with the head noun which precedes it, is not expressed as an NP in pre-verbal position, and manifests itself via agreement only. The structure of a *noun – relative clause* construction such as that in (8a) can be represented as indicated in (9):

(9) Cuwabo P34

**múyaná ońgúlíha nígagádda ...**  
 ‘the woman who is selling dry cassava...’

<b>mú-yaná<sub>i</sub></b>	<b>[Ø<sub>i</sub></b>	<b>o<sub>i</sub>-ní-gúl-íh-a</b>	<b>ní-gágádda]<sub>REL</sub></b>
1-woman		SM1-IPFV-buy-caus-FV.REL	5-dry.cassava
<i>head noun</i>	<i>relativized subject</i>	<i>subject agreement-verb</i>	<i>other terms of the relative clause</i>

## 4.3 Non-subject relatives

In non-subject relatives, as illustrated in Ex. (10), the subject NP is obligatorily in post-verbal position, and loses the control of verb agreement. In other languages that have subject inversion in relative clauses, as illustrated by Ex. (2) (Swahili) and (3) (Shona) above, the subject NP in post-verbal position controls the subject agreement slot in the verb form in the same way as pre-verbal subjects in independent clauses. By contrast, in Cuwabo, in non-subject relatives, the agreement slot in the verb form that expresses subject agreement in independent clauses does not express agreement with the inverted subject, but with the head noun.

(10) Cuwabo P34

(10a) **bírínkw' iísí dhiddigúlélle wéyo...**

**bírínku** **ésí** [**dhi-ddi-gúl-él-ile** **wéyo**]<sub>REL</sub>  
 10a.earring 10. DEM.I SM10-OM1SG-buy-APPL-PFV.REL 2SG.PRO  
 'these earrings you bought me...'

(10b) **mákúr' áagúllé múyaná**

**má-kúrá** [**a-gúl-ílé** **mú-yaná**]<sub>REL</sub>  
 6-oil SM6-buy-PFV.REL 1-woman  
 'the oil that the woman bought'

(10c) **élóbw' eeńlóga múkwe**

**é-lóbo** [**e-ní-lóg-a** **mú-kwe**]<sub>REL</sub>  
 9-thing SM9-IPFV-tell-FV.REL 1-friend  
 'the thing the friend is telling'

(10d) **ór' éerurúmúwile Nikúrábedha**

**óra** [**e-rurúmúw-ile** **Nikúrábedha**]<sub>REL</sub>  
 9a.hour SM9-wake.up-PFV.REL 1a.Dugong  
 'the moment at which Mr.Dugong woke up'

In (10), the subject argument, which would be expressed as a 2nd person subject marker prefixed to the verb in the corresponding independent clause, is expressed as a free pronoun in postverbal position, and the verb form includes no indication of 2nd person. Interestingly, in this configuration, it may happen that the pronoun in the function of inverted subject cliticizes to the verb, as in (11). The paradigm of these bound pronouns, used exclusively (but still optionally) in non-subject relatives, is given in the Appendix.

(11) Cuwabo P34

(11a) **mwádhâga waámúlogúímí**

**mwádhâga** [**o-á-mú-log-á=ímí**]<sub>REL</sub>  
 1.wife.POSS.1SG SM1-PST-OM1-speak-FV.REL=1SG.PRO  
 'the wife I talked about'

(11b) **óbá yaapíléyé:**

**óbá** [**e-a-p-ílé=iyé**]<sub>REL</sub>  
 9a.fish SM9-PST-kill-PFV.REL=3SG.PRO  
 'the fish he had caught'

(11c) **omúndd' oók' óńlógúínyú**

**o-mú-nddá** **ókó** [**ó-ní-lóg-á=ínyú**]<sub>REL</sub>  
 17-3-field 17.DEM.II SM17-IPFV-say-FV.REL =2PL.PRO  
 'in this plantation you are referring to'

## 5 An analysis of agreement in the non-subject relatives of Cuwabo

Traditionally, the agreement mechanism that operates in the non-subject relatives of Bantu languages that follow the same pattern of Cuwabo is described as a kind of quirky agreement:

the same agreement slot in the verb form has two different controllers depending on the status of the clause headed by the verb form in question: it is controlled by the subject if the clause is an independent clause, but by the head noun if it is a relative clause. In the previous sections, we have adopted this way of describing the agreement mechanism illustrated by the non-subject relatives of Cuwabo.

Now, we would like first to emphasize that, in a strictly descriptive perspective, given the necessary co-reference relationship between the noun modified by the relative clause and the relativized NP within the relative clause, describing this agreement mechanism as controlled by the head noun is absolutely equivalent to describing it as controlled by the relativized NP, which paves the way for the explanation we would like to propose.

This explanation is based on both typological data on accessibility hierarchy, and the typology of inversion constructions in Bantu languages.

As regards accessibility hierarchy, Keenan (1972: 171) argues that subjects NPs can always be relativized, and are the only NPs accessible to relativization in some languages.<sup>5</sup> He mentions Malagasy as a language in which subjects only can be relativized. As a result, NPs fulfilling other syntactic roles can only be relativized after being promoted to subject by means of passive-like constructions whereby NPs with various semantic roles can be made subject.

(12) Malagasy (Keenan 1972: 171)

(12a) **Manasa ny lamba ny vehivahy.**  
 wash the clothes the woman  
 ‘The woman is washing the clothes.’

(12b) **ny vehivahy (izay) manasa ny lamba**  
 the woman that wash the clothes  
 ‘the woman who is washing the clothes’

(12c) **\*ny lamba (izay) manasa ny vehivahy**  
 the clothes that wash the woman  
 intended: ‘the clothes that the woman is washing’

(12d) **Sasan’ny vehivahy ny lamba.**  
 wash.PASS-the woman the clothes  
 ‘The clothes are washed by the woman.’

(12e) **ny lamba (izay) sasan’ny vehivahy**  
 the clothes that wash.PASS-the woman  
 ‘the clothes that are washed by the woman’

As regards the typology of inversion constructions in Bantu languages, six of the seven types listed by Marten & van der Wal (2014) can be straightforwardly grouped into three broad types as regards agreement (the seventh type, *complement inversion*, being somewhat ambiguous in this respect):

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<sup>5</sup> The only problem with this generalization is that, in some ergative languages, the agent of the basic transitive construction is not accessible to relativization, and must be converted into the unique argument of a derived intransitive verb form before being relativized.

- inversion constructions in which the post-verbal subject controls verb agreement in the same way as subjects in their canonical pre-verbal position (*agreeing inversion*);
- inversion constructions in which the post-verbal subject loses the control of verb agreement, and the agreement slot normally controlled by preverbal subjects is filled by an invariable (expletive) element (*default agreement inversion*);
- inversion constructions in which the position left vacant by the inverted subject is occupied by another NP that takes over the control of subject agreement, and must therefore be analyzed as promoted to subject: *formal locative inversion*, *semantic locative inversion*, *instrument inversion*, and *patient inversion*.

Ex. (13) illustrates patient inversion, which is particularly suggestive in the perspective of our analysis of the non-subject relatives of Cuwabo.

(13) Luguru G35 (Mkude 1974: 133, quoted by Marten & van der Wal 2014)

(13a) **Imw-ana ka-tula ici-ya.**  
 1-child SM1-broke 7-pot  
 ‘The child broke the pot.’

(13b) **Ici-ya ci-tula imw-ana.**  
 7-pot SM7-broke 1-child  
 ‘The child broke the pot.’ lit. ‘The pot broke the child.’

The inversion construction observed in the relative clauses of languages such as Swahili or Shona can be related to the first type. Our claim is that the inversion construction observed in the relative clauses of languages such as Cuwabo, like patient inversion illustrated by Ex. (13), belongs to the third type. This means that, according to our analysis, in Cuwabo and other Bantu languages that have the same agreement mechanism in non-subject relatives, the internal structure of non-subject relatives involves not only total demotion of the subject (which moves to post-verbal position and loses the control of verb agreement), but also full promotion of the relativized NP to the role of subject. In other words, in Cuwabo, as in Malagasy, non-subject NPs can only be relativized after being promoted to subject. However, in the absence of any overt mark of a modification of argument structure, the mechanism is hidden by the fact that, being necessarily co-referent with the head noun that precedes it, the promoted subject cannot manifest itself as an NP in preverbal position. Consequently, the only evidence that the relativized NP has been promoted to subject is the control it exerts on the slot in the verb form dedicated to the expression of subject agreement.

According to this analysis, the quirky agreement operating in the non-subject relatives of Cuwabo is only apparent. In fact, in Cuwabo relative clauses, the agreement slot at the initial of verb forms always has its canonical function of expressing agreement with the subject of the verb. Cuwabo is among the languages in which the subject is the only NP accessible to relativization: other NPs can only be relativized after being promoted to subject, which requires the demotion of the argument normally encoded as the subject. In Cuwabo morphosyntax, this demotion is manifested by inversion and loss of verb agreement control.

The crucial point is that the promoted NP (within the relative clause), being co-indexed with the head noun, cannot surface as a full NP, and can only be represented by a subject marker. Consequently, the apparent agreement between the verb of the relative clause and the head noun is just regular subject-verb agreement, but with a null subject co-indexed with the head noun. The structure of a non-subject relative such as (10) can be represented as indicated in (14).

(14) Cuwabo P34

**bírínkw' ísí dhiddigúlélle wéyo...**  
 'these earrings you bought me...'

<b>bírínku<sub>i</sub></b>	<b>ésí</b>	<b>[Ø<sub>i</sub></b>	<b>dhi<sub>j</sub>-ddi-gúlélile</b>	<b>wéyo</b>	<b>... ]<sub>REL</sub></b>
10a.earring	10. DEM.I		SM10-SM1SG-bought. APPL	2SG.PRO	
<i>head noun</i>		<i>relativized NP</i>	<i>subject agreement-verb</i>	<i>demoted initial subject</i>	<i>other terms of the rel. clause</i>
		<i>promoted to subject</i>			

## 6 Conclusion: two types of *relative inversion* in Bantu languages

Although our analysis is consistent with typological data on accessibility to relativization, in a language family other than Bantu, the lack of any valency-changing morphology in non-subject relatives would be a major problem for such an analysis. However, in Bantu languages, inversion constructions are pervasive, and several of them involve not only total demotion of the subject, but also full promotion of another term, in spite of the absence of any valency-changing morphology.

Consequently, there is nothing revolutionary in our proposal to add two types of *relative inversion* to the seven types of inversion constructions identified in independent clauses by Marten & van der Wal (2014):

- in one of them, illustrated in this paper by Swahili and Shona, the demotion of the inverted subject is only partial, since it controls subject agreement like subjects in their canonical pre-verbal position;
- in the other, illustrated by Cuwabo, the demotion of the inverted subject is total, and the function of subject is taken over by the relativized NP, which however cannot surface as an NP in preverbal position, since Cuwabo is a pro-drop language, and the promoted subject of a non-subject relative obligatorily resumes the head noun.

This second type of relative inversion is therefore basically similar to the types designated as *formal locative inversion*, *semantic locative inversion*, *instrument inversion*, and *patient inversion* in Marten and van der Wal's (2014) typology. It however differs from them in that, in this second type of relative inversion, the selection of the NP taking over the control of verb agreement is not limited to a specific semantic role.

## Abbreviations

**1SG** 1st Person Singular **2SG** 2nd Person Singular **2PL** 2nd Person Plural **3SG** 3rd Person Singular **3PL** 3rd Person Plural **APPL** Applicative **CAUS** Causative **CL** Class **CJ** Conjoint **DEM** Demonstrative **DJ** Disjoint **FUT** Future **FV** Final Vowel **H1D** First H Deletion **HTD** High Tone Doubling **H** High (tone) **IPFV** Imperfective **LOC** Locative **NEG** Negative **NP**

Noun Phrase **OM** Object Marker **PASS** Passive **PFV** Perfective **POSS** Possessive **PRO** Pronoun **PST** Past **REL** Relative **SM** Subject Marker **TAM** Tense Aspect Mood

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## Appendix

Table 3 lists the bound personal pronouns optionally used in non-subject relatives (column 2), and compares them with the free personal pronouns (column 3) and the possessive pronouns (column 4). The resemblances are only partial, and they are distributed in such a way that no straightforward generalization emerges about possible relationships between the three paradigms.

**Table 3** Comparison between bound and free personal pronouns, and possessives

person	bound pers. pronouns	free pers. pronouns	possessive
1SG	=imi	míyo	-aga
2SG	=iwe	wéyo	-awo
3SG	=iye	íyééne	-aye
1PL	=ihu	íyo	-ihu
2PL	=inyu	nyúwo	-inyu
3PL	=ani	áwééne	-awa