

Chapter 31

Crosslinguistic generalizations about reflexive constructions

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Reflexive constructions vary from language to language in the way they encode coreference between two clause participants. While some languages employ a form called reflexivizer, others use a non-reflexive form that may perform a coreference function under some conditions. There is also much variation in the types of reflexivizers, spanning from reflexive nominals, voice markers to argument markers, occurring in variable or invariant forms. Additionally, reflexivizers may display coexpression patterns related to self-intensification, auto-benefaction, or valency-changing operations. The aim of this chapter is to investigate some of the main features of reflexive constructions among the world's languages through a crosslinguistic comparison of the patterns described by the contributors of this book.

1 Introduction

Reflexive constructions have been widely studied, particularly in the European languages, and are known for their worldwide distribution.¹ The presence of a reflexivizer, i.e. a specialized marker used in reflexive constructions to express

¹Both authors participated equally in the analysis and typological interpretation of the data in this chapter. §2, §3.3, §3.4, §5.1 and §5.2 are attributed to Katarzyna Janic and §3.1, §3.2, §3.5, §4, and §5.3 to Nicoletta Puddu. All the remaining sections were written jointly.



coreference between two participants of the clause, is such a common phenomenon that many scholars hypothesize that reflexivity² is a universal concept (see Heine & Miyashita 2008). The first comprehensive treatment of this topic written from a functional-typological perspective was provided by Faltz (1985). Geniušienė (1987) written two year later also occupies an important position. The more recent publications are König (2007) and Kittilä & Zúñiga (2019).

Reflexivizers show significant morphological, syntactic, and semantic variation across languages. In the present chapter, we concentrate on their formal aspects, particularly on their morphological variation, leaving the discussion of the syntactic and semantic aspects of reflexivizers for future investigation. We build our analysis based on the data provided by the language specialists of the volume. The language sample is given in Table 1.³

The present chapter is organized as follows. In §2, we contrast languages with and without reflexivizers. In §3, we discuss Haspelmath (2023 [this volume])’s classification of reflexivizers in our sample. In §4, we elaborate on the two languages without reflexivizers. In §5, we explore the variation of reflexivizers, focusing, in particular, on their morphological aspects. In §6, we offer concluding remarks.

2 Presence vs. absence of the reflexivizer

Languages typically do not employ repetition of the same nominal in two argument positions to express coreference within the same clause. Therefore, sentences like *Tom saw Tom*⁴ are uncommon in the expression of coreference between the two participants of the clause. Instead, there is a strong tendency to use a special form labeled here “reflexivizer” (cf. Haspelmath (2023: §1 [this volume])), as in the English example *Mary saw herself*.

In many languages, including English, the reflexivizer is required whenever the patient argument of a typically “extroverted”⁵ verb is coreferential with the

²The term reflexivity has received different interpretations in the literature. It may refer to coreference in general, or more specifically to agent-patient coreference, or to the expression of other cases of coreference by a reflexive construction. See Puddu & Janic (2023 [this volume]) for a discussion.

³The proposed list of six macroareas is based on Hammarström & Donohue (2014).

⁴Excluding focus constructions.

⁵Since Haiman (1983: 803), the opposition between “introverted” and “extroverted” verbs has been variously characterized. Introverted verbs such as ‘wash’ define the action one generally performs upon oneself. In contrast, extroverted verbs like ‘kick’ refer to an action that one typically performs on somebody else. The introverted vs. extroverted distinction has been approached in the literature under different names. For instance, Kemmer (1993: 58) talks about “non-self-directed” vs. “self-directed” actions, while König & Siemund (2000: 58–60) introduce an opposition between “non-other-directed” and “other-directed” situations.

Table 1: Language sample

| Ch. | Language | Family | Macroarea | Contributor(s) |
|-----|--------------------------|-----------------------------|------------|---|
| 3. | Bangime | Isolate | Africa | A. Hantgan |
| 4. | Hausa | Afro-Asiatic | Africa | M. L. Abdoulaye |
| 5. | Jóola Fóoñi | Atlantic-Congo | Africa | D. Creissels, A. C. Bassène |
| 6. | Kambaata | Afro-Asiatic | Africa | Y. Treis |
| 7. | Luganda | Atlantic-Congo | Africa | A. Witzlack- Makarevich, E. Just, S. Namyalo |
| 8. | Mano | Mande | Africa | M. Khachaturyan |
| 9. | Abaza | Abkhaz-Adyge | Eurasia | P. Arkadiev, S. Durneva |
| 10. | Kazym Khanty | Uralic | Eurasia | A. Volkova, S. Toldova |
| 11. | Polish | Indo-European | Eurasia | K. Janic |
| 12. | Thulung | Sino-Tibetan | Eurasia | A. Lahaussois |
| 13. | Early Vedic | Indo-European | Eurasia | V. Orqueda R. Pooth |
| 14. | Yiddish | Indo-European | Eurasia | E. Luchina |
| 15. | Chini | Lower Sepik-Ramu | Papunesia | J. Brooks |
| 16. | Komnzo | Yam | Papunesia | C. Döhler |
| 17. | Nungon | Nuclear Trans New Guinea | Papunesia | H. Sarvasy |
| 18. | Walman | Nuclear Torricelli | Papunesia | L. Brown, M. Dryer |
| 19. | Waray | Austronesian | Papunesia | T. E. Payne, V. Q. Oyzon |
| 20. | Anindilyakwa | Gunwinyguan | Australia | M.E. van Egmond |
| 21. | Jaminjung- Ngaliwurru | Mirndi | Australia | E. Schultze-Berndt |
| 22. | Kuuk Thaayorre | Pama-Nyungan | Australia | A. Gaby |
| 23. | Warlpiri | Pama-Nyungan | Australia | M. Laughren |
| 24. | Zenzontepec Chatino | Otomanguean | N. America | E. W. Campbell |
| 25. | Hoocąk | Siouan | N. America | J. Helmbrecht |
| 26. | Oneida | Iroquoian | N. America | K. Michelson |
| 27. | Yaqui | Uto-Aztecan | N. America | L. Guerrero |
| 28. | Aguaruna | Chicham | S. America | S. Overall |
| 29. | Kakataibo | Pano-Tacanan | S. America | R. Zariquiey |
| 30. | Mojeño Trinitario | Arawakan | S. America | F. Rose |

agent argument in the local domain. This is a universal tendency, which has been widely observed and discussed in the literature (see e.g. Faltz 1985; Comrie 1999; Kazenin 2001; Dixon 2012). The use of the reflexive form is due to the relative unexpectedness of coreference between two arguments, which is related to our conceptualization of the world. Therefore, such an occurrence needs to be marked, unlike the cases that conform to our expectations, i.e. when the arguments denote different entities (Comrie 1999: 341). We can formulate Generalization 1, which is based on this cognitive account and agrees with Næss's (2007) theory of transitivity and maximal distinctness of participants:

Generalization 1: Languages encode coreference between the arguments of the same predicate through a special form because such situations are less expected. In contrast, situations in which the agent acts on the patient that is conceived as a distinct participant, are more common and hence more expected. Consequently, they do not need special encoding.

Based on previous studies, we expected most languages from our sample to follow Generalization 1. Our results corroborate this tendency (see Figure 1),⁶ Out of the 28 investigated languages in this volume, only two do not have a reflexivizer. These are Kazym Khanty (Uralic) from Eurasia (Volkova & Toldova (2023 [this volume])) and Zenzontepec Chatino (Otomanguean) from North America (Campbell (2023 [this volume])).

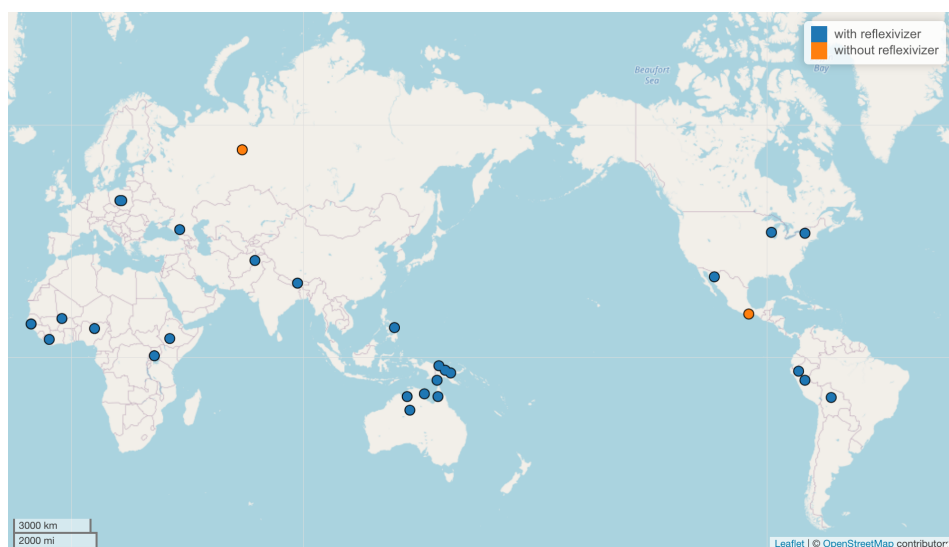
In what follows, we first elaborate on languages with a reflexivizer (§3) and then move on to languages without one, showing how Kazym Khanty and Zenzontepec Chatino deal with coreference (§4).

3 Languages with a reflexivizer

3.1 Classification of reflexivizers

Haspelmath (2023 [this volume]) distinguishes between three main types of reflexivizers: (i) reflexive nominals, (ii) reflexive voice markers, and (iii) reflexive argument markers. This classification is one of many proposed in the literature (see e.g. Faltz 1985; Dimitriadis & Everaert 2004; Dixon 2012). However, it differs from others in two important respects. Firstly, Haspelmath does not discuss reflexivizers in relation to language “strategies” or “techniques” applied for coreferential use but in terms of forms. Secondly, unlike other classifications building

⁶The maps in this chapter have been elaborated with the package “lingtypology” for R (Moroz 2017), using the language coordinates in *Glottolog* (Hammarström et al. 2022).



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Figure 1: Languages with and without reflexivizers

on the “nominal” vs. “verbal” distinction,⁷ this one is threefold. It introduces an in-between category, a “reflexive argument marker”, which is neither entirely nominal nor entirely verbal.

In the following subsections, we analyze the three types of reflexivizers introduced in Haspelmath (2023 [this volume]) in greater detail. In §3.2, we discuss the languages from our sample that have a reflexive nominal. In §3.3, we examine languages with a reflexive argument marker. In §3.4, we deal with languages with a reflexive voice marker. Finally, in §3.5, we consider reflexive forms that do not fall easily into one of the proposed categories. In doing so, we will propose new generalizations and discuss those already provided in the literature in the context of the new data.

⁷Beginning with Faltz (1985), the majority of the classifications of reflexive constructions are based on a “verbal” vs. “nominal” dichotomy. For instance, Dimitriadis & Everaert (2004) make a distinction between argumental vs. non-argumental reflexivizers, Kazenin (2001) contrasts “pronominal” with “verbal” strategies, and Dixon (2012) distinguishes a “pronoun technique” from a “verbal derivation technique”. See Puddu (2021: 377) for a succinct summary of these classifications.

3.2 Languages with a reflexive nominal

Haspelmath (2023 [this volume]) differentiates between various types of reflexive nominals. In addition to nouns with adpossessionive person form, noun-like forms without adpossessionive indexes, and reflexive pronominals, he also mentions self-intensified anaphoric pronouns and anaphoric pronouns with other reinforcements.

Though the reflexive nominals in our sample are expectedly numerous, we do not have any example of anaphoric pronouns with other reinforcements. In Mano (Mande), the intensifier *diè* (deriving from the adjective ‘true’) can combine with both anaphoric and reflexive pronouns to form complex reflexive pronouns (Khachaturyan (2023: §4 [this volume])). In Kakataibo (Pano-Tacanan), the emphatic pronouns with *=bi* are used in a reflexive function only in ditransitive constructions. However, Zariquiey (2023: §4.1 [this volume]) suggests that they cannot be considered true reflexives. For convenience, we treat nouns with adpossessionive person forms and noun-like forms without adpossessionive indexes as “reflexive nouns”. Consequently, in what follows, we discuss two subtypes of reflexive nominals: reflexive nouns (§3.2.1) and reflexive pronominals (§3.2.2).

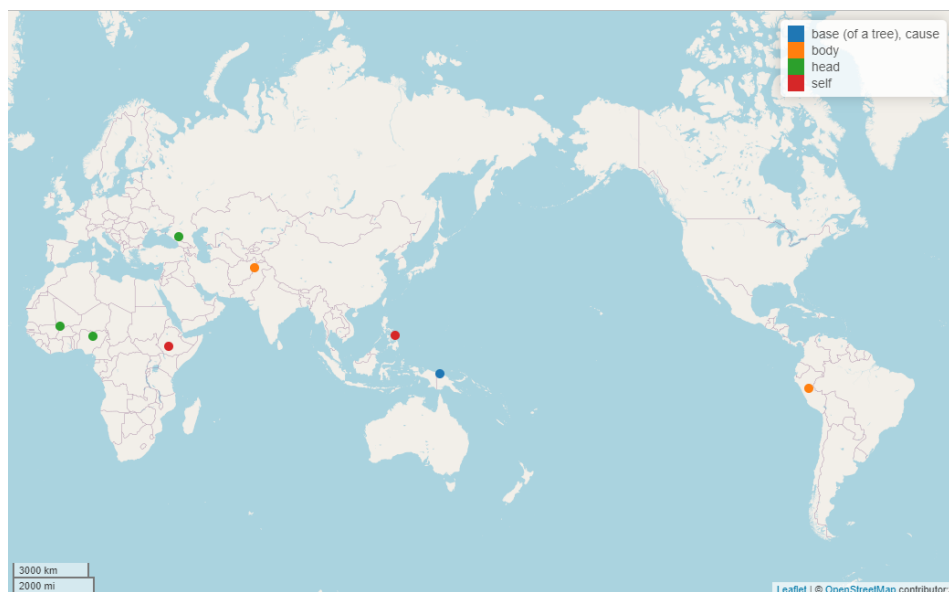
3.2.1 Reflexive nouns

Eight languages from our sample use a reflexive noun, which can be accompanied by an adpossessionive person form. These are summarized in Table 2.

Table 2: Languages with a noun reflexivizer

| | Language | Family | Macroarea | Form | Meaning |
|----|-------------|-----------------------|------------|-----------------------------------|-----------------------------------|
| 1. | Bangime | Isolate | Africa | <i>ñ=dēgè</i> | ‘head’ |
| 2. | Hausa | Afro-Asiatic | Africa | <i>kâ-n-shi</i> | ‘head’ |
| 3. | Kambaata | Afro-Asiatic | Africa | <i>gag-á-s</i> | ‘self’ |
| 4. | Abaza | Abkhaz-Adyge | Eurasia | <i>j-qa</i> | ‘head’ |
| 5. | Early Vedic | Indo-European | Eurasia | <i>svá- tanú</i> | ‘body’ |
| 6. | Walman | Nuclear Torricelli | Papunesia | <i>mnon ein</i> | ‘(tree) base’, ‘cause, reason’ |
| 7. | Waray | Austronesian | Papunesia | <i>íya</i> <i>kalugaríngon</i> | ‘self’ |
| 8. | Kakataibo | Pano-Tacanan | S. America | <i>ain nami=bi</i> | ‘body’ |

Reflexive nouns are present in various macroareas, as shown in Table 2. They are observed in Africa (i.e. Bangime: $\bar{n}=d\bar{e}g\bar{e}$ [3sg.B=head.3sg.POSS], Hausa: $k\hat{a}-nshi$ [self-of.M-3sg.M], Kambaata: $gag-\acute{a}-s$ [self-M.ACC-3M.POSS]) but also in Eurasia (i.e. Abaza: $j-qa$ [3sg.M.IO-head], Early Vedic: ($sv\acute{a}m$) $tanv\grave{a}m$ [own.ACC.SG self.ACC.SG]), Papunesia (i.e. Walman: $mnon\ ein$ [3sg.M.GEN tree/base/cause/reason], Waray: $\acute{y}a\ kalugar\acute{i}ngon$ [3sg.GEN self]), and South America (i.e. Kakataibo: $ain\ nami=bi$ [3sg:GEN body:ABS=EMPH]). Figure 2 visualizes the geographical location of these languages.



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Figure 2: Languages with a noun reflexivizer

The most frequent lexical source for reflexive nouns in our sample are body-part terms.⁸ This observation remains in line with previous studies (see, e.g., Heine 2000; Schladt 2000; König et al. 2005; Evseeva & Salaberri 2018). However, reflexivizers derived from body parts represent 14% of our sample, which is considerably lower than what we find in previous studies. For instance, in Schladt (2000), 89 out of 148 languages derive reflexivizers from body parts (60%), while in König et al. (2005), it is 47 out of 62 (76%). This difference between previous studies and ours is clearly due to the different sampling strategy. While Schladt

⁸Our definition of the term body part also includes the ‘body’ as a whole. This remains in line with previous studies (see, among others, Heine 2000; König & Siemund 2000).

(2000) and König et al. (2005) only examine languages in which it was possible to find a lexical source of the reflexive marker, we opted for genealogical and geographical diversity in our language sample.⁹

Several studies have shown that the majority of body-part reflexivizers are found in the African macroarea (e.g. Heine 2000; Schladt 2000; and König et al. 2005). According to Heine (2000), the most common source for the body-part reflexivizer in Africa is ‘body’ itself. However, in our sample, two African languages use a reflexivizer derived from ‘head’. These are Bangime *dēgē* and Hausa *kâi* (cf. Table 2). This discrepancy is probably owed to an areal phenomenon since the nominal reflexivizer ‘head’ is mainly concentrated in western and western-central Africa, where Bangime and Hausa are spoken (cf. Schladt 2000: 109–110; Heine 2000: 9; and Evseeva & Salaberri 2018). Incidentally, languages from other macroareas may also have a reflexivizer derived from ‘head’. Abaza from our sample illustrates this point. This language is spoken in the Caucasus, which is identified as a possible grammaticalization area of ‘head’ reflexivizers (cf. Schladt 2000: 108; Evseeva & Salaberri 2018: 395). Overall, the general frequency of ‘head’ reflexivizers in our sample is 11%, which aligns with the study by Evseeva & Salaberri (2018: 422).

Regarding other lexical sources of reflexive nouns (cf. Table 2), we also find nouns well-known from the previous literature (see Schladt 2000). These are ‘body’ in Early Vedic (*tanú-*) and Kakataibo (*nami*), and ‘self’ in Kambaata (*gag-á*) and Waray (*kalugaríngon*). Finally, we find a quite peculiar lexical source in Walman in the word *ein* whose principal meaning is ‘base (of a tree)’ but which can also mean ‘cause, reason’.

Reflexive nouns frequently occur with an adpossessionive form that can be either bound (preposed or postposed) or free. The same holds for our language sample. Haspelmath (2023: §6.1 [this volume]) suggests that when the possessive person form is bound, it is obligatory, while when it is free, it is optional. In our sample, Bangime, Hausa, Kambaata¹⁰ and Abaza confirm this observation since their possessive person form is bound and obligatory. The situation is more complex in languages with a free adpossessionive form since they show different degrees of obligatoriness of this form. For instance, in Kakataibo, the noun *nami* ‘body’ has to be

⁹We did not propose diachronic reconstructions for words supposedly deriving from body parts, since we did not ask the contributors for such data explicitly. However, some authors mention this point briefly. For instance, Treis (2023 [this volume]) points out that Kambaata, which is in close contact with Amharic (and possesses a nominal reflexivizer traced back to ‘head’), has the reflexivizer *gag-á* ‘self’, which cannot be traced back to ‘head’.

¹⁰However, in Kambaata the adpossessionive form can be omitted in a specific context, namely when the antecedent and the reflexive are impersonal or generic (see Treis (2023 [this volume])).

obligatorily accompanied by both the possessive pronoun *ain* and the emphatic marker =*bi*. In Walman and Waray, the possessive form in the possessive-indexed nominal construction is generally required. Regarding Walman specifically, the reflexivizer *ein* can be accompanied either by the genitive form of a pronoun or occur in a construction with an *and*-verb, where both conjuncts are pronominal. As for Waray, the noun *kalugaríngon* is usually preceded by a genitive pronoun, or, less frequently, by the post-nominal and enclitic genitive pronoun (which is the most typical form for the possessed nominal). In a limited number of cases, *kalugaríngon* can appear without possessor, as shown in (1). According to Payne & Oyzon (2023 [this volume]), the possessive form does not appear because the 1st person forms may be omitted when the speaker's intention is clear.

- (1) Waray (Austronesian; Payne & Oyzon (2023 [this volume]))
Ako na-hipausa ha kalugaríngon.
 1SG.ABS R.SPON-astonish LOC self
 'I was astonished at myself.'

Finally, in Early Vedic, the noun *tanú-* 'body' can, but does not have to, be used in the reflexive function with the adposessive form *sva-*. Even if *tanú-* and *svá-* *tanú-* are not used in complementary distribution, the compound strategy is used mostly for partial coreference and in indirect reflexive constructions¹¹ (cf. Orqueda & Pooth (2023: § 2.2.2 and 2.3.1 [this volume])).

Given the above, we propose Generalization 2.

Generalization 2: If a language has a reflexivizer composed of a nominal and bound possessive person form, the possessive is obligatory.

Generalization 2 can also be represented in the form of a contingency table, as shown in Table 3.

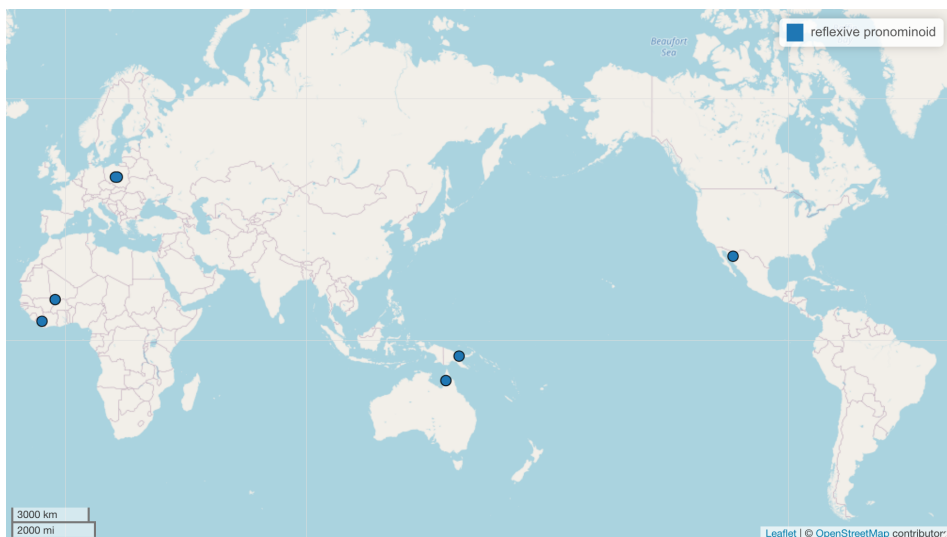
Table 3: Generalization 2

| Adposessive form | Obligatory | Optional |
|------------------|------------|----------|
| bound | + | – |
| free | + | + |

¹¹Kemmer (1993: 36) defines an indirect reflexive construction as a three-participant event with a recipient or beneficiary coreferential to an agent.

3.2.2 Reflexive pronominoids

Reflexive pronominoids are well represented in our sample. They originate from different areas of the world, as shown in Figure 3.¹² These results stand in opposition to Haspelmath (2023: §6.4 [this volume])’s impressionistic observation that reflexive pronominoids are rare in the languages of the world.



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Figure 3: Languages with a reflexive pronominoid

Table 4 illustrates the reflexive pronominoid for the 3rd person singular. In some cases, the reflexive pronominoid has an inflectional paradigm that is completely parallel to personal pronouns, as in Bangime, Yaqui or Polish, while in other cases, e.g. Yiddish, the same form is used for all persons and numbers. Additionally, we distinguish several in-between cases, discussed in detail in §5.2.

3.3 Languages with a reflexive argument marker

It is crosslinguistically well-observed that a reflexive form and object person index present some distributional similarities. They share the same paradigmatic slot in which they cannot cooccur. Given the above, Haspelmath (2023 [this volume]) introduces a new type of reflexivizer called “reflexive argument marker”

¹²Note that the two cases from Europe, Polish and Yiddish are derivatives of the same Proto-Indo-European root **se-/s(e)we-*.

Table 4: Languages with a reflexive pronominoïd

| Language | Family | Macroarea | Form |
|-------------------|--------------------------|------------|---------------------|
| 1. Bangime | Isolate | Africa | <i>mîi</i> |
| 2. Mano | Mande | Africa | <i>ē</i> |
| 3. Polish | Indo-European | Eurasia | <i>siebie</i> |
| 4. Yiddish | Indo-European | Eurasia | <i>zikh</i> |
| 5. Nungon | Nuclear Trans-New Guinea | Papunesia | <i>ino</i> |
| 6. Kuuk Thaayorre | Pama-Nyungan | Australia | <i>nhangnul</i> |
| 7. Yaqui | Uto-Aztecan | N. America | <i>au, emo, omo</i> |

based on the criterion “occurring in the same slot” as the argument marker. Considering the novelty of this concept, it should be noted that none of the authors of our volume explicitly used this term when characterizing the reflexivizer in the language of their specialization. Rather, they focus on its inflectional and derivational properties. In what follows, we will look at this new concept in the context of our data, providing particularly clear examples of reflexive argument markers (§3.3.1). We subsequently raise the question of the applicability of the proposed criterion in the context of crosslinguistic investigation and language-specific description (§3.3.2).

3.3.1 Reflexive argument markers as an independent category

Reflexive argument markers differ from reflexive nominals in that they cannot occur in isolation. They also differ from voice markers in that they do not occur in the same paradigmatic slot. By contrast, they occupy the same slot as a person index in the verbal template. Languages whose reflexivizer fulfills the criterion of “occurring in the same slot” as the person index are listed in Table 5.

The criterion of occurring in the same slot is based on a formal aspect of reflexive constructions. Depending on the type of analysis, such an approach presents advantages or raises some issues. For crosslinguistic comparison, this criterion is very convenient as it is relatively easily applicable across languages and does not require the consideration of specific features of a reflexive construction.

In Luganda, the reflexive prefix *ee-* immediately precedes the verbal stem, occupying the object slot of the verb. Compare (2a) with (2b). By contrast, all voice markers are suffixes in Luganda. Hence, they occur after the verbal stem.

Table 5: Languages with a reflexivizer that alternates with bound person forms in the same slot

| Language | Family | Macroarea | Form |
|----------------------|--------------------|------------|----------------------|
| 1. Luganda | Atlantic-Congo | Africa | <i>ee-</i> |
| 2. Abaza | Abkhaz-Adyge | Eurasia | <i>čə-</i> |
| 3. Polish | Indo-European | Eurasia | <i>się</i> |
| 4. Walman | Nuclear Torricelli | Papunesia | <i>r-</i> |
| 5. Warlpiri | Pama-Nyungan | Australia | <i>=nyanu</i> |
| 6. Aguaruna | Chicham | S. America | <i>-m(a)/-mam(a)</i> |
| 7. Mojeño Trinitario | Arawakan | S. America | <i>-wo</i> |

(2) Luganda (Atlantic-Congo; Witzlack-Makarevich et al. (2023 [this volume]))

a. *Neewalana.*

n-ee-walan-a

1SG.SBJ-REFL-hate-FV

‘I hate myself.’

b. *Abakazi bampalana.*

abakazi ba-n-walan-a

women(2) 2.SBJ-1SG.OBJ-hate-FV

‘Women hate me.’

A comparable situation is observed in Abaza. The reflexive prefix *čə-* appears in the absolutive slot (3a) where it alternates with the bound person form (3b).

(3) Abaza (Abkhaz-Adyge; Arkadiev & Durneva (2023 [this volume]))

a. *čə-j-χ^wə-t*

REFL.ABS-3SG.M.ERG-injure(AOR)-DECL

‘He injured himself.’

b. *sə-j-χ^wə-t*

1SG.ABS-3SG.M.ERG-injure(AOR)-DECL

‘He injured me.’

Even though the reflexive argument indexes may not be easily distinguishable from reflexive voice markers in some languages (cf. Haspelmath (2023: 5.3 [this

volume])), this is not the case of *čə-* in Abaza. Arkadiev & Durneva (2023 [this volume]) point out that the reflexive prefix *čə-* cannot be considered a valency-reducing device because the ergative prefix of the verb is fully compatible with *čə-*, as shown in (3a) above and (4).

- (4) Abaza (Abkhaz-Adyge; Arkadiev & Durneva (2023 [this volume]))
čə-z-dər-əj-t
 REFL.ABS-1SG.ERG-know-PRS-DECL
 ‘I know myself.’

In some languages, the opposition between the reflexive argument indexes and object person indexes is more easily visible in oblique position. In Warlpiri, in object position, coreference is expressed by the enclitic reflexivizer =*nyanu*, while disjoint reference is zero-marked. Compare (5a)¹³ and (5b). The alternation between reflexive and non-reflexive enclitic forms is, however, more evident when there is coreference between subject and indirect object arguments. Examples (5c–5d) illustrate this point: the enclitic reflexivizer =*nyanu* in (5c) expresses coreference, while the dative clitic in (5d) expresses disjoint reference.

- (5) Warlpiri (Pama-Nyungan; Laughren (2023 [this volume]))
- Paka-rnu=nyanu_i wati-ngki_i (*nyanungu_{i/j}).*
 hit-PST=ANAPH man-ERG 3
 ‘The man_i hit himself_{i/*j}.’
 - Paka-rnu wati-ngki_i (nyanungu_{*i/j}).*
 hit-PST man-ERG 3
 ‘The man_i hit him_{*i/j}/her/it.’
 - Wangka-ja=lpa=nyanu wati_i (nyanungu_{i/*j}-ku).*
 say-PST=IPFV=ANAPH man 3-DAT
 ‘The man_i spoke to himself_{i/*j}.’
 - Wangka-ja=lpa=rla_{*i/j} wati_i (nyanungu_{*i/j}-ku).*
 say-PST=IPFV=3DAT man 3-DAT
 ‘The man_i spoke to him_{*i/j}/her.’

Classifying the reflexive form as an argument marker is not always as straightforward as in Luganda, Abaza, or Warlpiri. In some languages, the “same slot

¹³Free pronouns coreferential with corresponding bound pronouns in Warlpiri mark a contrastive focus or emphasize a topic function (see Laughren (2023 [this volume])).

criterion” is problematic because different object indexes occur in different slots (cf. Haspelmath (2023: §5.3 [this volume])), as in Walman. In this language, the reflexive-reciprocal prefix *r-*, which is used for all persons and illustrated in (6a), appears in the same slot as the 1st (cf. 6b) and 2nd person object pronouns. Given that the criterion of the same slot is met, we can recognize the prefix *r-* as a reflexive argument marker. However, the 3rd person object appears as a suffix in (6c). Consequently, we cannot state that the reflexivizer in (6a) contrasts with the person object pronoun in (6c) in the same slot.

(6) Walman (Nuclear Torricelli; Brown & Dryer (2023 [this volume]))

- a. *Runon n-r-eni* *Matthew.*
 3SG.M 3SG.M-REFL/RECP-call Matthew
 ‘He calls himself Matthew.’
- b. *Runon n-p-eni* *kum Amos.*
 3SG.M 3SG.M-1OBJ-call 1SG Amos
 ‘He called me Amos.’
- c. *Kum m-enie-n* *runon Amos.*
 1SG 1SG-call-3SG.M 3SG.M Amos
 ‘I called him Amos.’

3.3.2 A comparative criterion and language specific properties

Some languages are on the borderline between a reflexive voice marker and a reflexive argument marker, opening a discussion about to what extent we can compare languages without considering language-specific properties. There are three languages in our sample in which, according to the authors, the reflexivizer functions as a voice marker, even if it meets the “same slot criterion”. These are Aguaruna, Polish, and Mojeño Trinitario. The reflexive form of these languages additionally modifies the morphosyntactic properties of the construction or demonstrates characteristics typical of voice markers.

Regarding Aguaruna, examples (7a–7b) leave no doubt that the reflexive form *-ma* alternates with the object marker in the same position. Both follow the root immediately and precede the aspectual marker. Consequently, *-ma* can be identified as a reflexive argument marker from a comparative perspective.

(7) Aguaruna (Chicham; Overall (2023 [this volume]))

- a. *tsupíɲmakmi*
 tsupi-**hama**-ka-mi
 cut-2.OBJ-PFV-RECPST.3.DECL
 ‘he has cut you’ (Overall 2017: 307)
- b. *tsupímakmi*
 tsupi-**ma**-ka-mi
 cut-REFL-PFV-RECPST.3.DECL
 ‘he has cut himself’ (Overall 2017: 307)

However, Overall (2017: 306) (and also Overall (2023 [this volume])) characterizes *-ma* as a voice marker based on a language-specific criterion, namely the comparison with an overt object NP. While the reflexive form *-ma* cannot occur with overt object NPs, this is not the case with the verbal object markers (Overall 2017: 293, Overall (2023 [this volume])).

Polish is another case in point. In this language, the reflexive clitic form *się* occupies the same position as the personal pronoun. Compare (8a) and (8b). Consequently, we can treat this form as a reflexive argument index.

(8) Polish (Indo-European; Janic (2023 [this volume]))

- a. *Kasia broni się.*
 Kasia.NOM defend.PRS.3SG SELF
 ‘Kasia defends herself.’
- b. *Kasia broni ją.*
 Kasia.NOM defend.PRS.3SG SG(F).ACC
 ‘Kasia defends her.’

However, *się* shows detransitivisation (antipassive) effects, as illustrated in (9).

(9) Polish (Indo-European; Janic (2023 [this volume]))

- a. *Chłopiec chwycił gałąź.*
 boy.SG(M).NOM grab.PST.3SG(M) branch.SG(F).ACC
 ‘The boy grabbed the branch.’ OR: ‘The boy grabbed the branch (to hold onto it).’
- b. *Chłopiec chwycił się gałęzi.*
 boy.SG(M).NOM grab.PST.3SG(M) SELF branch.SG(F).GEN
 ‘The boy grabbed the branch (to hold onto it).’ (Janic 2016: 176–177)

The coding properties of the object ‘branch’ in (9b) differ from those in (9a). The syntactically demoted object is no longer coded like a core argument because it carries an oblique (i.e. genitive) case. Janic (2023 [this volume]) analyzes the reflexive form *siɛ* as a voice marker that modifies the syntactic valency of the verb. Insisting that *siɛ* is a reflexive argument marker would imply recognizing the homonymy between *siɛ* in (9b) and *siɛ* in (8a). The fact that there is a continuum between the reflexive and other middle-type uses of *siɛ* suggests that *siɛ* can be considered as a highly polysemous marker with detransitivization effects rather than as an illustration of homonymy (cf. Geniušienė 1987; Kemmer 1993; Creissels 2006: §22.2.1.).

Finally, in Mojeño Trinitario, the suffix *-wo* is external to the stem and appears in the same slot as object suffixes, as shown in (10a–10b) respectively.

(10) Mojeño Trinitario (Arawakan; Rose (2023 [this volume]))

- a. *t-im-it-ko-wokovi*
3-CAUS-know-ACT-1PL
‘He teaches us.’
- b. *n-imooro-k-wo*
1SG-watch-ACT-MID
‘I am looking at myself.’

Rose (2023 [this volume]) considers *-wo* as a valency operator: it is invariant and shows detransitivization effects on the verbal stem. This becomes visible when we observe the encoding of the subject argument. Similarly to intransitive verbs, reflexive verbal forms with *-wo* use the non-specific prefix *t-* to encode the 3rd person subject.¹⁴ Compare ‘sit’ and ‘plait’ in (11).

(11) Mojeño Trinitario (Arawakan; Rose (2023 [this volume]))

- su 'seno t-eja-ra-ko=o'i t-jigwaj-ji-ch-wo to*
3F woman 3-sit-PLURACT-ACT=IPFV 3-plait-CLF:amorph-ACT-MID ART.NH
s-chutmoko
3F-hair
‘The woman is sitting and plaiting her hair.’

¹⁴In Mojeño Trinitario, 1st and 2nd person objects are indexed on the verb through suffixes. With all intransitive verbs and with transitive verbs with a 1st or 2nd person object, a non-specific 3rd person subject prefix *t-* is used, as in (10). When a transitive verb has a 3rd person object, a specific subject prefix must be used.

Moreover, *-wo* shares some properties with stem-internal affixes like triggering the active suffix on those active verbs which do not normally show it (see Table 3 in Rose (2023 [this volume])). This unusual property favours treating *-wo* as a valency operator rather than as an argument marker.

Given the above, Aguaruna, Polish, and Mojeño Trinitario represent problematic cases for a crosslinguistic comparison if we want to typologize their reflexivizers based on the formal criterion of occurring in the same slot as argument indexes. On a more advanced level, these languages raise a crucial question of how to balance crosslinguistic comparison without losing language-specific particularities, which we leave open for the moment (but see e.g. Bickel 2010, 2011; Haspelmath 2010, 2016 for a discussion). Considering, however, that we carry out our analysis from a comparative perspective, we find it more legitimate to consider the reflexive forms of Aguaruna, Polish, and Mojeño Trinitario as reflexive argument markers.

3.4 Languages with a reflexive voice marker

A fair number of languages, in general, and in our sample in particular, signal coreference of the two main clause participants through a reflexive voice marker, i.e. a verbal affix. This observation holds for 11 out of 26 languages from our sample and is attested in all macroareas. See Table 6.¹⁵

Some languages have more than one reflexive voice marker. Out of the 14 languages in Table 6, ten express coreference between the agent and patient argument using one voice marker. Four languages have more than one voice marker. These are Jóola Fóoñi, Kuuk Thaayorre, Oneida and Kakataibo. While Jóola Fóoñi uses three voice markers, the descriptions of Kuuk Thaayorre, Oneida and Kakataibo report two. The presence of several reflexive voice markers is crosslinguistically atypical but not extremely rare (see e.g. Dom et al. 2017 for a

¹⁵We include the Oneida reflexive forms *-at-* and *-atat-* in Table 6 because they are the verbal affixes that do not contrast with object indexes in the same verbal slot. Besides, from a crosslinguistic perspective, some of their functions are comparable to the ones performed by the reflexive voice marker in other languages. For instance, the semi-reflexive *-at-* can express anticausative or autobenefactive function. However, it should be stressed that *-at-* and *-atat-* are not considered as a voice marker in the language. Building on Michelson (2023 [this volume]), there is no voice category in the verbal inflectional paradigm of Oneida, hence treating *-at-* and *-atat-* as equivalent of voice is only legitimate from a crosslinguistic perspective. Table 6 includes Polish, Aguaruna, and Mojeño Trinitario whose reflexivizers are explicitly considered by the authors as voice or valency-changing operators based on language-specific properties (see languages 12–14 in Table 6). This is because in this section we deal with voice-related issues such as encoding transitivity/intransitivity.

Table 6: Languages with a reflexive voice marker

| | Language | Family | Macroarea | Form |
|-----|--------------------------|------------------|------------|------------------------|
| 1. | Kambaata | Afro-Asiatic | Africa | <i>-aqq/-'</i> |
| 2. | Jóola Fóoñi | Atlantic-Congo | Africa | <i>-ɔɔr, -ɔ, -ɔɔrɔ</i> |
| 3. | Thulung | Sino-Tibetan | Eurasia | <i>-siŋ</i> |
| 4. | Early Vedic | Indo-European | Eurasia | middle endings |
| 5. | Chini | Lower Sepik-Ramu | Papunesia | <i>nji-</i> |
| 6. | Anindilyakwa | Gunwinyguan | Australia | <i>-jungwV</i> |
| 7. | Jaminjung/ Ngaliwurru | Mirndi | Australia | <i>-ji</i> |
| 8. | Kuuk Thaayorre | Pama-Nyungan | Australia | <i>-e, -rr</i> |
| 9. | Hoocąk | Siouan | N. America | <i>kii-</i> |
| 10. | Oneida | Iroquoian | N. America | <i>-atat-, -at-</i> |
| 11. | Kakataibo | Pano-Tacanan | S. America | <i>-akat, -t</i> |
| 12. | Polish | Indo-European | Eurasia | <i>się</i> |
| 13. | Aguaruna | Chicham | S. America | <i>-m(a)/-mam(a)</i> |
| 14. | Mojeño Trinitario | Arawakan | S. America | <i>-wo</i> |

discussion of the middle voice category in Bantu languages) and has an impact on the distribution of the functions performed by these markers.

Reflexive voice markers are frequently regarded as derivational rather than inflectional (cf. Haspelmath (2023: §5.2 [this volume]), but see also Dixon 2012: 172), mainly because they are not as general as inflectional forms. The latter are often considered highly general because they attach to all lexemes in their class. In contrast, derivational markers are less general as they do not attach to a substantially high number of bases. Moreover, derivational markers also tend to occur closer to the verbal root than inflectional markers and can be unproductive or subject to lexical restrictions. We can also observe this in the languages in our sample. Apart from Early Vedic, in all other languages, the reflexive voice marker is derivational (see Table 6).

Reflexive voice markers modify the syntactic transitivity of the verb. They attach to a transitive verb and derive an intransitive one. The latter takes the A argument of the corresponding transitive construction and encodes it as a subject of the derived verb. The intransitive status of the derived reflexive construc-

tion may be clear from the encoding properties of the arguments. For instance, in Jaminjung/Ngaliwurru, the detransitivizing effect of the reflexive form can be observed in the selection of the person prefix paradigm. When the reflexivizer suffix *-ji* attaches to a morphologically transitive verb, which indexes both subject and object, it results in a morphologically intransitive verb inflected with only a subject index. Example (12) illustrates this contrast.

(12) Jaminjung/Ngaliwurru (Mirndi; Schultze-Berndt (2023 [this volume]))

- a. ***gani-wa***
 3MIN>3MIN-bite.PST.PFV
 ‘it bit him/her’
- b. ***ga-wirri-ja***
 3MIN-bite-REFL.PST.PFV
 ‘he/she/it bit himself/herself/itself’

A similar situation occurs in Anindilyakwa. In this language, the reflexive voice marker *-jungwV* attaches to transitive verbs, reducing their syntactic valency by one. We can observe this in (13). In (13a), the transitivized verb *-ngamba-* ‘bathe’ selects two arguments, the agent ‘woman’ and the patient ‘dress’, both indexed on the verb by the subject *yingə-* and object *ma-* pronominal prefixes, respectively. In (13b), these arguments are coreferential. Consequently, only the agent is indexed on the verb by the subject pronominal form *yingə-*.

(13) Anindilyakwa (Gunwinyguan; van Egmond (2023 [this volume]))

- a. *dhə-dharrangka yingə-ma-ngamba-ju-wa dhərija*
 3F-female 3F-VEG-bathe-CAUS-PST dress(VEG)
 ‘the woman washed her dress’
- b. *dhə-dharrangka yingə-ngamba-ja-jungu-na*
 3.F-female 3F-bathe-CAUS-REFL-PST
 ‘the woman washed herself’

Kakataibo makes a rigid division between transitive and intransitive verbs. Transitivity is a lexical property of a verb signalled through indexation and transitivity harmony. Therefore, the reflexive marker *-akat* can only attach to transitive and ditransitive stems, which become grammatically intransitive, as can be seen in (14a–14b).

(14) Kakataibo (Pano-Tacanan; Zariquiey (2023 [this volume]))

- a. *Juan=nën ka ain kamon*
 Juan=ERG NAR:3 3:POS dog:ABS
bë-man-bëtsin-a-x-a
 eyes-touch-coming:TR-IPFV-3-NON.PROX
 ‘Juan touched his dog in the eyes, while coming.’
- b. *kaisa uni ëëëëëë ki-i kaisa*
 NAR:REP:3 person:ABS ëëëëëë say:INTR-S/A>S:SE NAR:REP:3
bë-man-akat-akë-x-ín
 eyes-touch-REFL-REM.PST-3-PROX
 ‘It is said that the man touched himself in his eyes saying “ëëëëëë”.’

In (14a), the predicate ‘touch’ takes the associated motion suffix *-bëtsin* ‘coming’, which occurs exclusively with transitive verbs. Additionally, the agent and patient arguments, *Juan* and *kamon* ‘dog’, are encoded transitively, i.e. they take the ergative and absolutive marking respectively. By contrast, in the reflexive construction in (14b), the agent argument ‘person’ is encoded like the subject of intransitive verbs as it occurs in the absolutive form. Moreover, the motion suffix *-bëtsin* ‘coming’ is no longer compatible with the verbal predicate ‘touch’, as the latter now occurs with the reflexive form *-akat*.

Finally, Oneida illustrates a complex interaction between reflexivizers, transitivity and animacy. The language has two reflexivizers, the reflexive prefix *-atat-* and the semi-reflexive prefix *-at-*, and three classes of pronominals (transitive, agent and patient), whose distribution varies depending on the animacy of the verb arguments. On the one hand, verbs with two semantic arguments are inflected with portmanteau-like prefixes. They express the proto-agent and the proto-patient¹⁶ marked for gender, number, and person, as *hi-* in (15a). On the other hand, verbs with one animate argument use a different set of pronouns, either agent or patient (mainly according to semantic criteria, see Koenig & Michelson 2015 for an extensive discussion) to encode the animate argument irrespective of whether these verbs are monadic (or monovalent), as in (15b), or dyadic (or bivalent) with an inanimate patient, as in (15c). The reflexivizers *-atat-* and *-at-* are placed between the pronominal prefix and the verb root referring to the single distinct animate argument and the verb, as in (15d–15f). However, while *-atat-* always occurs with the agent paradigm of pronominal prefixes as in (15d), *-at-* can occur with either the agent (15e) or the patient (15f) paradigm.

¹⁶For the notion of proto-agent and proto-patient as semantic roles not being limited to canonical agent and patient see Dowty (1991) and Michelson (2023 [this volume]).

(15) Oneida (Iroquoian; Michelson (2023 [this volume]))

- a. *wahinú·lyahke?*
 wa-**hi**-nuhlya?k-e?
 FACT-1SG>3M.SG-hurt-PNC
 ‘I hurt him’
- b. *waha·yé·*
 wa-**ha**-ye-?
 FACT-3M.SG.A-wake.up-PNC
 ‘he woke up’
- c. *wa?káhsehte?*
 wa?-**k**-ahseht-e?
 FACT-1SG.A-hide-PNC
 ‘I hid it’
- d. *wahatatnú·lyahke?*
 wa-**k**-atat-nuhlya?k-e?
 FACT-1SG.A-REFL-hurt-PNC
 ‘I hurt myself’
- e. *wa?katáhsehte?*
 wa?-**k**-**at**-ahseht-e?
 FACT-1SG.A-SEMIREFL-hide-PNC
 ‘I hid’
- f. *yakotya?tahsluní*
yako-**at**-ya?t-a-hsluní
 3FI.P-SEMIREFL-body-JOIN-dress,prepare[STV]
 ‘she is all dressed up’

Moreover, as Michelson (2023 [this volume]) points out, the semi-reflexive *-at* can change the semantic role of one of the arguments of the verb, sometimes unpredictably (as with, for instance, *-hloli-* ‘tell someone something’, *-athloli-* ‘talk about someone or something’).

According to Dixon (2012: 172), when a reflexive voice marker results from a derivational process applied to a verb, it tends to be realized as a suffix or prefix (but see the reflexive template in Döhler (2023 [this volume]) or reflexive/reciprocal circumfix *k(a)-...-ti* in Cavineña, Guillaume 2008). This observation also holds for our data. We note a dominance of reflexive voice markers occurring as suffixes. Only three languages instantiate their voice marker as a prefix. These are

-*atat*, -*at*- in Oneida, shown in (15), *nji*- in Chini, shown in (16), and *kii*- in Hoocak, shown in (17).

- (16) Chini (Lower Sepik-Ramu; Brooks (2023 [this volume]))

ani ñimɨŋi ñinjikavi.
ani ñimɨŋi ni=nji-ki-avi
 3SG black INS=MID-propel-TLOC.R.PC
 ‘He painted himself black.’

- (17) Hoocak (Siouan; Helmbrecht (2023 [this volume]))

hakijánq
ha<Ø>ki-já=nq
 <SBJ.3SG>REFL-see=DECL
 ‘he₁ sees himself₁’

Another characteristic of reflexive voice markers is that their form can vary when encoding verbal features. This leads to the invariant vs. variable opposition. While Thulung in (18) is considered to have an invariant reflexive voice marker, the reflexive voice marker of Jaminjung/Ngaliwurru (19) is variable. Regarding the latter, compare (19a) with (19b).

- (18) Thulung (Sino-Tibetan; Lahaussais (2023 [this volume]))

go səl-si-ŋu-mim tsʌŋra tel-ka klʌ:-si-ŋu
 1SG wash-REFL-1SG-NMLZ after oil-INS rub-REFL-1SG
 ‘After I wash, I rub myself with oil.’

- (19) Jaminjung/Ngaliwurru (Mirndi; Schultze-Berndt (2023 [this volume]))

- a. *ga-wirri-ja*
 3MIN-bite-REFL.PST.PFV
 ‘he/she/it bit himself/herself/itself’
- b. *Nginyju=biya mugurn ga-yu, janyung warr-warr*
 PROX=SEQ sleep 3MIN-be.PRS another RDP-scratch
ga-mili-ji=rndi.
 3MIN-get/handle-REFL.PRS=EGO
 ‘This one is sleeping, the other is scratching itself.’

The reflexive voice marker in Jaminjung/Ngaliwurru is cumulated with the verbal features of tense and aspect. Such cumulation is rare crosslinguistically, though not unattested elsewhere. For instance, the form of the middle voice endings in Early Vedic depends on tense and mood properties, in addition to person and number features. Example (20) illustrates this.

- (20) Early Vedic (Indo-European; Orqueda & Pooth (2023 [this volume]))

prché tád éno varuṇa
 ask.1SG.IND.MID DEM.ACC.N sin.ACC.N Varuṇa.VOC
 ‘I ask myself about that sin, o Varuṇa’ (RV 7.86.3a)

A variable form of the reflexive voice marker tends to be less frequent than an invariant form (cf. Haspelmath (2023: §5.2 [this volume])). The data from our sample confirm this observation as only two languages, Jaminjung/Ngaliwurru and Early Vedic, have a variable form.

Finally, reflexive voice markers tend to display coexpression patterns across languages (see Kazenin 2001: 917 and Bahrt 2021). This means that they express functions that go beyond coreference such as reciprocal, autocausive, anticausative, antipassive, passive, impersonal, and autobenefactive. Languages tend to demonstrate significant similarities concerning coexpression patterns they exhibit (Kazenin 2001: 920). Example (21) from Kambaata shows a reflexivizer expressing the autobenefactive function.

- (21) Kambaata (Afro-Asiatic; Treis (2023 [this volume]))

Gizz-á hoolam-á ir-á xáaz-z
 money-M.ACC much-M.ACC time-M.ACC gather-3F.PFV.CVB
qú'mm=eecc-ít min-í mi'nn-itóo'u
 gather=do.MID-3F.PFV.CVB house-M.ACC build.MID-3F.PFV
 ‘After having saved money for many years, they could build a house for their own benefit.’

In Kambaata, the middle morpheme is realized by two predominately phonologically conditioned allomorphs: *-aqq* and *-'*. As reported by Treis (2023 [this volume]), this form can be used without any semantic restrictions to signal that the subject argument is the beneficiary of the action described by the verb. We observe this situation in (21), where the reflexivizer occurs with the verbs *ass-* ‘do’ (irregular middle form: *eecc-*) and *min-* ‘build’ and performs the autobenefactive function.

A similar situation is observed in Jóola Fóoñi, in which one of the reflexive voice markers, i.e. *-ɔɔɔ* performs the autobenefactive function, as shown in (22).

- (22) Jóola Fóoñi (Atlantic-Congo; Creissels & Bassène (2023 [this volume]))

a. *Ninɔɔmɛ aɛɛkom ewoto.*
 n-t-nɔɔm-ɛ a-sɛɛk-ɔm e-woto
 PPF-sI:1SG-buy-COMPL SG-woman(A)-I:1SG SG-car(E)
 ‘I bought a car for my wife.’

- b. *Ninɔɔmɔɔrɔɛ* *ewoto.*
 n-ɪ-nɔɔm-ɔɔrɔ-ɛ e-woto
 PPF-SI:1SG-buy-ɔɔrɔ-COMPL SG-car(E)
 ‘I bought a car for myself.’

In general, reflexive voice markers limited only to coreference are rare crosslinguistically. Such a situation may occur in a language in which other reflexive-like forms have been developed. They are often responsible for performing other functions typically expressed by reflexive voice markers. We can recognize this situation in Jóola Fóoñi which has three voice markers, *-ɔɔr*, *-ɔ*, and *-ɔɔrɔ*. Even though each of them can encode agent and patient coreference, they all have been specialized in different directions of the middle domain and related functions. For instance, *-ɔɔr* is frequently used in the reciprocal function, *-ɔ* is prominent in decausative and quasi-reflexive functions and *-ɔɔrɔ* is considered a default marker of subject-object coreference with productive autobenefactive and subject self-intensification functions.

3.5 Languages with other types of reflexivizers

Some languages may have reflexivizers that do not fall neatly into the classification discussed in §3.2, §3.3, and §3.4. Komnzo (Yam, Papua New Guinea) is one of them. The language has one type of reflexivizer that signals the coreference of the object with the subject. Specifically, it uses the inflectional verbal pattern called “middle template” with three morphological slots filled by the undergoer prefix *ŋ-* and the actor suffix *-th* encoding core arguments, and the diathetic prefix *a-* decreasing valency. This is illustrated in example (23).

- (23) Komnzo (Yam; Döhler (2023 [this volume]))
zä kwa ŋa\ttü/nzé.
 PROX FUT [1SG:NPST:IPFV/paint]_{MID}
 ‘I will paint myself here.’

Given the above, the reflexivizer of Komnzo can be regarded as a combination of voice and argument indexes (see also Haspelmath (2023: §5.4 [this volume])) for other types of reflexivizers in languages).

4 Languages without reflexivizers

Two languages from our sample do not have a specialized form to express coreference between the agent and patient. These are Kazym Khanty (Uralic) and Zen-

zontepéc Chatino (Otomanguean). They encode agent-patient coreference using personal pronouns in accusative/object case instead. Example (24) illustrates this situation for Kazym Khanty and (25) for Zenzontepéc Chatino.

- (24) Kazym Khanty (Uralic; Volkova & Toldova (2023 [this volume]))
Evi-j-en λ#w-ti šiwaλ-əs-λe.
 girl-OBL-POSS.2SG (s)he-ACC see-PST-3SG>SG
 ‘The girl saw him/herself.’
- (25) Zenzontepéc Chatino (Otomanguean; Campbell (2023 [this volume]))
- a. *Laa? nkā-na?a+tiká?ā tī nyá?a=yu j-yū.*
 like.SO PFV-see+cherished TPLZ mother=3SG.M OBJ-3SG.M
 ‘His mother took care of him like that.’
- b. *Lē?.nu nka-jnyā=yu j-yū lē? nchaa=yu.*
 then PFV-make=3SG.M OBJ-3SG.M then PROG.go=3SG.M
 ‘Then he made himself (dressed himself up fancy), and he went.’

Even if such patterns are rare, they are still attested across the world’s languages. Among various examples from the literature, we can mention, for instance, Old English (see e.g. van Gelderen 2000), Pirahã (Everett 1986), and some Oceanic languages (Moyses-Faurie 2008). However, the lack of a reflexivizer in these languages does not imply that they do not disambiguate coreference from disjoint reference. As known from the literature (e.g. Huang 2000; Givón 2001; and Ariel 2008), reference can be disambiguated at the discourse level through context.

Moreover, languages may possess formal means to disambiguate references, even if speakers do not fully grammaticalize or share such forms. This is the case of Kazym Khanty, in which a verb can have three agreement patterns: subject agreement, subject-object agreement, and passive (see Volkova & Toldova (2023: §2.4 [this volume])). It has been noted that some speakers use different agreement patterns to disambiguate reference. For several speakers, subject-object agreement on the verb triggers a coreferential reading, as in (26a), while the mere subject agreement suggests a non-coreferential interpretation, as in (26b).

- (26) Kazym Khanty (Uralic; Volkova & Toldova (2023 [this volume]))
- a. *λin λin-ti išək-λ-əλλen.*
 they[DU] they[DU]-ACC praise-NPST-3DU>NSG
 ‘They praised themselves.’

- b. *lin lin-ti išək-λ-əηən.*
 they[DU] they[DU]-ACC praise-NPST-3DU
 *‘They praise themselves.’/‘They praise them.’

Yet other speakers of Kazym Khanty express coreference through doubling the 3rd person pronoun, (27), or adding the discourse particle *i* to the 3rd person pronoun, (28), in addition to subject-object agreement.

- (27) Kazym Khanty (Uralic; Volkova & Toldova (2023 [this volume]))
*Maša-j-en_i [λɥw λɥw-ti]_{i/*j} λapət-λ-əλλe.* (Speaker X)
 Masha-OBL-POSS.2SG (s)he (s)he-ACC feed-NPST-3SG>SG
 ‘Masha maintains herself by her own efforts (lit. Masha feeds herself).’
- (28) *Wan’a-en i λɥw-ti išək-λ(-əλλe).*
 Vanja-POSS.2SG PT (s)he-ACC praise-NPST(-3SG>SG)
 ‘Vanja praises himself/*him.’

In Zenzontepec Chatino, referential ambiguity can be resolved by adding a self-intensifier, the adjectives *lák^{wi}?* ‘on one’s own’, as in (29), or *k^{wi}?* ‘alone’, as in (30). However, it should be stressed that self-intensifiers are not considered a grammaticalized part of a complex reflexive form in this language.

- (29) Zenzontepec Chatino (Otomanguean; Campbell (2023 [this volume]))
Nyá?a=yu nkā-línto j-yū
 mother=3SG.M PFV.CAUS-go.to.waste(.3) OBJ-3SG.M
 ‘So his mother killed him?..
?a nu lák^{wi}?=yu nkā-línto=yu j-yū.
 Q SBD INT=3SG.M PFV.CAUS-go.to.waste=3SG.M OBJ-3SG.M
 ...or he himself killed himself?’
- (30) *Nte-?ne+ló?ō=k^{wi}?ya=ri=q j-nā.*
 PROG-do+WITH=INT=only=1INCL OBJ-1INCL
 ‘We ourselves are making ourselves suffer.’

The absence of reflexivizers in both languages can be related to the way they encode information structure. In Kazym Khanty, the anaphoric coding is strictly related to topicality, and argument marking is determined by information structure. Moreover, the language allows zero anaphora in object position. All these features determine that Kazym Khanty tends to avoid 3rd person pronouns in the direct object position in both coreferential and disjoint reading. Consequently, constructions like (24) are rare and speakers employ different strategies to replace a non-coreferential 3rd person object and a coreferential one. In other words,

the absence of a pronominal reflexivizer can be motivated by the unusualness of the 3rd person pronoun in the object position.

Information structure also plays a role in anaphora encoding in Zenzontepec Chatino. Intensifiers can be used to disambiguate coreference, as shown in (29–30). This is expected since self-intensifiers are often the source of reflexivizers (see König & Siemund 2000). Moreover, based on Comrie’s (1999) hypothesis about the local domain, the most natural situation for the arguments of a predicate is to be non-coreferential, so special marking is most likely to be used when this expectation is not met. What is unexpected, however, is that a language may need additional marking to signal disjoint reference. This is precisely what happens in Zenzontepec Chatino, in which an independent demonstrative is added to the 3rd person pronoun to refer to a less topical aforementioned referent, as in (31).

- (31) Zenzontepec Chatino (Otomanguan; Campbell (2023 [this volume]))
y-akwi? =yu j-nuwē?
 PFV-speak=3SG.M OBJ-3.ANA
 ‘he_i spoke to him_j; (that less topical aforementioned one)’
 *‘he spoke to himself’

Based on (31), we can speculate that Zenzontepec Chatino tends to use zero-marking when there is topic continuity. Consequently, when topic continuity is violated in the case of disjoint reference, the language uses special marking, i.e. the anaphoric demonstrative *-nuwē?*

The examples of Kazym Khanty and Zenzontepec Chatino confirm that in languages without a reflexivizer, reference can be disambiguated through context or non-grammaticalized means. Moreover, it seems particularly interesting that the encoding of information structure plays an essential role in both languages.

5 Variation in languages with reflexivizers

In the present section, we discuss various types of variation emerging from the crosslinguistic comparison of reflexivizers. Specifically, §5.1 deals with the presence of different types of reflexivizers in a language, §5.2 analyzes the morphological variation of reflexivizers, and finally §5.3 explores their distributional variation with special attention to nominal reflexivizers.¹⁷

¹⁷Many other levels of variation have been proposed in the questionnaire by Janic & Haspelmath (2023 [this volume]). The use of reflexivizers with introverted and extroverted verbs, the polyfunctionality of reflexivizers, or the coreference with various semantic roles are some of them. For the sake of space, we cannot treat them all in the present chapter. Nevertheless, they open a new avenue for further investigation that we plan to undertake in the future.

5.1 Coexistence of different types of reflexivizers in a language

Languages vary in terms of the number of reflexivizers. More than half of the languages from our sample have only one reflexivizer (cf. Table 7). Eight are reported to have two reflexivizers (cf. Table 8), and only three languages have three reflexivizers (cf. Table 9). The latter is in line with Haspelmath (2008: 47), who predicts that languages with more than two reflexivizers are rare but not impossible. The areal situation is summarized in Figure 4.

The presence of multiple reflexivizers in a language does not necessarily imply that they must be of different types. For instance, Oneida has the reflexive voice marker *-atat/-atate-* and another formally related semi-reflexive voice marker *-at/-ate/-atΛ/-an/-al/-a-*. Another example comes from Jóola Fóoñi in which *-ɔɔr*, *-ɔ*, and *-ɔɔrɔ* function as voice markers (Creissels & Bassène (2023: §4.1 [this volume])). In fact, languages with multiple reflexivizers (Tables 8 and 9) more frequently show diverse types of reflexivizers.

The three-fold distinction introduced by Haspelmath (2023 [this volume]) logically allows for seven possible combinations in a language (see Table 10). As we will see, not all of them are attested in our language sample.

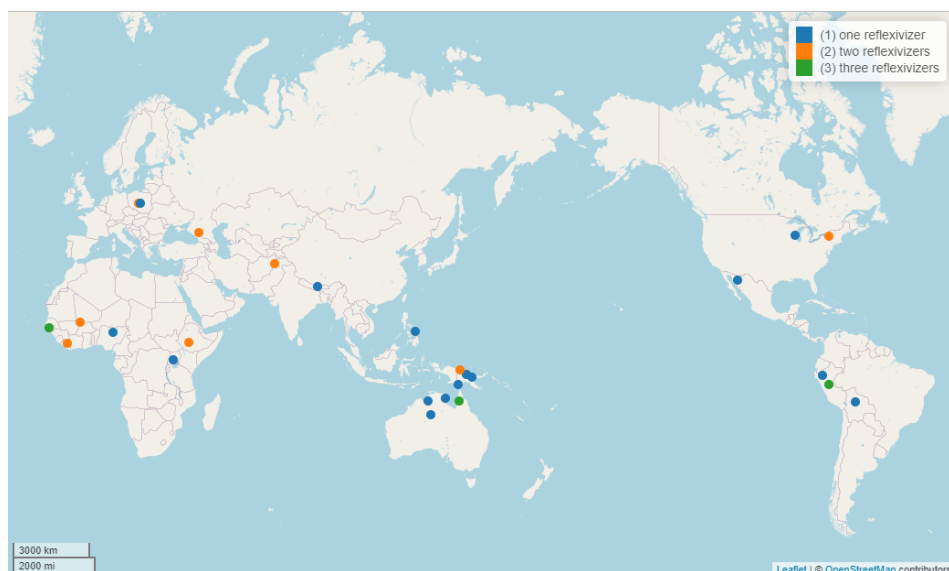
Table 11 lists the possible combinations of different types of reflexivizers detected in our sample.¹⁸

Both nominal and verbal reflexivizers are encountered in Kambaata (the reflexive noun *gag-á* ‘self’ vs. the middle voice marker *-aqq/-ʔ-*), Early Vedic (the reflexive nominal *tanú-* ‘body’ vs. the middle voice endings), and Kakataibo (the reflexive noun *nami* ‘body’ vs. the reflexive voice marker *-akat* and the middle marker *t*). Another combination involves a nominal and an argument marker reflexivizer. This type is illustrated by Abaza (the reflexive nominal *qa* ‘head’ vs. the reflexive argument marker *čə-*) and Walman (the reflexive nominal based on the word *ein* meaning ‘base of a tree, cause, reason’ vs. the reflexive argument marker *r-*). Another combination encountered in our sample involves the pronominal vs. argument marker distinction, which occurs in Polish (the reflexive pronominal *siebie* vs. the reflexive argument marker *się*). The last combination is based on the pronominal vs. verbal distinction. This situation is observed in Kuuk Thaayorre (i.e. the reflexive pronominal *ngathnay* ~ *ngathney* [1SG], *nhangk-nunt* [2SG], and *nhangnul* [3SG] vs. the reflexive voice suffix *-e* and the reciprocal voice suffix *-rr*).

¹⁸Table 11 contains Polish. Recall that this language has two reflexive forms: *się* and *siebie*, defined by Janic as voice and pronoun respectively. However, based on our discussion in §3.3.2, we approach the form *się* from a comparative perspective as an argument marker.

Table 7: Languages with one reflexivizer

| | Language | Family | Macroarea |
|-----|----------------------|--------------------------|------------|
| 1. | Hausa | Afro-Asiatic | Africa |
| 2. | Luganda | Atlantic-Congo | Africa |
| 3. | Thulung | Sino-Tibetan | Eurasia |
| 4. | Yiddish | Indo-European | Eurasia |
| 5. | Chini | Lower Sepik-Ramu | Papunesia |
| 6. | Nungon | Nuclear Trans-New Guinea | Papunesia |
| 7. | Komnzo | Yam | Papunesia |
| 8. | Waray | Austronesian | Papunesia |
| 9. | Jaminjung/Ngaliwurru | Mirndi | Australia |
| 10. | Warlpiri | Pama-Nyungan | Australia |
| 11. | Hooçak | Siouan | N. America |
| 12. | Yaqui | Uto-Aztecan | N. America |
| 13. | Aguaruna | Chicham | S. America |
| 14. | Anindilyakwa | Gunwinyguan | S. America |
| 15. | Mojeño Trinitario | Arawakan | S. America |



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Figure 4: Number of reflexivizers

Table 8: Languages with two reflexivizers

| | Language | Family | Macroarea |
|----|-------------|--------------------|------------|
| 1. | Bangime | Isolate | Africa |
| 2. | Kambaata | Afro-Asiatic | Africa |
| 3. | Mano | Mande | Africa |
| 4. | Abaza | Abkhaz-Adyge | Eurasia |
| 5. | Polish | Indo-European | Eurasia |
| 6. | Early Vedic | Indo-European | Eurasia |
| 7. | Walman | Nuclear Torricelli | Papunesia |
| 8. | Oneida | Iroquoian | N. America |

Table 9: Languages with three reflexivizers

| | Language | Family | Macroarea |
|----|----------------|----------------|------------|
| 1. | Jóola Fóoñi | Atlantic-Congo | Africa |
| 2. | Kuuk Thaayorre | Pama-Nyungan | Australia |
| 3. | Kakataibo | Pano-Tacanan | S. America |

Note that type 4 (+ nominal, + voice marker, + argument marker) and type 6 (– nominal, + voice marker, + argument marker) presented in Table 10 are unattested in our sample. Both patterns involve a reflexive voice marker and a reflex-

Table 10: Coexistence of different types of reflexivizers in a language

| | Reflexive | | |
|----|-----------|--------------|-----------------|
| | Nominal | Voice marker | Argument marker |
| 1. | + | – | – |
| 2. | – | + | – |
| 3. | – | – | + |
| 4. | + | + | + |
| 5. | + | + | – |
| 6. | – | + | + |
| 7. | + | – | + |

Table 11: Languages with different types of reflexivizer

| Language | Family | Macroarea | Types of reflexivizer |
|-------------------|--------------------|------------|--------------------------------|
| 1. Kambaata | Afro-Asiatic | Africa | noun, voice marker |
| 2. Abaza | Abkhaz-Adyge | Eurasia | noun, argument marker |
| 3. Early Vedic | Indo-European | Eurasia | noun, voice marker |
| 4. Polish | Indo-European | Eurasia | pronominal, argument marker |
| 5. Walman | Nuclear Torricelli | Papunesia | noun, argument marker |
| 6. Kuuk Thaayorre | Pama-Nyungan | Australia | pronominal, voice markers |
| 7. Kakataibo | Pano-Tacanan | S. America | noun, voice markers |

ive argument marker. The incompatibility of these two markers in the same language may be due to the fact they both occur on the verb, hence they may share some properties such as their tendency to be invariant. However, this question requires a further thorough investigation that we leave for future research.

Based on Table 11, we observe that a reflexive nominal appears systematically in a language with more than one reflexivizer. Consequently, we can formulate Generalization 3¹⁹ based on the types of reflexivizers in a language.

Generalization 3: If a language has different types of reflexivizers, one will always be a nominal.

Languages with more than one reflexivizer, i.e. combination 5 (+ nominal, + voice marker, – argument marker) and combination 7 (+ nominal, – voice marker, + argument marker) from Table 10, have already been discussed. Languages with one reflexivizer only, i.e. combination 1 (+ nominal, – voice marker, – argument marker), combination 2 (– nominal, + voice marker, – argument marker), and combination 3 (– nominal, – voice marker, + argument marker) from Table 10

¹⁹Reflexive nominals referring either to reflexive nouns or reflexive pronominals.

constitute the most common situation in our sample. Indeed, 15 (out of 26) languages are reported to have one reflexivizer (cf. Table 7).

Kazenin (2001: 926), who recognizes a two-fold “verbal” vs. “anaphoric” reflexive distinction, considers languages with a reflexive marker functioning as a valency-changing operator to be typologically rare. Based on Baker (1996: 51), he reports this situation in some polysynthetic languages such as Mohawk (Iroquoian). Our results slightly deviate from this observation. The reflexive voice marker is not as rare in our sample as might be expected. Five languages (out of 15 languages with one reflexive form, Table 7) employ a reflexive voice marker to signal coreference. These are listed in Table 12.²⁰

Table 12: Languages with one reflexivizer: voice marker

| Language | Family | Macroarea | Form |
|-------------------------|------------------|------------|-----------------|
| 1. Thulung | Sino-Tibetan | Eurasia | - <i>siŋ</i> |
| 2. Chini | Lower Sepik-Ramu | Papunesia | <i>nji-</i> |
| 3. Anindilyakwa | Gunwinyguan | Australia | - <i>jungwV</i> |
| 4. Jaminjung/Ngaliwurru | Mirndi | Australia | - <i>ji</i> |
| 5. Hoocąk | Siouan | N. America | <i>kii-</i> |

Languages reflecting combination 1 (+ nominal, – voice marker, – argument marker) from Table 10 are not rare in our sample either. Out of 15 languages with one reflexive form (cf. Table 7), five are reported to have a reflexive nominal. These are summarized in Table 13.

Finally, four languages corresponding to combination 3 (– nominal, – voice marker, + argument marker) from Table 10 are recognized in our sample. These are listed in Table 14.²¹ They express coreference of the agent and patient clause arguments through a reflexive argument marker.

²⁰We decided not to include in Table 12 the problematic case of Mojeño Trinitario whose reflexive form *-wo* can be approached from two different perspectives. Rose (2023 [this volume]) defines *-wo* as a middle voice marker, whereas from a comparative perspective which this chapter assumes, we treat this form as a reflexive argument marker (see §3.3.2).

²¹Table 14 contains two languages whose reflexivizers have unclear status in our comparative analysis. The first is Aguaruna. It has the reflexive form *m(a)/-mam(a)* that Overall (2023 [this volume]) treats as a voice marker. The second is Mojeño Trinitario. Rose (2023 [this volume]) defines the reflexive form *-wo* of this language as a middle voice marker. Recall that based on §3.3.2, we treat the reflexivizers of these two languages as reflexive argument markers. Hence, their presence in Table 14.

Table 13: Languages with one reflexivizer: nominal (noun or pronomi-
noid)

| | Language | Family | Macroarea | Type of reflexivizer |
|----|----------|--------------------------|------------|----------------------|
| 1. | Hausa | Afro-Asiatic | Africa | noun |
| 2. | Yiddish | Indo-European | Eurasia | noun |
| 3. | Nungon | Nuclear Trans New Guinea | Papunesia | pronomioid |
| 4. | Waray | Austronesian | Papunesia | noun |
| 5. | Yaqui | Uto-Aztecan | N. America | pronoun |

Table 14: Languages with one reflexivizer: argument marker

| | Language | Family | Macroarea |
|----|-------------------|----------------|------------|
| 1. | Luganda | Atlantic-Congo | Africa |
| 2. | Warlpiri | Pama-Nyungan | Australia |
| 3. | Aguaruna | Chicham | S. America |
| 4. | Mojeño Trinitario | Arawakan | S. America |

Komnzo (Döhler (2023 [this volume])) is the only language in our sample whose reflexivizer does not find a clear place in the three-fold typology of reflexivizers proposed by Haspelmath (2023 [this volume]) (see §3.5).

Kazenin (2001: 926) raises the question of the coexistence of verbal and anaphoric reflexivizers in a language. Their relationship can be historically based, where the anaphoric form is considered a source for the verbal reflexivizer, and frequently involves the middle domain. This is the case of many Indo-European languages, such as Russian *-s'/-sja* or Icelandic *-st* (see Kazenin 2001: 917 and Kemmer 1993: §5.2).²² However, Kazenin (2001) notices that such a situation is far from universal, and our data confirm this. The nominal reflexivizer *gag-á* ‘self’

²²Polish has the reflexive argument marker *się* and the pronomioid *siebie* that are also historically related. The form *się* is currently in an intermediate state, i.e. in the transition from the anaphoric to verbal category. At the formal level, *się* shares both nominal and verbal properties, whereas at the functional level, it fully manifests properties typical of the voice category. At a more general level, we can hypothesize that the reflexive argument marker *się* represents an intermediate grammaticalization stage between a reflexive nominal and a reflexive voice category. See Faltz (1985: 56–57) on the transition from nominal to verbal reflexivizers.

and the verbal middle morpheme *-aqq/-'* in Kambaata or the reflexive nominal *tanú-* and the middle voice ending in Early Vedic are not historically related.

5.2 Morphological variation of reflexivizers

From a morphological point of view, a reflexive form can be either variable or invariant. Reflexive voice markers are generally invariant in our sample (see Table 15). They do not agree with the noun with which they are coreferential. Among the languages from our sample, only the reflexive voice marker of Early Vedic²³ shows agreement with the subject argument in person and number. In addition, Early Vedic but also Jaminjung/Ngaliwurru show an interaction of the reflexive voice marker with TAM features.²⁴

Table 15: Morphological variation of the reflexive voice marker

| | Language | Form | Variable |
|-----|----------------------|------------------------|--------------------------|
| 1. | Kambaata | <i>-aqq/-'</i> | no |
| 2. | Thulung | <i>-siŋ</i> | no |
| 3. | Early Vedic | middle endings | yes: person, number, TAM |
| 4. | Chini | <i>nji-</i> | no |
| 5. | Anindilyakwa | <i>-jungwV</i> | no |
| 6. | Jaminjung/Ngaliwurru | <i>-ji</i> | yes: TAM |
| 7. | Kuuk Thaayorre | <i>-e, -rr</i> | no |
| 8. | Hooçak | <i>kii-</i> | no |
| 9. | Oneida | <i>-atat-, -at-</i> | no |
| 10. | Kakataibo | <i>-akat, -t</i> | no |
| 11. | Jóola Fóoñi | <i>-ɔɔr, -ɔ, -ɔɔrɔ</i> | no |

A comparable situation holds for reflexive argument markers. As shown in Table 16, all the reflexive arguments from our sample are invariant except in Polish and Warlpiri. In Polish, the reflexive form *się* can have a dative form *se*, which is limited to colloquial use (see Janic (2023: 3.2.2 [this volume]) on the dative use of the reflexive form *się*). In Warlpiri, the invariant form *=nyanu* is used for all persons with the exception of 1st person singular and 2nd person

²³Note that the reflexive voice marker of Early Vedic is inflectional, hence susceptible to having a variable character.

²⁴Examples (19–20) in §3.4 show the interaction between the reflexivizer and TAM in Jaminjung/Ngaliwurru and Early Vedic respectively.

singular in imperative clauses. In these cases, the accusative/dative form of the non-anaphor non-subject enclitic (respectively =*ju/ji* and =*ngku/ngki*) are used (see Laughren (2023 [this volume])).

Table 16: Morphological variation of the reflexive argument marker

| Language | Form | Variable |
|----------------------|--------------------------------|-----------------------------------|
| 1. Luganda | <i>éé-</i> | no |
| 2. Abaza | <i>čə-</i> | no |
| 3. Polish | <i>się</i> | yes: ACC/GEN, DAT |
| 4. Walman | <i>r-</i> | no |
| 5. Warlpiri | = <i>nyanu</i> /= <i>ju/ji</i> | yes: 1SG.ACC/DAT, 2SG.IMP.ACC/DAT |
| 6. Aguaruna | <i>m(a)/-mam(a)</i> | no |
| 7. Mojeño Trinitario | <i>-wo</i> | no |

The morphological variation is more pronounced for nominal reflexivizers, which include reflexive nouns and reflexive pronominals. Dixon (2012: 156) points out that variable reflexivizers generally differ in the categories they encode. Either these may include person, number, and case, or only one of these categories, or a restricted set of person/number specifications. Concerning reflexive nouns, inflection can be marked on the accompanying possessive form. In Waray, for instance, *kalugaríngon* ‘self’ is invariant, while the adpossession form *íya* is inflected for nominal features. A similar situation holds for Abaza *j-qa* and Walman *mnon ein*, in which grammatical features are marked only on the adpossession form. However, inflection can also involve the noun. This is observed in Early Vedic, where both the adpossession form *svá-* (if present) and the noun *tanú-* are inflected. Regarding other languages from our sample, the adpossession and noun are also inflected in Bangime, Hausa, and Kambaata. See Table 17 for the complete summary of our results.²⁵

The reflexive pronominals from our sample can be either variable (as in the majority of cases) or invariant, as in the case of Mano *ē* and Yiddish *zikh*. The variable forms can vary for person, number, and case. We have not detected any variation for gender among the pronominals. Table 18 summarizes our results.

Given Tables 15–18, we can organize the reflexivizers from our sample on a scale of morphological variation. See Figure 5.

²⁵The noun reflexivizer in Hausa and Abaza make a gender distinction in the 2nd and 3rd person singular, whereas in Walman, the reflexivizer distinguishes between gender only in the 3rd person singular.

Table 17: Morphological variation of the noun reflexivizer

| Language | Form | Features |
|----------------|-------------------------|--|
| 1. Bangime | <i>n̄=dēgè</i> | person, number |
| 2. Hausa | <i>kâ-n-shì</i> | person, number, gender |
| 3. Kambaata | <i>gag-á-s</i> | person, number, case, gender, honorificity |
| 4. Abaza | <i>j-qa</i> | person, number, case, gender |
| 5. Early Vedic | <i>(svá-) tanú-</i> | person, number, case |
| 6. Walman | <i>mnon ein</i> | person, number, case, gender |
| 7. Waray | <i>íya kalugaríngon</i> | person, number, case |
| 8. Kakataibo | <i>ain nami=bi</i> | |

Table 18: Morphological variation of the reflexive pronominoïd

| Language | Form | Variable | Features |
|-------------------|---------------------|----------|--------------------------|
| 1. Bangime | <i>mîi</i> | yes | person, number |
| 2. Mano | <i>ē</i> | no | nonapplicable |
| 3. Polish | <i>siebie</i> | yes | case |
| 4. Yiddish | <i>zikh</i> | no | nonapplicable |
| 5. Nungon | <i>ino</i> | yes | person, number |
| 6. Kuuk Thaayorre | <i>nhangnul</i> | yes | person (in the singular) |
| 7. Yaqui | <i>au, emo, omo</i> | yes | person, number |

| -variable | | +variable | |
|--------------|-----------------|-------------|-------------|
| voice marker | argument marker | pronominoïd | noun(-like) |

Figure 5: Morphological variation scale of reflexivizers

5.3 Distribution of nominal reflexivizers according to person

As we stated in §5.2, nominal reflexivizers are high on the morphological variation scale. The most studied parameter of variation of nominal reflexivizers is person. Reflexivizers are generally available for the 3rd person singular but not necessarily for the 1st and 2nd person. This idea has been expressed in Generalization 4, first by Faltz (1985: 42–43) and subsequently by Comrie (1999: 337), and is based on the Implicational Hierarchy 1.

Generalization 4: If a language has a reflexive pronoun, then this pronoun is used to indicate the coreference with the 3rd person antecedent but not necessarily with the antecedent in the 1st and 2nd person.

Implicational Hierarchy 1: 3 > 2&1

The opposite situation, in which coreference is signaled by a reflexive pronoun in the 1st or 2nd person but not in the 3rd person, would be highly unexpected (see Faltz 1985: 43). This is because the speech act clearly defines the referents of the 1st and 2nd person pronouns. Hence, there is no need to signal this by the additional use of a reflexive form. Our results are in line with this observation.

Faltz (1985: 119) subsequently proposes a more controversial version of Generalization 4, suggesting Generalization 5.

Generalization 5: If a reflexive pronominal is used in the nth person, then it is used in the (n+1)th person.

Generalization 5 logically implies Implicational Hierarchy 2.

Implicational Hierarchy 2: 3 > 2 > 1

According to Faltz (1985: 43), Implicational Hierarchy 2 has diachronic significance. It suggests that if a reflexive form extends from the 3rd to the 1st and 2nd person, then it extends first to the 2nd person and subsequently to the 1st person.

The majority of our languages remain in line with Implicational Hierarchy 1, and we do not have data providing evidence for Implicational Hierarchy 2. Only Bangime seems to contradict Generalization 4 (Implicational Hierarchy 1). It uses the set C of pronouns to express disjoint reference and the set D to indicate coreference (see Hantgan (2023: 3.1 [this volume])). However, the pronouns of set C and D are identical in all persons in the singular and the 2nd plural, but they differ in the 1st and 3rd person plural. Thus, at first sight, the same form of 3rd person is used to mark both disjoint reference, as in (32a), and coreference, as in (32b).

(32) Bangime (isolate; Hantgan (2023 [this volume]))

- a. \emptyset *dègū* *mīi*
 3SG.A hit.3SG.PFV 3SG.C
 ‘He/She_x hit him/her_y.’
- b. \emptyset *dègū* *mīi*
 3SG.A hit.3SG.PFV 3SG.D
 ‘He/She_x hit himself/herself_x.’

However, this could be classified as a case of homophony since the two forms of *mīi* formally belong to two different pronoun sets (C and D).

Generally speaking, if a reflexivizer is present in a language, it is used at least for the 3rd person. For other persons, several options are possible. We distinguish three main types of situations in our language sample based on Faltz (1985) and Puddu (2010). They refer to the marking of the person in reflexive pronominals.

The first situation involves languages that use a reflexivizer only for the 3rd person. Faltz (1985) observes that a reflexivizer used only in the 3rd person is “functionally streamlined” because it appears only to salvage the case of an NP whose reference cannot be otherwise specified. Mano in (33) illustrates this case. The language has a dedicated reflexive pronoun *ē*, which is used with 3rd singular antecedents within the same minimal finite clause (i.e. a clause that does not contain a subordinate clause). Example (33a) illustrates this point. For other persons and numbers, basic personal pronouns are used instead, as shown in (33b).

(33) Mano (Mande; Khachaturyan (2023 [this volume]))

- a. *ē* *ē* *gīi*
 3SG.PST 3SG.REFL wound
 ‘She wounded herself.’
- b. *kō* *kō gīi*
 1PL.PST 1PL wound
 ‘We wounded ourselves.’

Another situation concerns languages that employ the same reflexive form for all persons. According to Faltz (1985), an all-person reflexive is “strategically streamlined” in a sense that even if it may be redundant in some cases, the subject-object coreference is always marked whenever present. This is the case of Standard Yiddish *zikh* (as opposed to Central Yiddish) (Luchina (2023 [this volume])) and Polish *się* and *siebie*, (34), from our sample (Janic (2023 [this volume])).

(34) Polish (Indo-European; Janic (2023 [this volume]))

- a. *Marek szanuje tylko siebie.*
 Marek.NOM respect.PRS.3SG only SELF.ACC
 ‘Marek respects only himself.’
- b. *Często mówicie do siebie na głos.*
 often talk.out.PRS.2PL to SELF.GEN on voice.SG(M).ACC
 ‘You often talk out loud to yourselves.’

The last situation concerns the languages in which a different reflexive marker is available for all persons and numbers. In such a case, Puddu (2010: 389) proposes a “paradigmatic principle” that governs languages such as English or Classical Greek where a different reflexive marker is available for all persons and numbers building a paradigm analogous to personal pronouns. In our sample, this is the case with Nungon *ino* and Yaqui *emo* (see Sarvasy (2023: §2 [this volume]) and Guerrero (2023: §2.2 [this volume]) for the full paradigms).

There are also several “in-between” patterns that deserve special attention. For instance, in Bangime, the same form *mī* (set D) is used for all persons except the 1st singular and the 2nd person singular and plural. Kuuk Thaayorre has only singular reflexive pronouns: 1st person *ngathnay*, 2nd person *nhangknunt*, and 3rd person *nhangnul*. Interestingly, dual and plural reflexive pronouns are not replaced by the corresponding non-reflexive object pronouns in this language. Rather, the verbal reflexivizer (i.e. the verbal reciprocalizer) or a lexical reflexive verb are used instead. Finally, in Warlpiri, the enclitic *=nyanu* is used for all persons but the 1st singular and the 2nd singular in imperative clauses.

It has already been noted in several studies that reflexive forms can diachronically extend from one person, especially from the 3rd person, to others (see e.g. Faltz 1985). This has been reported for the reflexes of **se-* in several Indo-European languages. In many Romance varieties, as in Campidanese Sardinian, the original Latin reflexive *se* extended to other persons, especially in the plural (see Benincà & Poletto 2005 and de Benito Moreno 2015). As for the Germanic sub-branch, **sik* has extended to all persons in some languages. Icelandic and Standard Yiddish are cases in point. The same tendency can be observed in Yaqui (Uto-Aztecan), where *emo*, as one can read in Guerrero (2023: 2.2 [this volume])’s chapter, is gradually extending its use to all persons. It is worth mentioning that the extension of the 3rd person pronouns to other persons has also been taking place in other languages from the Uto-Aztecan family, including Pima (see also Faltz 1985: 120–121).

6 Conclusions

In this chapter, we have applied Haspelmath (2023 [this volume])'s classification of reflexive constructions to the languages of the present volume. We also checked whether generalizations proposed in the literature hold for our data and formulated new generalizations.

The tripartite classification of reflexivizers into reflexive nominals, reflexive argument markers, and reflexive voice markers contrasts with a more traditional, two-fold distinction of reflexivizers into “verbal” and “nominal” types. The innovative, tripartite classification by Haspelmath (2023 [this volume]) proves useful in crosslinguistic analyses but raises some issues when applied to language-specific descriptions (see §3.3.2). This challenge was particularly apparent in the case of Polish, Aguaruna, and Mojeño Trinitario, whose analyses of reflexivizers reflected the well-known and ongoing debate about how to reconcile comparative research with language-specific description (see “Discussion” 2016 of *Linguistic Typology* and the papers in Alfieri et al. 2021, among others). Another issue related to the tripartite classification by Haspelmath (2023 [this volume]) was that some reflexivizers did not find a clear place, such as the one from Komnzo (§3.5).

Data from our sample generally confirmed well-known generalizations about reflexive constructions, revealing at the same time unexpected features. First, most of the languages from our sample have a special form to signal the coreference between two participants of the minimal clause. This observation confirms Generalization 1, based on Comrie (1999: 341). Only two (out of 28) languages lack a reflexivizer. These are Kazym Khanty and Zenzontepec Chatino. However, as expected, these languages can still disambiguate coreference from disjoint reference, for instance, through context or non-grammaticalized markers. Information structure is thus essential in these two languages as it contributes to reference disambiguation.

Moreover, according to what was predicted in the literature (see Haspelmath 2008: 47), the majority of the languages from our sample have either one or two reflexivizers. In comparison, languages with three reflexivizers are rare. Only Jóola Fóoñi, Kuuk Thaayorre, and Kakataibo were reported to have three reflexivizers. Nominal reflexivizers (including reflexive nouns and pronominals) are more common than reflexive argument markers and reflexive voice markers. Based on our results, we formulated Generalization 3 related to this topic, according to which languages with different reflexivizers should have at least one reflexivizer of the nominal type. Given, however, that the dominance of nominal reflexives is not very strong in our sample and that languages with voice markers

and argument markers are also well represented, these results shed new light on the dominating presence of nominal reflexives in languages and deserve further investigation.

The three types of reflexivizers are present in all six macroareas, i.e. Africa, Eurasia, Papunesia, Australia, North America, and South America. As for noun reflexivizers, body parts are confirmed to be their primary source. However, we have detected an unexpected source in Walman: ‘base of a tree, cause, reason’, which has not been mentioned in the literature so far.

Based on the analysis of reflexive nouns, we formulated Generalization 2 which concerns the presence and absence of adpossessive forms with noun reflexivizers. According to this generalization, if a language has a reflexivizer composed of a nominal and a bound possessive person form, the possessive is obligatory. Regarding pronominals, in contrast to what was observed in the literature (i.e. Haspelmath (2023: §6.4 [this volume])), they are not necessarily rare in our language sample. Reflexive pronominals are found in seven (out of 26) languages. Furthermore, the investigation of reflexive voice markers confirmed that when this type of reflexivizer results from a derivational process, it tends to be realized as a suffix or prefix (Dixon 2012: 172). The well-known fact that reflexive voice markers that have rich coexpression patterns are more frequent than those expressing only the coreference meaning also found confirmation in our data (Kazenin 2001: 920). We have no example of a language in which a reflexive voice marker only encoded coreference. The analysis of reflexive voice markers further confirmed that they manifest significant similarities regarding coexpression patterns, the latter frequently covered by the associated middle domain (see Kemmer 1993: §2.1).

Finally, morphological variation is typical of nominal reflexivizers, while reflexive argument markers and voice markers tend to be invariant with some interesting in-between cases. For instance, the voice marking of Early Vedic shows agreement with the subject argument in person and number.²⁶ It also interacts with TAM features. The analysis of the reflexive voice marker of Jaminjung/Ngaliwurru showed that this form also interacts with TAM features. Moreover, the argument marker of Polish is currently undergoing grammaticalization in the direction of a voice marker. Even if it already displays an advanced degree of grammaticalization through passive, antipassive, and impersonal derivations, its dative form *se* is still present and widely used in the language (Table 16 in

²⁶This morphological variation may, however, result from the inflectional rather than derivational character of the voice marker in Early Vedic.

§5.2).²⁷ Last but not least, our data confirmed Generalization 4 proposed by Faltz (1985: 42–43) and Comrie (1999: 337) stating that if a language has a reflexivizer, it must be used for 3rd person singular, from where it can further extend to other persons.

In the present chapter, we focused primarily on the formal aspect of reflexive constructions. Due to limited space, we dedicated little attention to their functional aspects, mentioning only their coexpression patterns. Furthermore, we did not discuss different reflexive constructions like oblique, adpossessionive, or long-distance. These are interesting on their own and open an avenue for further research that we plan to undertake in the nearest future to arrive at a better understanding of reflexive constructions.

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Abbreviations

This chapter follows the Leipzig Glossing Rules (Comrie et al. 2008). Additional abbreviations used are:

²⁷See Janic (2023 [this volume]) for a brief discussion of the productive use of dative *się* in colloquial speech in Polish.

| | | | |
|----------|----------------------------------|----------|---------------------------------------|
| ACT | active | PT | particle |
| ANA | anaphoric demonstrative | PLURACT | pluractional |
| ANAPH | anaphor | PNC | punctual aspect |
| EGO | speaker authority | RDP | reduplication |
| FACT | factual mode | RECPST | recent past |
| FI | feminine-indefinite | REM.PST | remote past |
| FV | final vowel | REP | reportative |
| JOIN | joiner vowel | SBD | subordinator |
| INCL | inclusive (1PL) | SEMIREFL | semi-reflexive |
| INT | intensifier | SEQ | sequential ('then') |
| MID | middle | SI | subject index |
| MIN | minimal | SPON | spontaneous mood |
| NAR | narrative | STV | stative aspect |
| NH | non-human | TLOC | translocative |
| NON.PROX | non-proximal to the addressee | TPLZ | directionality topicalizer |
| NPST | nonpast | VEG | vegetable noun class |
| PC | paucactional verbal number | WITH | oblique (comitative or instrument) |
| PPF | pre-prefix | | |

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