Chapter 2

Comparing reflexive constructions in the world's languages

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The past four decades have seen a lot of new research on reflexive constructions that goes far beyond the earlier literature, and a variety of technical terms have been used. The divergent frameworks have made some of this literature hard to access. This paper provides a nontechnical overview of the most important kinds of phenomena in the world's languages and offers a coherent conceptual framework and a set of cross-linguistically applicable technical terms, defined also in an appendix. I also explain other widely used terms that do not form part of the present conceptual system (defined in another appendix). The paper begins with a definition of the most basic term (*reflexive construction*) and then moves to types of reflexivizers (reflexive pronouns and reflexive voice markers), as well as syntactic concepts such as ranks and domains. I also briefly discuss obviative anaphoric pronouns and antireflexive marking. Finally, I introduce the distinction between discourse-referential and co-varying coreference. The general philosophy is that we will understand general questions about reflexive constructions (i.e. questions not restricted to the language-particular level) only when we know what is universal and what is historically accidental, so there is also an appendix that lists some possible universals of reflexive constructions.

1 Reflexive constructions

This paper starts out from the presupposition that the comparison of reflexive constructions in the world's languages must be based on a clear definition of the term REFLEXIVE CONSTRUCTION as a comparative concept, as well as a range of

additional technical terms (summarized in Appendix B). I begin with the definition in (1), which I think is largely in line with current usage and is at the same time sufficiently clear for rigorous cross-linguistic comparison.

(1) Reflexive construction
   A reflexive construction is a grammatical construction
   (i) that can only be used when two argument positions of a clause require coreference
   (ii) and that contains a special form (a reflexivizer) that signals this coreference.

Some examples of reflexive constructions are given in (2a–2c).

(2) a. Lithuanian
      Aš prausi-uo-s.
      I   wash-1SG-REFL
      'I wash (myself).'
   b. French
      Asma₁ parle d' elle-même₁.
      Asma talks of her-REFL
      'Asma talks about herself.'
   c. Malay (Austronesian; Cole et al. 2006: 25)
      Ahmat₁ tahu [Salmah₂ akan membeli baju   untuk dirinya₁/₂].
      Ahmat know Salmah FUT buy   clothes for   REFL.3SG
      'Ahmat (M) knows that Salmah (F) will buy clothes for him/herself.'

In (2a) from Lithuanian, the washer and the washed must be the same person, and the verb shows a REFLEXIVE VOICE MARKER. In (2b) from French, the subject *Asma* and the REFLEXIVE PRONOUN *elle-même* must likewise be coreferential. By contrast, a NONREFLEXIVE PERSONAL PRONOUN like *elle* 'she' would give rise to a DISJOINT-REFERENCE interpretation here, indicated in the examples by a different subscript number (*Asma₁ parle d'elle₂* 'Asma talks about her'). Disjoint reference means that the pronoun is not coreferential with the subject, and does not even have overlapping reference. In (2c) from Malay, the form *dirinya* must be coreferential either with the subject of its minimal clause (*Salmah*) or with the subject of the matrix clause (*Ahmat*). The participant with which the anaphoric pronoun is coreferential is called its ANTECEDENT.

In the remainder of this paper, I will first discuss the two conditions of the definition in §1 further (§2–§3), before introducing a number of additional comparative concepts that are important for comparing subtypes of reflexive constructions (§4–§13). Along the way, I will illustrate the most important types of reflexive constructions from a wide range of languages, and I will mention a few generalizations.

The wider research programme in which this paper is embedded is the study of Human Language through the identification of common grammatical traits in the world's languages (Greenberg 1963, and much subsequent work). Importantly, this line of research does not aim to contribute to elegant language-particular analyses, let alone to descriptions of the speakers' mental grammars. When other linguists adopt very different perspectives in studying reflexive constructions, this is often motivated by additional goals (such as elegant description, mental description, or even the study of innate grammatical knowledge). Appendix A lists a number of proposed universals (primarily to illustrate the need for the technical terms developed throughout the paper), while Appendixes B and C contain lists of terms with definitions and some further discussion. The definitions are important in order to allow us to identify the common grammatical traits of the world's languages independently of innatist claims, and ideally, we would have standard definitions of many commonly used terms (Haspelmath 2021).

For other surveys of reflexive constructions in the world's languages, see Faltz (1977),[1] Geniušienė (1987), Huang (2000), Dixon (2012: Ch. 22), and Everaert (2013).

2 First condition: Coreference among two argument positions

Reflexive constructions express coreference between two clausal positions. These need not be expressed as overt arguments. In verb-marked constructions like Lithuanian *prausiuo-s* ('I wash', 2a above), there is only a single expressed argument which can be said to bear both semantic roles (agent and patient), and thus to represent both notional argument positions.

More generally, the antecedent of an anaphoric pronoun need not be overtly present but can be inferred from the context. This happens in languages where the subject participant need not be overt, as illustrated in (3).

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[1]This old dissertation is still very readable.

(3) Polish (Janic 2023 [this volume])
   Widziała siebie   w lustrze.
   she.saw   self.ACC in mirror
   'She saw herself in the mirror.'

There is no reason to assume that the subject is present in the syntax of languages like Polish, so the condition on coreference is best formulated in semantic terms, with respect to semantic participant positions rather than syntactic arguments (see also Jackendoff 1992).[2]

3 Second condition: A special form that signals coreference

The second condition mentioned in (1) is that reflexive constructions must contain a special form signaling coreference. Thus, the constructions illustrated in (4–5) are not regarded as reflexive constructions, even though they can only be used when there is coreference of two participants.

(4) *He undressed.*

(5) *She wants to sing.*

In (4), it is clear from the meaning of the verb and from the construction that the two participants of *undress* (the undresser and the undressed) are coreferential, and in (5), the animate participant of *want* (the wanter) and the participant of *sing* (the singer) are coreferential. But there is no special form that signals the coreference, so these are not reflexive constructions (see Giomi 2021: §3).[3] (Below in §12 I say more about coreference constructions that are not reflexive constructions.)

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[2]Note also that the coreference may be PARTIAL (e.g. *I exploit us*, Hampe & Lehmann 2013), or the antecedent may be SPLIT (see Volkova (2017) on situations like *Petja₁ showed Ivan₂ themselves₁₊₂ on the photo*, which is possible with one type of reflexive pronoun in Meadow Mari). The opposite of coreference is DISJOINT REFERENCE, which excludes partial or split coreference.

[3]Linguists have often found it useful to have different terms for grammatical meanings and corresponding grammatical markers or constructions, e.g. *recipient* vs. *dative*, *question* vs. *interrogative*, *sex* vs. *gender*, *time* vs. *tense*, *speech-act role* vs. *person*, *property concept* vs. *adjective*, *causal* vs. *causative* (Haspelmath 2021), and *mutual* vs. *reciprocal* (Haspelmath 2007). There are of course some authors who call cases like (4) "reflexive" (e.g. Reinhart & Reuland 1993), but I find it clearer to reserve the term *reflexive* to (constructions with) special forms that signal coreference (cases like 4 may be called "unmarked autopathic verbs"; see §8).

4 Coreference within the clause can be expressed in other ways

Reflexive pronouns like French *elle-même* and English *herself* have often been discussed in the general context of ANAPHORA, i.e. the use of linguistic forms or constructions to signal coreference within the discourse or within a clause. But reflexive pronouns are not the only way in which anaphoric reference can be expressed. All languages also have nonreflexive anaphoric pronouns like English *he/she/they*, whose use is also often syntactically conditioned.

Nonreflexive anaphoric pronouns may often refer to participants in the non-linguistic context (as in 6a), and they may be coreferential with participants in the discourse (as in 6b).[4]

(6) a. (watching a politician$_1$ talk:) *I disagree with her$_1$.*

  b. *Angela Merkel$_1$ has been chancellor for too long. Many people think that she$_1$ should go.*

But in addition, we often find syntactic conditions on anaphoric pronouns that have interested many syntacticians since the 1960s (e.g. Langacker 1969). In many or most languages, a nonreflexive anaphoric pronoun in object or oblique position cannot be coreferential with the subject of its clause, as can be illustrated from English in (7).[5]

(7) a. * *Pedro$_1$ admires him$_1$.*

  b. * *Angela Merkel$_1$ was astonished by her$_1$.*

Instead, English must use a special set of REFLEXIVE PRONOUNS, i.e. anaphoric pronouns that are specialized for coreferential use within a clause. But other languages can use their nonreflexive pronouns also for coreference with the subject.[6] This is well-known for Old English, (8), and the same has been reported for several creole languages (e.g. Haitian Creole in 9) and for several Austronesian languages (e.g. Jambi Malay in 10) (Huang 2000: 222 gives a longer list of such languages).

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[4]There are interesting pragmatic conditions on such EXOPHORIC (6a) and ENDOPHORIC (6b) uses of personal pronouns (cf. Ariel 1990, 2001), but for reflexive constructions, they play no role, and only grammatical conditions on anaphora are considered in the present paper.

[5]Anaphoric pronouns like English *him/her* are also called OBVIATIVE (§10).

[6]Note that in this paper, the term *subject* is used in the sense 'S- or A-argument', and *object* in the sense 'P-argument or R-/T-argument' (cf. Haspelmath 2021).

(8)   Old English (König & Vezzosi 2004: 232)
    þa   behydde Adam$_1$ hine$_{1/2}$.
    then hid   Adam   him
    'Then Adam hid himself.' OR: 'Then Adam hid him.'

(9)   Haitian Creole (French-based Creole; Déchaine & Manfredi 1994: 203)
    Yo   wè   yo.
    they see they
    'They saw them.' OR: 'They saw themselves.' (OR: 'They saw each other.')

(10)   Jambi Malay (Austronesian; Cole et al. 2015: 147)
    Dio$_1$ cinto dio$_{1/2}$.
    he   love he
    'He loves him.' OR: 'He loves himself.'

Such anaphoric forms are not considered reflexive pronouns (and the constructions are not reflexive constructions) because they can also be used when there is no coreference within the clause.

Additionally, ordinary 1st and 2nd person pronouns can often be used subject-coreferentially, as in German in (11). And in some languages, the same nominal can be repeated with identical reference in the same sentence, as has been reported for Zapotec of San Lucas Quiaviní in (12).

(11)   German
    Gestern   habe ich$_1$ mich$_1$ im Fernsehen gesehen.
    yesterday have I   me   on television seen
    'Yesterday I saw myself on television.' (Lit. 'I saw me.')

(12)   San Lucas Quiaviní Zapotec (Otomanguean, Mexico; Lee 2003: 84)
    R-yu'làòa'z Gye'eihlly Gye'eihlly.
    HAB-like   Mike   Mike
    'Mike likes himself.' (Lit. 'Mike likes Mike.')

Unlike (8–10), these sentences are unambiguously subject-coreferential, but they are not reflexive constructions either, because they do not involve any special forms.

In the literature, following the tradition of Reinhart (1976), Reinhart (1983b), and Chomsky (1981), the syntactic conditions on clause-internal coreference are often treated under the heading of "binding" (using a term borrowed from mathematical logic), and there is a substantial and highly complex literature in this

tradition (e.g. Everaert 2003; Büring 2005; Truswell 2014).[7] For the purposes of cross-linguistic comparison, it seems best to avoid the term "binding" and to talk about COREFERENCE (for anaphoric relations in the broadest sense) and SUBJECT-COREFERENTIAL uses of anaphoric forms (for anaphoric relations between the subject and an anaphoric pronoun).[8]

5 Types of reflexivizers

Reflexive constructions always include some special form that signals the impossibility of the disjoint-reference interpretation. Such forms are called REFLEXIVIZERS here, and three main types are distinguished: REFLEXIVE NOMINALS (§5.1), REFLEXIVE VOICE MARKERS (§5.2), and REFLEXIVE ARGUMENT MARKERS (§5.3). These are defined and exemplified in this section (see Giomi 2021: §2 for a similar recent taxonomy). In the final subsection (§5.4), I briefly mention other kinds of reflexive constructions which do not fall into the three main types.

5.1 Reflexive nominals (or pronouns)

The most prominent type of reflexivizer is what would ideally be called REFLEXIVE NOMINAL, illustrated in (13). Such forms are often called *reflexive pronouns*, and some of them are sometimes called "reflexive nouns".

(13) a. English
          They criticized ***themselves***.
      b. Basque (Evseeva & Salaberri 2018: 400)
          Geu-re ***buru-a*** *engaina-tzen d-u-gu.*
          we-GEN head-DEF deceive-IPFV 3.ABS-TR-1PL.ERG
          'We deceive ourselves.'

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[7]*Binding* is typically defined as syntactic coindexing of two elements X and Y when X c-commands Y. Note that "bound" elements in this sense may or may not be reflexive pronouns, and may or may not have a co-varying interpretation (involving (semantic) BOUND VARIABLE ANAPHORA, §13). Coreferential forms may or may not involve syntactic binding, and co-varying interpretations may or may not involve syntactic binding. The relationship of syntactic binding to coreference, to reflexive and nonreflexive pronouns, and to pronoun interpretation is thus quite indirect (and often unclear, given the problems with determining c-command that are mentioned in §7). None of these problems exist when one avoids the term *binding*.

[8]It should be noted that the term *coreference* has also been used more narrowly, for discourse coreference excluding co-varying interpretations (as in *Every woman₁ loves her₁ dog*); for more on the two subtypes of coreference, see §13.

c. Egyptian Arabic, (Afro-Asiatic)
   *Šaaf-it   **nafsa-ha.***
   saw-3sg.f self-3sg.f.poss
   'She saw herself.'

d. Modern Greek (Everaert 2013: 202)
   *O   Pétros aghapái **ton eaftó tu.***
   the Petros loves   def self 3sg.poss
   'Petros loves himself.' (Lit. 'Petros loves his self.')

e. Tukang Besi (Austronesian; Donohue 1999: 418)
   *O-pepe-'e   **na   karama-no** te   ana.*
   3.real-hit-3.obj nom self-3.poss core child
   'The child hit himself.'

The term *reflexive nominal* emphasizes that in many languages, these forms behave like full nominals, e.g. in that they can take a definite article (as in Basque, 13b), an adpossessive person index (as in Egyptian Arabic, 13c), or both (as in Modern Greek, 13d).

The term REFLEXIVE NOMINAL would be ideal for these forms because what they share is that they can occur in the regular object position (as P-argument, as in 13a–13e) and as adpositional complements, as in (14a–14b). But since the term *reflexive pronoun* is also very widespread and unambiguous, I use the two terms interchangeably.

(14) a. English
      *They talked about **themselves**.*

   b. Basque
      *Bere **buruari** buruz hitz egin zuten.*
      their heads   about talk do aux.3pl.pst
      'They talked about themselves.'

Moreover, these forms can normally occur in isolation, e.g. in elliptical answers (*Who did they talk about? Themselves*). In this regard, reflexive nominals are like full nominals, and crucially distinct from person indexes (Haspelmath 2013), which are bound (i.e. do not occur in isolation) and usually cannot occur equally as objects and as adpositional complements. More on subtypes of reflexive nominals and their properties will be said below in §6.

5.2 Reflexive voice markers

A reflexive voice marker is a verbal affix that indicates the coreference of two participants of a verb. While this is not logically necessary, it is in fact always an object participant that is coreferential with the subject participant. Most often, the reflexive voice marker occurs on the verb stem, as in (15a–15d).

(15)   a.   Turkish (Turkic)
           *kurula-**n**-dı-m*
           dry-REFL-PST-1SG
           'I dried myself'

       b.   Thulung (Sino-Tibetan; Lahaussois 2016: 54)
           *Memma thʌ-**si-m**   sintha koŋŋa je.*
           then   hide-REFL-SUFF night only   come.out
           'Then he hides (himself) and only comes out at night.'

       c.   Hebrew (Afro-Asiatic; Reinhart & Siloni 2005: 390)
           *Dan **hit**-raxec.*
           Dan REFL-washed
           'Dan washed (himself).'

       d.   Kolyma Yukaghir (Yukaghir, Siberia; Maslova 2003: 227)
           *Tudel **met**-juø-j.*
           he   REFL-see-3SG.INTR
           'He is looking at himself.'

But occasionally, the reflexive voice marker is cumulated with (=expressed as the same marker as) a person marker, as in Modern Greek, (16).

(16)   Modern Greek

       a.   *xteníz-**ome***
           comb-1SG.REFL
           'I am combing (myself, my hair)'

       b.   *xteníz-**ese***
           comb-2SG.REFL
           'you are combing (yourself, your hair)'

Finally, the reflexive voice marker may occur in a peripheral position, outside of a tense affix, as in Panyjima (17a), and additionally outside a subject number affix, as in Russian (17b) (and in Lithuanian, as in 2a above).[9]

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[9]A pattern of this type also exists marginally in English, with the prefix *self-* (e.g. *she self-medicates*).

(17) a. Panyjima (Pama-Nyungan; Dench 1991: 160)
      *Ngatha wirnta-rna-**pula** jina.*
      1SG.NOM cut-PST-REFL   foot
      'I cut myself in the foot.'

    b. Russian
      *My my-l-i-**s**'.*
      we wash-PST-PL-REFL
      'We washed (ourselves).'

In many languages with reflexive voice markers, these are not as general as typical inflectional markers, and they are often regarded as derivational, because they may be restricted and unproductive. Verbs with reflexive voice markers are therefore often called REFLEXIVE VERBS.

Reflexive voice markers are not always easy to distinguish from reflexive argument markers, which are discussed next.

5.3 Reflexive argument markers

In some languages, a reflexive form is very similar to object person indexes in that it occurs in the same paradigmatic slot as the person index and cannot cooccur with a person index of the same role. Some examples are given below, (18–20), where a nonreflexive 3rd person index is contrasted with a reflexive person index.

(18) French

    a. *Il **la** voyait.*
      he 3SG.F saw
      'He saw her.'

    b. *Il **se** voyait.*
      he REFL saw
      'He saw himself.'

(19) Swahili (Atlantic-Congo)

    a. *a-li-**m**-kata*
      3SG-PST-3SG.OBJ-cut
      'she cut him'

    b. *a-li-**ji**-kata*
      3SG-PST-REFL-cut
      'she cut herself'

(20) Abkhaz (Abkhaz-Adyge; Hewitt 1979: 77, 105)

    a. ***bǝ-z-bò-yt'***
        2SG.OBJ-1SG.SBJ-see-FIN
        'I see you'

    b. ***lçǝ-l-š-we-yt'***
        REFL.F-3SG.F.SBJ-kill-DYN-FIN
        'she kills herself'

Person indexes like the French proclitic (or prefix) *la-*, the Swahili prefix *m-*, and the Abkhaz prefix *bǝ-* are crucially different from independent personal pronouns in that they cannot occur in isolation, but are bound to the verb (or occur in a special slot for second-position clitics) (see Haspelmath 2013). They are thus not nominals (=reference-performing expressions that can occur in isolation), and they contrast with full nominals and independent personal pronouns. The forms *se, ji-* and *lçǝ-* in the examples above are different from the voice markers in §5.2 in that they occur in the same slot and in complementary distribution with person indexes, so they can be treated as argument indexes, even though they do not (necessarily) vary for person. The Abkhaz reflexive argument index does vary for person (*sçǝ-s-š-we-yt* 'I kill myself'), but the Swahili prefix *ji-* does not (*ni-li-ji-kata* 'I cut myself'),[10] and the French *se* occurs only in the 3rd person.[11]

Some authors have claimed, especially for French and other Romance languages, that constructions such as *il se voit* should be treated as intransitive (e.g. Reinhart & Siloni 2005: §2.1; Creissels 2006: 27–28), and that French *se* should not be regarded as an object clitic, but as a voice marker. This is based on a number of additional characteristics of the construction that go beyond the simple form paradigm (e.g. their behaviour in verb-subject and causative constructions) and can thus hardly be used in cross-linguistic comparison.[12] But it needs to be admitted that the criterion of "occurrence in the same slot" may not always be clearly applicable (e.g. when different object indexes occur in different slots).

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[10]See also Déchaine & Wiltschko (2017a: §4) on *zvi-* in Shona (another Bantu language), which works very similarly.

[11]French allows 1st and 2nd person object indexes to be used subject-coreferentially (e.g. *je me vois* 'I see myself'). This seems to be rare in the world's languages: Paradigms with subject and object indexes typically have gaps in all the coreferential paradigm slots (cf. Hampe & Lehmann 2013).

[12]Doron & Rappaport Hovav (2009) provide a rich set of arguments against Reinhart & Siloni's (2005) claims. Their view, that French *se* should be analyzed as an "anaphor", is more in line with the classification chosen here. But it should be kept in mind that I do not treat typological classifications as "analyses", and that "arguments" which go beyond the definitional properties are not relevant for the classification.

5.4 Other types of reflexive constructions

The great majority of reflexive constructions that have been reported in the literature and that have been called "reflexive" belong to one of the three types seen so far, and the great majority of languages have been reported to have either reflexive nominals or reflexive voice markers or both. But there are other construction types which are attested occasionally, and which are mentioned here briefly.

The first case is a construction in which it is not the lower-ranked anaphoric form that indicates the coreference, but the subject antecedent. According to Bowden (2001: 166), Taba has "an invariant reflexive particle *do* which occurs as an attribute of the Actor nominal, and which indicates that the Actor of the verb is coreferential with the Undergoer of the same verb". This is illustrated in (21).

(21)　Taba (Austronesian, Indonesia; Bowden 2001: 166)

　　a.　*I　**do**　n=wet　i.*
　　　　3SG REFL 3SG=hit 3SG
　　　　'He hit himself.'

　　b.　*Yak **do**　k=alcoma-k　　yak surat.*
　　　　1SG REFL 1SG=send=APPL 1SG letter
　　　　'I am sending myself a letter.'

If this construction were restricted to personal pronoun subjects, it would be a reflexive pronoun that is an exception to the rank scale generalization (discussed below in §7), but Bowden's description does not report such a restriction.

A related construction uses a kind of "bipartite reflexive pronoun" which bears the flagging of both the antecedent and the position in which the anaphoric pronoun occurs. This has been documented for a number of Dagestanian languages, e.g. Avar, (22).

(22)　Avar (Nakh-Daghestanian; Testelets & Toldova 1998: 45)
　　*ʕali-ca **žin-ca-go**　　**ži-w-go**　　l"uk"-ana.*
　　Ali-ERG self-ERG-EMPH self-M-EMPH hurt-AOR
　　'Ali hurt himself.'

Here the first part of the bipartite element (*žin-ca-go ži-w-go*) bears the ergative case of the antecedent nominal (the subject), and the second part is in the absolute case, as is appropriate for the role of the pronoun. This can probably be regarded as a type of reflexive pronoun, though the case-form of the first part

links it closely to the antecedent, and thus makes it look somewhat like the case of Taba mentioned in the preceding paragraph.

In some languages, an adverbial expression (meaning 'alone' or 'again') that is not closely associated with an argument expression can indicate coreference of the object with the subject. This might be called a REFLEXIVE ADVERB. An example comes from an Austronesian language in (23).

(23)   Fagauvea (Polynesian; Moyse-Faurie 2008: 138)
       E   ***hage*** *matea ie   ia   a   cica.*
       IPFV alone admire ABS 3SG ART dad
       'Dad admires himself.'

Finally, I should briefly mention LOGOPHORIC PRONOUNS, which indicate coreference between a participant of an embedded clause and the subject (or another prominent participant) of the matrix clause. Consider the contrast in (24a–24b), where coreference is indicated by *inyemeñ*, and disjoint reference by the nonlogophoric pronoun *woñ*.

(24)   Donno So (Dogon; Culy 1994: 1056)

       a. *Oumar* [*Anta inyemeñ   waa be*] *gi.*
          Oumar Anta LOGOPHOR.ACC seen AUX said
          'Oumar$_1$ said that Anta$_2$ had seen him$_1$.'
       b. *Oumar* [*Anta woñ   waa be*] *gi.*
          Oumar Anta him.ACC seen AUX said
          'Oumar$_1$ said that Anta$_2$ had seen him$_3$.'

Such pronouns are not normally treated as reflexive pronouns, though by the definition that I have given so far, they should be regarded as reflexive pronouns (and it would be odd to add an extra condition to the defi ition specifically to exclude them). Perhaps their special treatment in the literature is entirely due to the fact that the research tradition has been focused on West African languages.

6 Types of reflexive nominals

The first of the three main types of reflexivizers that we saw earlier, reflexive nominals (§5.1), shows a lot of internal diversity, so we can distinguish a number of salient subtypes here.

6.1 Nouns with adpossessive person forms (=possessive-indexed reflexive nouns)

In many languages, the reflexive nominal looks like a noun that takes adpossessive person forms, so that the literal translation is 'my self', 'your self', 'his self', and so on. These nouns sometimes have plural forms when the antecedent is plural, i.e. 'our selves', 'your selves', 'their selves'. Some examples are given in Table 1 (for Hausa, see Newman 2000: 522; for Chalcatongo Mixtec, see Macaulay 1996: 144–145; for Finnish, see Karlsson 1999: 137; for Hebrew, see Glinert 1989: 67).

Table 1: Examples of possessive-indexed reflexive nouns

	Modern Greek	Hausa	C. Mixtec	Finnish	Hebrew
1sg	*ton eaftó mu*	*kâin-ā*	*máá=rí*	*itse-ni*	ʕacm-i
2sg	*ton eaftó su*	*kân-kà*	*máá=ro*	*itse-si*	ʕacm-exa/-ex
3sg	*ton eaftó tis*	*kân-sà*	*máá=ñá*	*itse-nsä*	ʕacm-o/-a
1pl	*ton eaftó mas*	*kân-mù*		*itse-mme*	ʕacm-enu
2pl	*ton eaftó sas*	*kân-kù*		*itse-nne*	ʕacm-exem/-exen
3pl	*ton eaftó tus*	*kân-sù*		*itse-nsä*	ʕacm-am/-an

In Georgian, the possessive person form is not a bound form (*čemi tavi* 'myself', *šeni tavi* 'yourself'), and it is not obligatory (Amiridze & Leuschner 2002). Perhaps one can say in general that when the possessive person form is a bound form as in Table 1, it is obligatory, but when it is a free form, it may or may not occur.

Faltz (1977) called such noun-like reflexive forms "head reflexives", because they can be the "head" of a reflexive nominal.[13]

6.2 Noun-like forms without adpossessive indexes

In languages lacking adpossessive person indexes, reflexive nouns are generally not person-marked. They are noun-like primarily in that they can occur with adpositions and/or case-markers. Examples come from Japanese (*jibun*) and Hindi-Urdu (*apne*) in (25a–25b). For the Ute form *nanɵs,* Givón's description only gives

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[13]This term is not ideal, for two reasons: (i) reflexive nouns often come from body-part nouns meaning 'head' (see §11.2 below), so it may be misinterpreted, and (ii) the syntactic notion of "head" is not well-defined (it may be unclear whether a reflexive-marking form is a "head" or not).

examples of object use, so it is less clearly noun-like, (25c) (and could be said to resemble the voice prefixes in 15c–15d above).

(25)   a.   Japanese (Hirose 2018: 380)
             *Ken wa **jibun** o   hihanshi-ta.*
             Ken TOP self   ACC criticize-PST
             'Ken criticized himself.'

       b.   Hindi-Urdu (Indo-European; Davison 2001: 47)
             *Siitaa$_1$-ne Raam$_2$-ko [**apne**$_{1/2}$-ko dekh-ne-ke]   liye majbuur kiyaa.*
             Sita-ERG Ram-DAT self-DAT   look-INF-GEN for force   did
             'Sita (F) forced Ram (M) to look at her/himself.'

       c.   Ute (Uto-Aztecan; Givón 2011: 237)
             ***Nanɵs** pʉnikya-qhay-ʻu.*
             self   see-ANT-3SG
             'She saw herself.'

6.3 Self-intensified anaphoric pronouns

In some languages, reflexive nominals are etymologically made up of personal pronouns combined with self-intensifiers (i.e. forms that are used like English *himself/herself/themselves*, as in *Is the queen coming herself*?). Examples (26a–26b) illustrate this point.

(26)   a.   Irish (Nolan 2000: 36)
             *Chonaic na cailíni **iad   féin**.*
             see.PST   the girls   them self
             'The girls saw themselves.'

       b.   Mandarin Chinese (Tang 1989: 98)
             *Zhangsan ai   **ta-ziji**.*
             Zhangsan love him-self
             'Zhangsan loves himself.'

An example from French (*Asma parle d'elle-même*) was seen earlier in (2b), and an example from Malayalam is seen below in (40a). Self-intensifiers are often closely related to reflexive nominals (König & Siemund 2000; König et al. 2005), and I will say a little more about them in §11.2.

6.4 Personal pronouns with other reinforcements

Reflexive nominals may also be made up from personal pronouns combined with other reinforcing elements, (27–29).

(27)   Tok Pisin (Indo-European; Smith & Siegel 2013)
       *Em go na   em kilim **em   yet**.*
       he   go and he kill   him EMPH
       'He went and killed himself.'

(28)   Kikongo-Kituba (Bantu; Mufwene 2013)
       *Bo   bula **bo   mosi**.*
       they hit   them one
       'They hit themselves.'

(29)   Fijian (Austronesian; Park 2013: 775)
       *O   Josese ā   digi-taki   **koya gā**.*
       DET Josese PST choose-TR him   EMPH
       'Josese voted for himself.'

6.5 Reflexive pronominoids

In some languages, reflexive nominals are similar to independent personal pronouns in that they not only lack noun-specific features like articles and adpossessive person indexes, but also share idiosyncratic properties of personal pronouns. This is clearest in western Indo-European languages such as Slavic and Germanic. Table 2 shows both a personal pronoun [you.SG] and the reflexive pronoun in Polish and Icelandic.

Table 2: Examples of personal pronouns and reflexive pronominoids

	Polish 'you'	Polish 'self'	Icelandic 'you'	Icelandic 'self'
NOM	*ty*	–	*þú*	-
GEN	*ciebie*	*siebie*	*þín*	*sín*
DAT	*tobie*	*sobie*	*þér*	*sér*
ACC	*ciebie*	*siebie*	*þig*	*sig*

The inflectional patterns are so similar that there is no question that the reflexive pronouns belong to the same paradigm as the personal pronouns. But it

should be noted that such REFLEXIVE PRONOMINOIDS are apparently quite rare in the world's languages.[14]

Another language which has reflexive pronominoids, in a much richer way, is Ingush (a Nakh-Dagestanian language of Russia; Nichols 2011: §9.1). A small part of the paradigm is listed in Table 3.

Table 3: Personal pronouns and reflexive pronominoids in Ingush

	1SG	1SG.REFL	2SG	2SG.REFL	3PL	3PL.REFL
NOM	*so*	*sie*	*hwo*	*hwie*	*yzh*	*shoazh*
GEN	*sy*	*sei*	*hwa*	*hwaai*	*caar*	*shoi*
DAT	*suona*	*seina*	*hwuona*	*hwaaina*	*caana*	*shoazhta*
ERG	*aaz*	*eisa*	*wa*	*waaixa*	*caar*	*shoazh*

7 The rank of antecedent and reflexive pronoun

In this and the next few sections, we will consider syntactic conditions under which reflexive pronouns can be used, as well as some technical terms that are associated with these conditions.

According to the definition given in (1), a reflexive pronoun must occur in the same clause as its antecedent, possibly in a subordinate clause that belongs to the same clause (i.e. it need not occur in the same minimal clause).[15] However, there is generally an additional syntactic restriction: The antecedent must be a subject of the same clause or of a superordinate clause. Thus, (30a) with a subject antecedent is possible, while (30b) is not possible.

(30)   a.   *My friend praised **herself**.*

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[14]I deliberately introduce the strange term *reflexive pronominoid* here in order to highlight the fact that such forms are unusual, even though they are very familiar to many linguists from European languages (Latin also has such pronominoids). Using the term *pronoun* for the unusual forms in contrast to *noun* for the forms in §6.2 would not have the same effect. (From §7 onwards, I will us the term *reflexive pronoun* for any kind of reflexive nominal, because this term is more familiar from the literature.)

[15]Thus, the antecedent and the reflexive pronoun need not be CLAUSEMATES: Clausemates are elements occurring in the same minimal clause (where a MINIMAL CLAUSE is a clause that does not contain a subordinate clause). As will be seen in §9), reflexive pronouns need not occur in the same minimal clause. I could have said *sentence* instead of *clause* here, but the difference does not matter in the present context (a sentence is a maximal clause, and maximality is irrelevant in the present context).

b. * ***Herself*** *praised my friend.*

And in (31), the adpossessive reflexive pronoun must be coreferential with the subject, not with the dative object.

(31) Russian
Ona$_1$ dala bratu$_2$ ***svoj$_{1/*2}$*** *zont.*
she gave brother.DAT self's umbrella
'She$_1$ gave her$_1$ (NOT: his$_2$) umbrella to her brother$_2$.'

In some languages (such as English), the conditions are less strict, in that it is additionally possible for the antecedent to be the object, and for the reflexive pronoun to be an oblique argument, as illustrated in (32a). But the opposite is impossible, as seen in (32b).

(32) a. *Jane told James about himself.*
b. * *Jane told himself about James.*

To describe the difference between Russian *svoj* and English *himself*, we say that *svoj* is SUBJECT-ORIENTED, while *himself* does not show this restriction. (Actually, there should be a special term for reflexive pronouns like *himself*, because most reflexive pronouns seem to be subject-oriented, and the English case is apparently unusual)

In some languages, the antecedent may be in the matrix clause and the reflexive pronoun in the embedded clause, as illustrated by (33). (More such examples will be seen in §9 below).

(33) Japanese (Kuno & Kaburaki 1977: 635)
Taroo-wa$_1$ [*Hanako-ga* ***zibun-ni$_1$*** *kasi-te* *kure-ta*] *okane-o*
Taro-TOP Hanako-NOM self-DAT lend-CVB give-PST money-ACC
tukat-te *simat-ta.*
spend-CVB end.up-PST
'Taro has spent all the money that Hanako had lent him.'

Again, the reverse situation (with the reflexive *zibun* in the matrix clause and the antecedent in the embedded clause) would not be possible here.

While there is no systematic cross-linguistic research, it appears from the rich literature on many different languages that given the rank scale in (34),[16] almost

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[16]A scale of this kind was proposed by Pollard & Sag (1992: 266), but they only discuss English. Other authors that have proposed similar rank scales are Bresnan (2001: 212) and Van Valin & LaPolla (1997: §7.5), and yet others have proposed to explain the restrictions in terms of a semantic role scale (Jackendoff 1972: Ch. 4) or a in terms of a case scale (Kiss 1991). None of these language-particular proposals are incompatible with the cross-linguistic claim of (33).

all languages restrict the relation between the antecedent and the reflexive pronoun in such a way that (35) is observed.

(34)   Rank scale of syntactic positions
       subject > object > oblique > within nominal, within embedded clause

(35)   Antecedent–reflexive asymmetry
       The antecedent must be higher on the rank scale of syntactic positions
       than the reflexive pronoun.

Note that this additional restriction is not definitional, but is an empirical generalization. The reason we can be fairly confident that (35) is true is that a violation of (35) would be very salient, and linguists would have discussed such cases more often. Forker (2014) discusses a number of potential reflexive pronouns in subject position that have been mentioned in the literature, but she does not find many clear instances. A fairly clear exception to (35) is found in Georgian, as illustrated in (36).

(36)   Georgian (Kartvelian; Amiridze 2003)
       Šen-ma   tav-ma   *gac´ama*   (*šen*).
       your-ERG head-ERG it.tormented.you you.NOM
       'It was yourself that tormented you.'

In most languages, the occurrence of reflexive pronouns is actually still more restricted than is implied by (34–35), though the various language-particular regularities are difficult to generalize over, and nobody has tried to compare all the languages studied so far in a comprehensive way. Since Chomsky (1981) and Reinhart (1983b), it has often been thought that a notion of "c-command" is necessary to describe the occurrence of reflexive pronouns (and nonreflexive personal pronouns) in English, and it has been assumed without much argument that such a notion is universally applicable. However, even for English, c-command fails in many cases (e.g. Barss & Lasnik 1986; Pesetsky 1987; Bruening 2014), and many of the proposals in the literature are highly speculative.[17] The general usefulness of "c-command", while widely assumed by authors working in the Reinhart-Chomsky tradition, is therefore far from established knowledge, and even for particular languages, descriptions in terms of rank scales may be preferable (e.g. Pollard & Sag 1992).

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[17] Many authors have proposed modifications of the constituent structure in order to accommodate recalcitrant cases, e.g. Reinhart (1983a: 81), Pesetsky (1987), and, most blatantly, Larson (1988) (as discussed and criticized by Culicover & Jackendoff 2005: §2.1.3).

In addition to the contrast between subjects, objects and obliques in (34), many languages also allow experiencers which are objects or obliques to be antecedents of reflexive pronouns, as illustrated in (37) from Italian.

(37) Italian (Belletti & Rizzi 1988: 312)
      Questi pettegolezzi su   di sé   preoccupano Gianni più   di   ogni
      these   rumours   about of himself worry   Gianni more than any
      altra cosa.
      other thing
      'These rumours about himself worry Gianni more than anything else.'

This is also possible in English to some extent (Reinhart 1983b: 81; Pesetsky 1987: 127), and in many other languages. These cases show that the rank scale in (34) (let alone a notion of c-command) is not sufficient to account for the distribution of reflexive pronouns.

8 Domains: Autopathic, oblique and adpossessive reflexive constructions

When the form that marks the reflexive construction is a reflexive pronoun, there are often interesting variations with respect to the ANTECEDENT DOMAIN (often called "binding domain"), i.e. the "syntactic distance" between the antecedent and the reflexive nominal. In this section, I distinguish between an autopathic domain, an oblique domain, and an adpossessive domain, because these are the most important distinctions. In the next section (§9), we will see domains going beyond the minimal clause.

The AUTOPATHIC DOMAIN is the relation between the subject and the object (or the A-argument and the P-argument) in a monotransitive clause, as in *She saw herself; He painted himself; They hit themselves.* This is Faltz's (1977: 3) "archetypal" reflexive context, Kemmer's (1993: 41) "direct reflexive" situation, and it describes what Reinhart & Reuland (1993) call "reflexive predicates". We need the new term *autopathic* for this domain, because the term *reflexive* is generally used in the wider sense of §1, and because this domain is so important that it deserves its own label.[18] It appears that in most of the world's languages, reflexive voice markers are exclusively used in the autopathic domain. Moreover, some

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[18]The Greek term for 'reflexive' is *autopathēs*, deriving from *auto-* 'self, same' and *path-* 'patient' (i.e. literally it means 'domain in which the patient is the same'). The term *autopathic* in this sense is thus very transparent etymologically.

languages have both a short reflexive pronoun and a long reflexive pronoun, and in such cases, the longer pronoun tends to be preferred (or required) in the autopathic domain. This is apparently due to the fact that coreference is particularly unlikely in this domain, at least with extroverted verbs (König & Vezzosi 2004; Haspelmath 2008).

The ᴏʙʟɪǫᴜᴇ ᴅᴏᴍᴀɪɴ refers to the relation between the subject and an oblique-marked participant of the same minimal clause. In this domain, some languages can use a nonreflexive pronoun, e.g. French, (38), and English, (39).

(38)   French
       *Pierre est fier de **lui**.*
       'Pierre is proud of him/of himself.'

(39)   English

    a. *Jane saw a snake near **her**/near **herself**.*

    b. *John left his family behind him* (/*himself). (Kiparsky 2002: 43)

The precise conditions vary (in a complicated way, cf. Zribi-Hertz 1995 for French), but the fact that the anaphoric pronoun is an oblique argument (rather than a direct object, or P-argument) seems to play an important role in a number of languages.[19] Another language that is similar to French, (38), and English, (39), is Malayalam, (40), where the simple reflexive pronoun *taan/tann-* cannot be used in an autopathic situation (which requires the complex form *awan- tanne*), but can be used when the reflexive is in an oblique position.

(40)   Malayalam (Dravidian; Jayaseelan 2000: 121, 126)

    a. *Raaman **awan-e tanne** aṭiccu.* (**Raaman **tann-e** aṭiccu.*)
        Raman   he-ᴀᴄᴄ self   hit
        'Raman hit himself.'

    b. *Raaman **tan**-te   munn-il   oru aana-ye   kaṇḍu.*
        Raman   self-ɢᴇɴ front-ʟᴏᴄ one elephant-ᴀᴄᴄ saw
        'Raman saw an elephant in front of him(self).'

And in Homeric Greek, a complex reflexive pronoun *hé- + autó-* must be used in the autopathic domain (41a), while the oblique domain allows the bare reflexive *hé-* (41b).

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[19]A related notion is that of ᴄᴏᴀʀɢᴜᴍᴇɴᴛ ᴅᴏᴍᴀɪɴ (Kiparsky 2002), which includes P-arguments and oblique arguments, but not modifying participants.

(41) Homeric Greek (Kiparsky 2012: 86–87)

    a. ***Heè*** *d' **autò-n** epotrún-ei makésa-sthai.*
       REFL.ACC PRT self-ACC rouse.3SG fight.AOR-INF
       'And he rouses himself to fight.' (Iliad 20.171)

    b. *Aspíd-a taureíē-n skhéth' apò héo.*
       shield-ACC bull.hided-ACC held.3SG from REFL.GEN
       'He held the shield of bull hide away from him(self).'

An important further domain that is less often discussed is the ADPOSSESSIVE DOMAIN, where the coreferential anaphoric form is the adnominal possessor (=adpossessor) of the object or some other nonsubject participant. The West Germanic and Romance languages use nonreflexive possessive forms in this domain, which can be used subject-coreferentially or with disjoint reference (English *She₁ forgot her₁/₂ umbrella*, French *Elle₁ a oublié son₁/₂ parapluie*). By contrast, many other languages make an obligatory distinction between subject-coreferential and subject-disjoint adpossessive person forms. Examples come from Polish, (42), and Evenki, (43).

(42) Polish

    a. *Ona₁ jest w **swoim₁** pokoju.*
       she is in self's room.
       'She is in her (own) room.'

    b. *Ona₁ jest w jej₂ pokoju.*
       she is in her room
       'She is in her room (=another person's room).'

While Polish has an independent reflexive possessive pronoun (42a) contrasting with an independent nonreflexive one (42b), Evenki has possessive person indexes (=bound person forms), both reflexive (43a) and nonreflexive (43b).

(43) Evenki (Tungusic; Nedjalkov 1997: 103)

    a. *Nungan₁ asi-**vi**₁ iche-re-n.*
       he wife-REFL.POSS see-NFUT-3SG
       'He saw his (own) wife.'

    b. *Nungan₁ asi-va-n₂ iche-re-n.*
       he wife-ACC-3SG.POSS see-NFUT-3SG
       'He saw his wife (=another person's wife).'

9 Domains: Clausemate and long-distance reflexive constructions

From the point of view of a language like German, where the reflexive pronoun *sich* must have a CLAUSEMATE antecedent (i.e. the antecedent must be an argument of the same minimal clause, or coargument), the most surprising phenomenon is the existence of LONG-DISTANCE REFLEXIVE PRONOUNS (generally shortened to *long-distance reflexives*, because there are no long-distance voice markers). A long-distance reflexive is a reflexive pronoun that can occur in a subordinate clause and take its antecedent in the matrix clause, as in (44a–44d).[20] (We already saw an example from Japanese in 33 above.)

(44)   a.   Italian (Giorgi 1984: 314)
           Gianni$_1$ pensava [*che quella casa   appartenesse ancora alla **propria**$_1$*
           Gianni thought that that   house belonged   still   to   self's
           famiglia].
           family
           'Gianni thought that that house still belonged to his (own) family.'

       b.   Mandarin Chinese (Cole et al. 2006: 22)
           Zhangsan$_1$ renwei [*Lisi$_2$ zhidao* [*Wangwu$_3$ xihuan **ziji**$_{1/2/3}$*]].
           Zhangsan think Lisi   know Wangwu like   self
           'Zhangsan thinks that Lisi knows that Wangwu likes him.'

       c.   Ingush (Nakh-Daghestanian; Nichols 2011: 645)
           *Aaz   **shiiga**$_1$ telefon tiexacha, Muusaa$_1$ chy-vaxar.*
           1SG.ERG 3SG.REFL.ALL phone do.CVB   Musa   in-go.PST
           'When I phoned him$_1$ (lit. 'himself'), Musa$_1$ went home.'

       d.   Avar (Nakh-Daghestanian; Rudnev 2017: 155)
           Maħmud bož-ula   [*žiw łik'aw či   w-uk'-inal-da*].
           Mahmud believe-PRS self.M good.M man M-be-MSD-LOC
           'Mahmud$_1$ believes that he$_{1/*2}$ is a good man.'

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[20]Note that the opposite, a reflexive pronoun in the matrix clause and its antecedent in the subordinate clause, is excluded by antecedent-reflexive asymmetry in (33).

We can call this the LONG-DISTANCE DOMAIN, contrasting it with the CLAUSE-MATE DOMAIN, where the antecedent must be an argument of the same minimal clause.[21] Long-distance reflexivizers have also been called *diaphors* (Middleton 2020).

In some languages, especially Indo-European languages of Europe, long-distance-reflexives are limited to infinitival clauses. This is the case, for example, in Polish, where the counterparts of (44a–44d) would not be possible, but in (45), the reflexive pronoun *siebie* can be coreferential with the matrix subject (or alternatively with the understood infinitival subject). Likewise in Avar, the reflexive pronoun *žiw-go* can only be used in the clausemate domain and the non-finite long-distance domain, while in finite subordinate clauses, the form *žiw* must be used (Rudnev 2017: §2.1).

(45)   a.   Polish (Siewierska 2004: 195)
            Renata$_1$ *kazała Piotrowi*$_2$ [*zbudować dom*   *dla* **siebie**$_{1/2}$].
            Renata.NOM ordered Piotr.DAT build.INF   house.ACC for self.GEN
            'Renata ordered Piotr to build a house for her (OR: for himself).'

       b.   Avar (Nakh-Daghestanian; Rudnev 2017: 159)
            Ebelal-da$_1$ *b-ix-ana* [*Malik-ica*$_2$ **žindie-go**$_{1/2}$ *ruqʕ*   *b-ale-b*].
            mother-LOC N-see-PST Malik-ERG   self.DAT-EMPH house N-build-N
            'Mother saw Malik building a house for her (OR: for himself).'

Perhaps one could generally distinguish different subdomains within the long-distance domain, but "finite" vs. "nonfinite" (Kiparsky 2002) does not work, because there is no cross-linguistically applicable definition of "(non)finite".

10 Obviative and nonobviative anaphoric pronouns

In many (or perhaps most) languages, nonsubject anaphoric personal pronouns are OBVIATIVE (Kiparsky 2002, 2012), i.e. they cannot be coreferential with a coargument. This is illustrated in (46a–46b).

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[21]The clausemate domain is often simply called "local domain" (even though locality is generally a relative notion), or sometimes "clause-bound(ed)" (e.g. Van Valin & LaPolla 1997: 393). It should also be noted that the term *clause* is very different from 'minimal clause', because a clause is generally taken to include all of its subordinate clauses (see §7). This is why the definition in (1) talks about clauses, not sentences (though the latter would not have been wrong, because a sentence is generally understood as a maximal clause, and the difference between clauses and sentences is irrelevant in the context of (1)).

(46) a. English
       The dogs$_1$ bit them$_{2/*1}$.

   b. Mandarin Chinese (Cole et al. 2015: 142)
       Mali$_1$ hai-le   ta$_{2/*1}$.
       Mali   hurt-PFV her
       'Mali hurt her (*herself).'

As noted earlier (§4), many languages (such as English and Mandarin) must use reflexive pronouns rather than (nonreflexive) personal pronouns when coreference is intended (*themselves*, *ta-ziji*). This frequent complementarity of personal pronouns and reflexive pronouns has often been noted and has been taken as a starting point for larger explanatory claims, but it is useful to have a separate term for anaphoric forms that cannot be used coreferentially with the subject. While anaphoric personal pronouns are often in complementary distribution with reflexive pronouns, this is not always the case.

In some languages, the use of reflexive pronouns is optional. This has been reported, for example, for Hausa, (47).

(47) Hausa (Afro-Asiatic; Newman 2000: 524)
   a. *Tàlá táa   gán tà à màdùubîn.*
       Tala 3SG.PST see her in mirror
       'Tala saw her/herself in the mirror.'

   b. *Tàlá táa   gá kântà à màdùubîn.*
       Tala 3SG.PST see herself in mirror
       'Tala saw herself in the mirror.'

Thus, Hausa *tà* is not obviative, unlike English *her*, even though it is a nonreflexive pronoun, like English *her*. The complementarity between nonreflexive and reflexive pronouns that we see in English textbook examples is by no means necessary (and it is not complete in English either, as seen in 39a). Another interesting case is Turkish, which has three types of 3rd person anaphoric pronouns: an obviative nonreflexive pronoun *on-*, a nonobviative nonreflexive pronoun *kendisi-*, and a reflexive pronoun *kendi-*, (48).

(48) Turkish (Turkic; Kornfilt 2001: 200)
      Ahmet$_1$ onu$_2$ / kendini$_{1,2}$ / kendisini$_1$ çok   beğeniyormuş.
      Ahmet him   him(self)   himself   much admires
      'Ahmet admires him/him(self)/himself very much.'

Like Hausa, Turkish shows no complementary distribution of reflexive and obviative anaphoric pronouns, and it is clear that it must be specified that *on-* is obviative (i.e. that this cannot be derived from a general principle).

In addition to nonreflexive pronouns like *him/her/them* that are obviative, some languages also have reflexive pronouns that are obviative (as noted by Kiparsky 2002). Examples are Swedish *sig* and Malayalam *taan*, which are long-distance reflexives but cannot be coreferential in the autopathic domain, as illustrated by (49a–49b).

(49) a. Swedish (Kiparsky 2002: 26)
          *Generalen$_1$ tvingade översten$_2$ att hjälpa **sig**$_{1/*2}$.*
          the.general forced   the.colonel to help   REFL
          'The general$_1$ forced the colonel$_2$ to help him$_1$.'

      b. Malayalam (Dravidian; Jayaseelan 2000: 129) (cf. 40a)
          *Raaman$_1$ wicaariccu [Siita$_2$ **tann-e**$_{1/*2}$ kaṇḍu ennə].*
          Raman   thought   Sita   self-ACC   saw   COMP
          'Raman thought that Sita saw him.' (NOT: '…Sita saw herself.')

It is very common for nonreflexive personal pronouns to be obviative (and demonstrative-derived anaphoric pronouns are apparently always obviative), but as we also saw in (8–10) in §4, in some languages the ordinary anaphoric pronouns are not obviative (i.e. they only have anaphoric pronouns which work like Turkish *kendisi-*).

11 Coexpression patterns of reflexivizers

The next topic to be covered briefly here is coexpression patterns, i.e. the use of a single form in a language for several meanings or functions that other languages distinguish. Such patterns are often described in terms of "polysemy", but the term COEXPRESSION is more neutral in that it does not entail that the form actually has multiple (related) meanings in a language.

11.1 Reflexive voice markers

It has been well-known at least since Faltz (1977), Geniušienė (1987: Ch.1) and Kemmer (1993) that across languages, reflexive voice markers often have other uses, in addition to the reflexive meaning, and that the different meanings tend to recur. Kazenin (2001: 917) notes that such markers are "normally polysemous", and it is indeed hard to find a reflexive voice marker that has no nonreflexive

uses. For example, reflexive voice markers commonly have RECIPROCAL uses, as in (50).

(50) Kuuk Thaayorre (Pama-Nyungan; Gaby 2008: 260)

    a. *Ngay*   *nhaanhath-**e**.*
       1SG.NOM watch-REFL
       'I am looking at myself.'

    b. *Pul*   *runc-**e**-r.*
       2DU.NOM collide-REFL-PST
       'They two collided with one another.'

When the verb denotes an action that is usually performed on inanimate objects, the reflexive voice marker often has an ANTICAUSATIVE use, as in (51).

(51) Polish (Janic 2023 [this volume])

    a. *Gotuję* *wodę.*
       boil.1SG water.ACC
       'I am boiling water.'

    b. *Woda gotuje* ***się*** *bardzo szybko.*
       water boil.3SG REFL very   quickly
       'The water boils very quickly.'

Other meanings that are sometimes coexpressed with reflexive voice markers are nontranslational motion middles (e.g. German *sich umdrehen* 'to turn around (intr.)'), passives (e.g. Russian *opisyvat's-sja* 'be described'), and antipassives (e.g. French *se saisir de* 'seize'; Janic 2016: 192).

11.2 Reflexive pronouns

Reflexive pronouns are often identical to nouns with meanings such as 'body' or 'head', evidently because they originate in a metonymy process. Schladt (2000) studied reflexive pronouns in 150 languages worldwide and found that over half of them have reflexive pronouns derived from body-part terms. In many languages, these behave like nouns in a variety of ways, which is evidently due to their relatively recent origin in nouns.

More intriguing is the fact that reflexive pronouns are very often identical or closely related to self-intensifiers (as in *The queen came herself*). In their sample of 168 languages, König et al. (2005) found 94 languages with identity of reflexive pronouns and self-intensifiers, and 74 languages where the two are different

forms. König & Siemund (2000) and König & Gast (2006) propose an explanation for this overlap, by noting that the meanings of self-intensifiers are similar to the meanings of reflexive pronouns, and they can thus explain that reflexive pronouns typically derive from (or are made up of) self-intensifiers. However, Gast & Siemund (2006) also note that the direction of change is sometimes the opposite, with reflexive pronoun uses preceding intensifier uses.

12 Coreference constructions that are not reflexive constructions

Grammatical systems often specify coreference in constructions that are never called reflexive constructions. Two examples were already given in §2 above. This section gives a few more illustrations, which show that the domain of coreference constructions is broader than the domain of reflexive constructions.

In some languages, a construction with an anaphoric adpossessor modifying the object is necessarily interpreted as coreferential with the subject. The constructions in the (a) examples below, (52–54), entail coreference between the subject and the object adpossessor.

(52)   Finnish (van Steenbergen 1991: 232)

    a. *Pekka₁ luki kirjaa-nsa₁.*
       Pekka read book-3sg.poss
       'Pekka read his (own) book.'

    b. *Pekka₁ luki hän-en₂ kirjaa-nsa₂.*
       Pekka read he-gen book-3sg.poss
       'Pekka read his book (i.e. another person's book).'

(53)   Halkomelem (Salishan; Déchaine & Wiltschko 2017a: §6)

    a. *Th'exw-xál-em te Strang.*
       wash-foot-intr det Strang
       'Strang washed his (own) feet.'

    b. *Th'exw-t-es te Strang te sxele-s.*
       wash-tr-3sg det Strang det foot-3.poss
       'Strang₁ washed his₁/his₂ feet.'

(54) Chol (Mayan; Coon & Henderson 2011: 53–54)

    a. *Tyi i-boño   y₁-otyoty   jiñi wiñik₁.*
       PFV 3.ERG-paint 3.POSS-house DET man
      'The man painted his (own) house.'

    b. *Tyi i-boñ-be   y₂-otyoty   jiñi wiñik₁.*
       PFV 3.ERG-paint-APPL 3.POSS-house DET man
      'The man painted his/her house (i.e. another person's house).'

In all three languages, an additional form (a kind of ANTIREFLEXIVE marking) is required to allow (or even force) a disjoint interpretation. In Finnish and Halkomelem, this is the nonreflexive anaphoric person form, and in Chol, it is the applicative suffix *-be* on the verb.

Coreference constructions are also widespread in clause combining, e.g. in certain complement clauses (see 4 in §1), in infinitival purposive clauses (e.g. German *Sie kam, um zu helfen* [she came for to help] 'She came to help'), and in relative clauses (e.g. English *The people* [*living next door*] *are our friends*). Special same-subject (SS) and different-subject (DS) constructions are widely used for clause combining patterns of various kinds in the world's languages (when the SS/DS constructions are formally symmetrical, the term *switch reference* is sometimes used, e.g. van Gijn & Hammond 2016).[22] These constructions also help with reference tracking, and some authors have tried to consider both clause-combining constructions and reflexive markers together (e.g. Matić et al. 2014). But so far, there is little work that attempts a comprehensive picture of coreference constructions of diverse types (but see Comrie 1988, 1999 for some very interesting proposals).

13 Two kinds of coreference: Discourse-referential and co-varying interpretations

Since the 1960s, it has been recognized that there are often two interpretations of coreferential anaphoric forms, which are best called the DISCOURSE-REFERENTIAL INTEPRETATION and the CO-VARYING INTERPRETATION (often called *bound-variable anaphora*, e.g. Reinhart 1983b; Déchaine & Wiltschko 2017b). The contrast can be illustrated by (55a–55b). In (55a), the dog is owned by a particular woman

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[22]When there is a special form for same-subject constructions, they would strictly speaking fall under the definition of reflexive construction in (1) above; see also the discussion of logophoric pronouns in §5.4.

who can be identified in the discourse. But in (55b), there is no particular woman, and no particular dog.

(55) a. Discourse-referential
          Ibrahim₁ loves her₂ dog.
      b. Co-varying
          Every woman₁ loves her₁₌ dog. (every woman x: x loves x's dog)

Rather (55b) says that the interpretation of *her* varies with the interpretation of the quantified expression *every woman.* In logic, this is traditionally expressed by saying that there is a variable x that is BOUND by the quantifier 'every' that has scope over it. The anaphoric pronoun *her* can be thought of as corresponding to the bound variable x in (55b), rather than denoting a discourse referent.

In a tradition going back to Reinhart (1983a, 1983b), some authors have referred to this distinction as "coreference vs. binding" (e.g. Heim & Kratzer 1998: §9.1; Reuland 2011: §1.6.1), but this terminology is confusing, because *coreference* has long been used for the meaning underlying reflexive constructions, and is still widely used in this way. Thus, it is better to keep the term *coreference* for the meaning underlying reflexive constructions, and to distinguish between two subtypes of coreference: discourse referential coreference and co-varying coreference.[23]

The distinction is somewhat relevant for reflexive constructions, because it appears that some reflexive constructions only allow a co-varying interpretation, while others also allow a discourse-referential intepretation of the reflexive pronoun. In many cases, anaphoric pronouns can be interpreted in both ways when they are coreferential with the subject, as illustrated in (56) (Sag 1976: 127–128).[24] These two interpretations are usually called STRICT READING and SLOPPY READING.

(56) *Betsy₁ loves her₁ dog, and Sandy₂ does, too.*
      a. Strict reading (=Sandy also loves Betsy's dog)
          Betsy₁ x: x loves her₁ dog
          & Sandy y: y loves her₁ dog (discourse-referential)

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[23] I would thus say that two arguments are coreferential (i) if they have the same referent or (ii) if their reference covaries. Authors who prefer to use *coreference* in a narrow sense (only for referent identity) have proposed alternative cover terms, e.g. *coconstrual* (Safir 2005) or *covaluation* (e.g. Reinhart 2006), but these terms have not been widely adopted.

[24] There is also a third reading of this sentence: *Betsy₁ loves her₃ dog, and Sandy does, too.* Here the anaphoric pronoun is not coreferential with the subject. Its reference is not syntactically limited, and in the right context, it may be coreferential with *Sandy* (this is clearer in an example like *Betsy loves his dog, and Ibrahim does, too.*)

b. Sloppy reading (=Sandy also loves her (own) dog)
Betsy x: x loves x's dog & Sandy y: y loves y's dog (co-varying)

Reflexive coreferential pronouns are often said to force a sloppy reading (i.e. a co-varying interpretation), not allowing a strict reading. Thus, it seems that (57) says that Sandy also looked at herself in the mirror. But on the other hand, (58) can apparently also mean that Ben's boss does not admire Ben so much (i.e. can have not only the sloppy reading, but also the strict reading).

(57)   Co-varying
       Betsy looked at herself in the mirror, and so did Sandy.

(58)   Co-varying or discourse-referential
       Ben admires himself more than his boss does.

The relevance of the co-varying/discourse-referential distinction for reflexive constructions seems clearest with adpossessive reflexives. For Russian, Dahl (1973: 106) reported the contrast between (59a), with the reflexive adpossessive *svoj*, and (59b), with the nonreflexive 1st person singular adpossessive *moj*. The contrast in (60a–60b) is completely analogous.

(59)   a.   Co-varying
            Ja   ljublju svoju   ženu,   i   Ivan   tože.
            I.NOM love   REFL.POSS wife.ACC and Ivan.NOM too
            'I love my wife, and so does Ivan (=Ivan loves his (own) wife).'
       b.   Discourse-referential
            Ja   ljublju moju ženu, i   Ivan   tože.
            I.NOM love   my   wife and Iva.NOM too
            'I love my wife, and so does Ivan (=Ivan loves my wife).'

(60)   a.   Co-varying
            Tol'ko ja   ljublju svoju   ženu.
            only   I.NOM love   REFL.POSS wife.ACC
            'Only I love my wife (=nobody else loves his wife).'
       b.   Discourse-referential
            Tol'ko ja ljublju moju ženu.
            'Only I love my wife (=nobody else loves my wife).'

It seems that when the coreference is not expressed by an anaphoric pronoun but is implicit in the construction (as in the cases in §12), we only get the co-varying interpretation. Sentences such as *He undressed, and so did she* (cf. (4)

above), are unambiguous (she did not undress him), just like sentences such as
He wanted to sing, and so did she (this cannot mean that she wanted him to sing).
Likewise, when the reflexivizer is a verbal marker, we seem to get only the co-
varying interpretation, as in (61a) from Russian, which contrasts with (61b).

(61) Russian

    a. Co-varying only
       Saša posmotrela-s' v zerkalo, i   ja tože.
       Sasha looked-REFL in mirror and I too
       'Sasha looked at herself in the mirror, and so did I.'

    b. Co-varying or discourse-referential
       Saša posmotrela na sebja v zerkalo, i   ja tože.
       Sasha looked   at self in mirror and I too
       'Sasha looked at herself in the mirror, and so did I.'

Thus, there are certain situations where the contrast between discourse-refer-
ential and co-varying coreference is relevant to grammatical coding, but there is
no systematic cross-linguistic research on this aspect of grammatical expression.

14 Conclusions

This concludes the survey of reflexive and related constructions, which I com-
bined with a survey of key terms for general linguistics that are useful for com-
paring languages and identifying shared traits. The wide range of diverse reflex-
ive constructions makes it difficult to get a broad view of the big picture, and due
to the language-particular focus of the great majority of research papers, it is not
easy to focus on what is general and what is particular in this domain. Much of
the literature on reflexive pronouns has taken the conditions on English reflex-
ive pronouns as a starting point, but it seems that a broader perspective is more
promising when we try to identify general traits of human languages.

    The three appendixes that follow contain a tentative list of universal general-
izations (Appendix A), a list of technical terms as used in this paper (Appendix B),
and a list of other terms that have been used in the literature (Appendix C) but
that seem less suitable to me because they cannot be defined clearly, at least not
independently of larger controversial claims.

Acknowledgements

Abbreviations

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

ANT	anterior (aspect)	LOGOPHOR	logophoric
AOR	aorist	MSD	masdar
CORE	core argument	NFUT	non-future
DYN	dynamic	PRT	particle
EMPH	emphatic	REAL	realis
FIN	finite	SUFF	suffix
HAB	habitual	VAL	validator
LIM	limitative		

Appendix A: Some universals of reflexive constructions

Universal I: If a language has a reflexive voice marker or a reflexive argument marker, one of its uses is for autopathic coreference (agent-patient).

Universal II: If a language uses different constructions for agent-patient coreference for different verb types, then it uses shorter coding for introverted verbs than for extroverted verbs (König & Vezzosi 2004; Haspelmath 2008: 44).

Universal III: In all languages, the usual coding of disjoint anaphoric reference is at least as short as the usual coding of agent-patient coreference (Haspelmath 2008: 48).

Universal IV: If an anaphoric pronoun may also be used as a demonstrative, it is always obviative in the autopathic domain.

Universal V: If a language has nonreflexive object indexes (=bound object person forms), these cannot be used subject-coreferentially in the autopathic domain.

Universal VI: If a language has a reflexive voice marker, it also has a voice marker for reciprocal constructions (Dixon 2012: 141).

Universal VII: If a language has a reflexive adpossessive pronoun, it also has a reflexive object pronoun (Haspelmath 2008: 50).

Universal VIII: If a language has a reflexive pronoun in locative phrases, it also has a reflexive pronoun in object position (Haspelmath 2008: 55).

Universal IX: If a language has a reflexive pronoun in the long-distance domain, it also has a reflexive pronoun in the autopathic domain (Haspelmath 2008: 58).

Universal X: If a language has different reflexive pronouns in the autopathic and the and long-distance domain, the autopathic reflexive pronoun is at least as long as the long-distance reflexive (Pica 1987; Haspelmath 2008: 55).

Universal XI (Antecedent-reflexive assymmetry): In all languages, the antedecent is higher on the rank scale of syntactic positions than the reflexive pronoun: subject > object > oblique > within nominal/within embedded clause (see §7 above; Dixon 2012: 152).

Universal XII: If a language has a prenominal definite article, it does not have a reflexive adpossessive pronoun (Despić 2015).

Universal XIII: If a reflexivizer and a reciprocalizer are formally related to each other, then the reflexivizer is formally simpler (Dixon 2012: 153).

Appendix B: Technical terminology used in this paper

anaphora: Anaphora is the use of linguistic forms or constructions to signal coreference within the discourse or within a clause.

anaphoric form: An anaphoric form is a form that stands for a referent which is coreferential with another referent (an antecedent) in discourse. (Typical anaphoric forms are anaphoric pronouns.)

antecedent: In an anaphoric relationship, the antecedent of an anaphoric form or of an unexpressed anaphoric referent is the referent which determines its reference.

clause: A clause is a combination of a predicate (full verb or nonverbal predicate) and its arguments plus modifiers.

endophoric use: An endophoric use of a pronoun is an anaphoric use within a sentence or the discourse, as opposed to an exophoric use.

exophoric use: An endophoric use of a pronoun is a use for a referent that was not mentioned earlier in the discourse but is present in the context.

obviative pronoun: An obviative pronoun is an anaphoric pronoun that cannot be coreferential with a coargument.

reflexive argument marker: A reflexive argument marker is a grammatical marker that occurs on a transitive verb and that exhibits striking similarities with nonreflexive object indexes, especially with respect to its position.

reflexive construction: A reflexive construction is a grammatical construction that can only be used when two participants of a clause are coreferential and that contains a special form that signals this coreference.

reflexive pronoun = reflexive nominal: A reflexive pronoun is a form that can be used in the position of a full nominal and that signals coreference with an antecedent in the same clause (subtypes: reflexive pronominoid...)

reflexive pronominoid: A reflexive pronominoid is a reflexive pronoun that shares striking similarities with independent personal pronouns and is strikingly different from the nouns in the language.

reflexive voice marker: A reflexive voice marker is a grammatical marker that occurs on a transitive verb and indicates that its agent is coreferential with its patient, without exhibiting similarities to argument indexes.

reflexivizer: A reflexivizer is a reflexive pronoun or a reflexive voice marker.

self-intensifier: A self-intensifier is a form that accompanies a nominal and indicates that the nominal's referent is the central referent in a centre-periphery configuration.

Appendix C: Other terms used elsewhere in the literature

anaphor: The term *anaphor* became well-known through Chomsky (1981), and its generally understood as meaning 'reflexive pronoun or reciprocal pronoun',[25] but it is rarely defined explicitly in this way (but cf. Forker 2014: 52, n. 1). Some authors define *anaphor* as an 'interpretatively dependent element' (cf. Reuland 2018: 82), which seems to mean that it cannot be used exophorically. However, as noted by Kiparsky (2002, 2012), many languages have anaphoric forms that must be used endophorically (he calls them "discourse anaphors"), e.g. English *it.* Calling such forms, too, "anaphors" is confusing. Moreover, some authors have invoked a completely different criterion for distinguishing anaphors from pronominals: "pronouns can have split antecedents, and anaphors cannot" (Volkova 2017: 178; following Giorgi 1984: 310).

binding theory: "Binding theory" (or sometimes "Binding Theory") is the name for three general rules of English grammar formulated by Chomsky (1981) (following Reinhart 1976, 1983a): (A) Anaphors must be bound in their local domain; (B) Pronominals must be free in their local domain; (C) Other nominals must always be free; where "X binds Y" means that X is coindexed (and thus coreferential) with Y and c-commands it. These rules or principles have typically been thought to be universal, though they were established entirely on the basis of English. Since the 1990s, it has been universally recognized that the 1981 formulation does not work (even for English), and many alternative versions have been proposed (Everaert 2003), but always as claims about the regularities of particular languages (possibly rooted in innate knowledge), not as readily testable claims about cross-linguistic distributions. (See Varaschin (2021) for a recent overview of the classical binding theory.)

controller: The term *controller* is sometimes used in the same sense as *antecedent* (e.g. Dixon 2012).

pronominal: In the Reinhart-Chomsky tradition, "anaphors" are typically contrasted with "pronominals", illustrated by English personal pronouns such as *her, him, them.* Like *anaphor*, the term *pronominal* is rarely defined, and it has never been clear whether nonobviative personal pronouns like Jambi

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[25]More transparently, one would of course use *anaphor* for 'anaphoric form' (or more specifically, 'anaphoric pronoun'). The term is indeed sometimes used in this sense by computational linguists in the context of anaphora resolution (e.g. Mitkov 2002).

Malay *dio*, see 10 in §4) should be considered "pronominals". (In my terminology, English *him* is an obviative-nonreflexive 3rd person pronoun, while Jambi Malay *dio* is a nonobviative-nonreflexive 3rd person pronoun.)

reflexive: The noun *reflexive* is often used vaguely in the sense 'reflexive construction', or 'reflexive element', or 'reflexive pronoun' (e.g. Geniušienė 1987; Frajzyngier & Curl 1999; Kazenin 2001; König & Gast 2008, Déchaine & Wiltschko 2017a). The context sometimes makes it sufficiently clear what intended, but when the term is used in a book title, there is no context. I avoid such abbreviated terms in formal contexts. (Though I do abbreviate *long-distance reflexive pronoun* to *long-distance reflexive*, as noted in §9.)

reflexivity: The term *reflexivity* is sometimes used collectively for the domain of reflexive constructions, and in this sense, there is no problem with it (cf. similar terms such as *ergativity, transitivity, coordination*). But it is sometimes also used as if it were a semantic notion, and linguists talk about "encoding of reflexivity" (e.g. Déchaine & Wiltschko 2017b: 63). For the semantic notion, I find *coreference* a better term (or maybe *autopathic coreference*, if agent-patient coreference is intended), because it is best to have different terms for constructions and the meanings they express (see n. 2).

reflexivization: This term from the 1960s originally referred to the creation of a reflexive construction as a grammatical operation (or transformation), but more recently it has sometimes been used in a more restricted sense, referring specifically to the creation of "reflexive predicates" (or verbs). Much of this corresponds to reflexive voice marking, but authors such as Reinhart & Siloni (2005: 399) and Everaert (2013: 197) include constructions like *Max undressed*, which are not regarded as reflexive here (see note 2).

SE anaphor vs. SELF anaphor: The distinction between "simplex expression" (or SE) anaphors (Dutch *zich*, Swedish *sig*) and complex SELF anaphors (English *himself*, Dutch *zichzelf*, Swedish *sig själv*) became well-known through Reinhart & Reuland (1993), but these authors did not give clear definitions of the two terms. It seems that they thought that reflexive pronominoids of the European type (like *zich*; see §6.4) and self-intensified anaphoric pronouns (like *himself*; see §6.3) are typical of reflexive pronouns in general, but it has been known since Faltz (1977) that other types of reflexive nominals are more common in the world's languages.

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