

Rethinking the relationship between SELF-intensifiers and reflexives

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Abstract

Recent studies into the syntax and semantics of intensifying *self*-forms (e.g. [*John HIMSELF*] *came*) have shown that a distinction needs to be drawn between two uses of such expressions: a juxtaposed or adnominal use (cf. above), and a non-juxtaposed use (e.g. *John* [*came HIMSELF*]). This differentiation allows us to reconsider a number of issues relating to the synchronic and diachronic relationship between SELF-intensifiers and reflexive anaphors. Assessing relevant cross-linguistic data against the background of the aforementioned distinction reveals a surprising fact: patterns of ‘formal relatedness’ suggest a particularly strong empirical as well as conceptual tie-up between reflexives and SELF-intensifiers in their non-juxtaposed rather than adnominal use. This is remarkable because it has generally been assumed that it is always the adnominal SELF-intensifier which gives rise to the development of reflexive markers. In the light of our cross-linguistic findings we explore the synchronic and diachronic relationship between reflexives and SELF-intensifiers in their non-juxtaposed use. We argue that the picture of a (unidirectional) development from adnominal SELF-intensifiers to reflexives needs to be modified insofar as reflexive markers often develop from non-juxtaposed, rather than adnominal, intensifiers. Moreover, reflexive markers often form part of a strategy of SELF-intensification, which entails that the reflexives are older than the resulting intensifiers.

1 Introduction¹

1.1 SELF-intensifiers and reflexives in a historical perspective

As is well known, there is a particularly strong (synchronic and diachronic) relationship between intensifying *self*-forms or ‘emphatic reflexives’ on the one hand, and (non-emphatic) reflexives or ‘reflexive anaphors’ on the other. For example, the English *self*-anaphors have developed from the adjunction of an intensifying *self*-form to the plain object pronouns in Old and Middle English. This process of reanalysis is well documented and has been described by König and Siemund (2000a), van Gelderen (2001) and Keenan (2002), among many others. It is illustrated in (1) and (2):

- (1) he *hine* vncuð makede
 he him unknown made
 ‘he made himself unknown/unrecognizable.’
 Caligula 3302, quoted from van Gelderen (2001: 72)

¹ Some of the arguments made in this paper have been inspired by work done by Stephan Töpper (cf. Töpper 2002), whose support is gratefully acknowledged. Moreover, we would like to thank Florian Haas, Bernd Heine, Daniel Hole, Suzanne Kemmer, Shigehiro Kokutani, Elena Maslova and two anonymous referees of *Linguistics* for critical comments and helpful suggestions. All remaining errors and inaccuracies are our own.

- (2) he makede *him-seluen* muchel clond
 he made him-SELF much pain
 ‘He made for himself much pain.’
 Caligula 5839, quoted from van Gelderen (2001: 73)

Similar developments can be observed in many other languages, and it is widely agreed that the development from SELF-intensifiers to reflexive markers as illustrated above is a process of considerable generality (cf. Faltz 1985; Levinson 1987, 1991; Kemmer 1993; König and Siemund 2000a,b; Schladt 2000; Heine 2003). It can be represented in the simple formula given in (3).

- (3) SELF-intensifier > reflexive

In this paper we aim to show that the formula in (3) is not only simple, but also simplifying, insofar as it lumps together a number of similar and possibly interrelated, but clearly different, processes. While carrying out a typological study on the formal encoding of SELF-intensifiers and reflexive anaphors (cf. König and Siemund 2000b, 2005; Gast et al. 2003), we found that the relationship between those two types of expressions is in fact much more complex than the formula in (3) suggests. First, the genesis of reflexive markers often involves SELF-intensifiers that occur in a non-adjacent position to the NP they are associated with (e.g. *himself* in *John [did the washing himself]*). Such non-juxtaposed intensifiers, which differ both syntactically and semantically from the juxtaposed *self*-form in (2), and which are encoded using distinct lexical items in many languages, interact with predicate meanings rather than referential meanings. And second, SELF-intensifiers may not only develop into, or give rise to the creation of, reflexive markers; they may also be the target of a semantic change which originates from expressions of reflexivity.

1.2 The empirical basis of the investigation

Our typological survey is based on data that has been collected during a six-year research project on SELF-intensifiers and reflexives, on the basis of both native speaker consultation (field work and questionnaires) and grammatical descriptions.² In the course of this project, information was assembled on more than two hundred languages, but given that the issues under investigation, especially the differentiation between two types of intensifiers (juxtaposed vs. non-juxtaposed), requires fine-grained analyses and a very high standard of reliability, not all of those data were used. Since we want to make at least a weak statistical statement, we have moreover aimed to balance the sample genetically and areally, as far as this was possible. As a consequence, the sample was cut down to 72 languages, and some of the languages used in the text for the purpose of illustration do not appear in it.

The sample, which is listed in the Appendix, contains languages from 32 families, according to the Ethnologue classification. The four largest families (Afro-Asiatic, Austronesian, Indo-European and Niger-Congo) are each represented by at least four languages, while all other families are represented by three languages at most. As far as the areal distribution of the sample languages is concerned, we have

² The project was carried out under the direction of Ekkehard König, funded by the *Deutsche Forschungsgemeinschaft* (Ko 497/5-1/4).

aimed to achieve a more or less even distribution over five macro-areas:³ Americas: 16 languages; Africa: 18 languages; Northern Eurasia: 16 languages; Southern Eurasia: 11 languages; Australia/Papua New Guinea/Oceania: 11 languages. Still, we are aware that the degree of areal and genealogical balancing of the sample does not perfectly meet the common standards of large-scale typological investigations as described, for example, by Rijkhoff et al. (1993). We will therefore refrain from applying any sophisticated statistical procedures, providing the relevant figures in terms of absolute numbers instead. We would like to point out that the main objective of this paper is not to describe the exact quantitative distribution of linguistic types in the languages of the world, but to show in what way two closely related areas of grammar (SELF-intensification and reflexivity) may be expressed, and how specific patterns of formal overlap may be explained in diachronic terms.

1.3 The structure of the paper

Following these introductory remarks, section 2 will be concerned with establishing a three-way opposition between (i) reflexives, (ii) ‘adnominal intensifiers’, and (iii) ‘actor-oriented intensifiers’. Section 3 presents a discussion of the cross-linguistic relatedness patterns in the domain of reflexivity and intensification. The findings presented there give rise to the assumption that in semantic terms reflexivity is closely related to actor-oriented intensification and/or vice versa. Section 4 consequently provides a fine-grained analysis of actor-oriented intensification. In section 5 the semantic relationship between actor-oriented intensifiers and reflexives is approached from the perspective of the hypothesis that what is common to actor-oriented intensification and reflexivity is a high degree of ‘involvement’ in an event. While intuitively plausible, this argument turns out to be inconsistent under closer inspection and consequently needs to be refined. In section 6, we argue that an explanation of the relationship between reflexives and actor-oriented intensifiers requires a closer look at the various synchronic and diachronic parameters linking both types of expressions. We make a distinction between two different scenarios that may give rise to a formal overlap of actor-oriented intensifiers and reflexives: (i) reflexives may form part of a strategy of intensification (‘oblique reflexives’), and (ii) actor-oriented intensifiers may be used to reinforce semantically weak reflexivization strategies, consequently turning into markers of reflexivity themselves. Finally, section 7 summarizes the results of our study and points out some corollaries of our argument for a general consideration of grammaticalization processes in the domain of reflexivity and intensification.

2 Reflexive pronouns and different types of SELF-intensifiers

2.1 Reflexive pronouns and adnominal intensifiers

If we agree on an informal definition of reflexivity as the co-indexation of two argument positions of a transitive predicate, the function of the *self*-forms in (4) can plausibly be called a reflexivizing one, whereas this characterization would be inadequate for the *self*-forms in (5) and (6), whose function is one of giving emphasis or intensification to a preceding nominal constituent.

³ In our areal classifications we follow Nichols (1992). However, Asia Minor, the Middle East and South/east Asia are here subsumed under ‘Southern Eurasia’. Unlike Nichols, we regard Armenian as belonging to Asia Minor (and, thus, to Southern Eurasia).

- (4) John_i likes himself_{i/*j}.
 (5) [The president himself] opened the meeting.
 (6) John has [mown the lawn himself].

Self-forms such as those in (5) and (6), or their translational equivalents in other languages, have been referred to by a multitude of different labels while in the context of Engl. *himself*, *herself*, etc. the terms ‘emphatic reflexive’ or ‘intensive reflexive’ are probably most widespread (Leskosky 1972; Quirk et al. 1985; Kuno 1987). Given the formal identity of emphatic and intensifying *self*-forms in English, such terminological choices are comprehensible, but as a recent cross-linguistic study shows (König and Siemund 2005), the encoding of the reflexivizing function and this particular intensifying function by the same expression is representative of only about 45 percent of the languages of the world. Other languages of this type are Arabic (*nafs-*), Chinese (*zìjǐ*), Finnish (*itse-*), and Turkish (*kendi-*).

Among the languages that do not encode these two functions by the same expression is German, where the reflexive marker *sich* is clearly differentiated from the intensifying expression *selbst*. The examples in (7) – (9) are the direct German translations of those in (4) – (6). It is not possible to exchange Germ. *sich* and *selbst* in these examples, i.e. **Johann mag selbst*, **Der Präsident sich eröffnete die Sitzung*, and **Johann hat den Rasen sich gemäht* are strictly ungrammatical. The same lexical distinction as in German is made in Abkhaz (*xatà-* vs. *-xə*), Latin (*ipse* vs. *se*), Russian (*sam* vs. *sebjä*) and Somali (*naft-* vs. *is*), among other languages.

- (7) Johann mag sich / *selbst.
 John likes REFL SELF
 ‘John likes himself.’
 (8) [Der Präsident selbst / *sich] eröffnete die Sitzung.
 DET president SELF REFL opened the meeting
 ‘The president himself opened the meeting.’
 (9) Johann hat [den Rasen selbst / *sich gemäht].
 John has DET lawn SELF REFL mown
 ‘John has mown the lawn himself.’

For those languages that draw a formal distinction between reflexivizing and intensifying function, the expressions bearing the intensifying function have *inter alia* been analyzed as ‘reinforcing pronouns’ (Penning 1875), ‘personal pronouns’ (Poutsma 1916), ‘adjectives’ (Visser 1970), ‘focus markers’ or ‘focus particles’ (König 1991; Ferro 1993; Sánchez 1994) and ‘scalar adverbs’ (Primus 1992). The obvious variation in the categorization of these expressions has the following reasons: (i) the expressions do not have the same morphological, morpho-syntactic and distributional properties across different languages – for example, Swedish *själv-* and Spanish *mismo/a* inflect like adjectives, while German *selbst* does not inflect; (ii) analysts apply different criteria for the definition of word classes: distributional criteria often lead to a classification of SELF-intensifiers as focus particles – at least if those intensifiers do not inflect – while intensifiers are commonly categorized as nouns or adjectives (or pro-forms thereof) on the basis of morphological considerations; and (iii) even in single languages these expressions frequently straddle the line of established word class boundaries.

In spite of these differences, all of the labels listed above capture important grammatical properties of the expressions at issue: they carry emphatic stress, are

sometimes used like pronouns, in some languages inflect like adjectives, in others behave like particles, are in association with a nominal constituent, interact with the referential properties of NPs, etc. What these expressions have in common semantically across different languages is their specific ‘intensifying’ function: they evoke alternatives of a specific type which are paradigmatically opposed to the referent of the NP they relate to. For example, *himself* in *the president himself* has the effect of bringing alternative referents into the discussion which are different from, but in some way related to, the president, like *the president’s wife*, *the president’s spokesman* or *the vice-president* (cf. König 1991; Siemund 2000, 2002; Eckardt 2001; Hole 2002; Gast 2002 for more details).⁴ Since NP-juxtaposed intensifying *self*-forms are not the primary topic of this paper, we will not go into any more detail here, and the reader is referred to the relevant literature for more information. In keeping with Farr (1905), Cantrall (1973), Moravcsik (1972), Edmondson and Plank (1978), as well as the aforementioned publications, we will in the following simply refer to these expressions as ‘intensifiers’ or ‘SELF-intensifiers’, the latter term being motivated by the fact that in using the notion ‘intensifier’ we are impinging on the territory of degree adverbs like *very*. The small caps in the prefix SELF- are intended to make it clear that we are dealing with a generalization over expressions from different languages, rather than any particular lexical item.⁵

SELF-intensifiers always stand in a syntactic relation to some nominal (clause-mate) constituent. This relation has been described by notions as different as ‘coreference’ or ‘binding’ (Moravcsik 1972; Cantrall 1973), ‘apposition’ (Hall 1965; Verheijen 1986), ‘theta-identification’ (Browning 1993), ‘complementation’ (Eckardt 2001; Hole 2002; Gast 2002),⁶ and ‘interaction’ or ‘association with focus’ (König 1991; Primus 1991; Ferro 1993; Siemund 2000), depending on the language analyzed, the perspective taken and the theoretical framework adopted. Since it is not our goal here to contribute to this discussion, we will leave this syntactic relation unspecific and make no attempt at explicating it through our terminology. We will simply say that SELF-intensifiers ‘interact with’ or ‘are associated with’ the NP to whose interpretation they contribute. This NP will be called the ‘associated NP’.⁷

⁴ Eckardt (2001), Hole (2002) and Gast (2002) argue that this semantic effect can be derived from the assumption that intensifiers denote the identity function in focus. Although this point of view is certainly compatible with the arguments made in this paper, it will not be pursued any further. It should be mentioned, however, that an analysis that tries to derive the formal overlap between intensifiers and reflexives compositionally from the assumption that both are expressions of identity is not trivial and requires that one takes into account specific interactions between verb meanings and the referential interpretation of arguments (cf. Gast 2002 for discussion). Moreover, the analysis of intensifiers as expressions of an identity function is more difficult to motivate for the non-juxtaposed uses of intensifiers (cf. Hole 2002 for an attempt).

⁵ For a typological study such as ours it would be particularly infelicitous to apply the term ‘emphatic reflexive’, which is clearly motivated by the analysis of English, to other languages. The use of this term would be as inappropriate as using the term ‘wh-pronoun’ for interrogative words in general. Nevertheless, this is not to deny that what we call intensifiers bears a close semantic relationship to reflexives, which in some languages manifests itself in formal identity. Note further that in some languages our intensifiers are related to expressions of identity like Engl. *same*, Ital. *stesso*, Span. *mismo*, etc. Cf. footnote 4 on the relationship of intensifiers to the notion of identity.

⁶ Semantically, this boils down to functional application.

⁷ As one referee points out, ‘antecedent’ would also be a possible terminological choice; but this would presuppose that the syntactic relation between intensifiers and the associated NPs is of the same type as the one between antecedents and anaphors; i.e. this terminology would force us to assume that SELF-intensifiers are expressions of category NP that are juxtaposed to and bound by the preceding

2.2 Adnominal vs. actor-oriented intensifiers

As the English examples in (5) and (6) above, and also the German translations in (8) and (9), show, there are two positional variants of the SELF-intensifier, where one occurs in a juxtaposed position to the NP that it modifies and the other in non-juxtaposed position embedded in some verbal projection. Attached to this syntactic difference there is a contrast in meaning which can be made explicit by finding suitable paraphrases to the intensifying *self*-forms (cf. (10) and (11)).

- (10) [The president himself] opened the meeting.
 ≈ ‘The president as opposed to other people related to him (his wife, spokesman etc.) opened the meeting’
- (11) John has [painted the house himself].
 ≈ ‘John did not delegate the painting of the house to someone else.’

In the following we will refer to juxtaposed occurrences of *self*-forms as in (10) as ‘adnominal intensifiers’, thus providing a simple syntactic characterization. Since such a straightforward syntactic description is not available for the non-juxtaposed variants of SELF-intensifiers (the exact syntactic position of such intensifiers is an open issue; cf. Siemund 2000; Hole 2002; Gast 2002 for some discussion), a semantic characterization will be used instead. The label to be applied in the following for such occurrences of *self*-forms is ‘actor-oriented intensifier’ because, as we will show in section 3, the common denominator of these expressions is that they interact with an NP bearing the semantic (macro-)role of an actor, in the sense of Foley and Van Valin (1984) (cf. also Dowty 1991; van Valin ed. 1993).⁸ Alternative labels that have been used for such uses of SELF-intensifiers include ‘predicate emphasizees’ (Dirven 1973), ‘non-head-bound intensifiers’ (Edmondson and Plank 1978), ‘adverbial reflexives’ (Browning 1993), ‘agentive intensifiers’ or ‘*self*-forms’ (Kemmer 1995; Hole 2002), and ‘adverbial intensifiers’ (König 1991; Siemund 2000; Gast 2002).

To be sure, providing paraphrases as in (10) and (11) – in addition to the syntactic characterization ‘juxtaposed’ vs. ‘non-juxtaposed’ – is not enough to motivate the distinction between adnominal and actor-oriented intensifiers. Let us therefore briefly review a few tests that have been used in the relevant literature to show that the two types of SELF-intensifiers are not merely positional variants, but differ both syntactically and semantically (we will use English data, but similar tests can be applied to other languages too).⁹ First of all, adnominal intensifiers and actor-oriented intensifiers impose different constraints on the referential properties of the associated NP. Adnominal intensifiers require NPs whose referent is “capable of

NP. However, this point of view is not generally accepted, so we prefer to use the more general notion ‘associated NP’.

⁸ An anonymous referee of *Linguistics* correctly points out that the non-juxtaposed *self*-intensifiers look like subject complements (‘secondary predicates’), but note that this analysis is semantically difficult to motivate. According to such an analysis a sentence like *John drove the car himself* would come to be analysed in the same way as *John drove the car tired*, for which the following semantic representation can be given: $\exists e[\text{DRIVE}(\text{John})(\text{the car})(e) \ \& \ \text{TIRED}(\text{John})(e)]$. However, translating the first sentence in a similar way yields a semantic representation of the form: $\exists e[\text{DRIVE}(\text{John})(\text{the car})(e) \ \& \ \text{HIMSELF}(\text{John})(e)]$. Gast (2002), who explores such an analysis in interaction with focus semantic effects, points out a number of problems.

⁹ For a more complete discussion of such tests, cf. Edmondson and Plank (1978), Siemund (2000), Gast (2002).

being identified”, or should at least have “specific reference” (cf. Edmondson and Plank 1979: 380f.). This restriction does not apply to actor-oriented intensifiers, which can also combine with indefinite NPs with a generic interpretation (cf. (12) and (13), from Moravcsik 1972: 274):

- (12) An engineer should know this himself.
 (13) ?An engineer himself should know this.

Secondly, adnominal intensifiers can be adjoined to animate and inanimate NPs. Actor-oriented intensifiers, as their name suggests, are restricted to animate NPs bearing the macro-role of an actor (this point is emphasized by Hole 2002):

- (14) The gardens are quite ugly, but the castle itself is wonderful.
 (15) My dog opened the fridge door himself.
 (16) ??The wind opened the fridge door itself.

Thirdly, adnominal and actor-oriented intensifiers behave differently in negative sentences. Focusing on the sloppy reading of the possessive *his*, the sentence in (17) says that only Bill’s lawn was mown whereas Max’s lawn was not. In sentence (18), by contrast, both Max’s and Bill’s lawn were mown, but Max delegated the job to someone else.

- (17) Max himself did not mow his lawn, but his brother Bill did.
 (18) Max did not mow his lawn himself, but his brother Bill did.

A last point showing that adnominal and actor-oriented intensifiers should be kept apart in a typological study is that many languages make a lexical distinction between both types of expressions, i.e. (17) and (18) are translated using different lexical material. We will return to this point in section 2.3.

In addition to the two uses of intensifying *self*-forms exemplified in (10) and (11), i.e. adnominal and actor-oriented intensifiers, there is a third use type which can approximately be paraphrased by inclusive focus particles like *also* or *too*. An example is given in (19).

- (19) How can Jim complain about Jack’s snoring if he snores himself?
 ≈ ‘...if he snores, too.’

Like the actor-oriented intensifier in (11) *himself* in (19) occurs in a non-juxtaposed position to the NP it interacts with. Such instances of *self*-forms have been referred to as ‘adverbial-inclusive’ or ‘additive’ SELF-intensifiers because they are part of a verbal projection and have an additive semantics like *also*. These intensifiers, which can be differentiated from actor-oriented intensifiers on distributional grounds (cf. Siemund 2000; Gast 2002), will play no role in the subsequent discussion (note that they are also very rare cross-linguistically and basically restricted to Germanic and Slavonic languages).

2.3 Formal identity vs. differentiation of adnominal and actor-oriented intensifiers

As has been illustrated using data from English and German, languages may differ as to whether or not SELF-intensifiers and reflexives are formally identical. The additional syntactic distinction between two use types of SELF-intensifiers introduced in the preceding section allows us to go one step further. We may now ask whether there are languages that differentiate between adnominal and actor-oriented

intensifiers at a lexical level, too. And in fact, such languages do exist and are not even rare. Examples of languages that have special actor-oriented intensifiers include Koyra Chiini (cf. section 3), Tetelcingo Nahuatl, and Wardaman.^{10,11} Since all those languages also have specialized reflexive markers, the English *self*-forms in their three uses correspond to three different expressions in those languages. We will here use data from Tetelcingo Nahuatl for illustration, which is an almost extinct Uto-Aztecan language spoken in a suburb of Cuautla (Morelos/Mexico). In Tetelcingo Nahuatl, reflexive relations are indicated by a derivational prefix *mo-* (cf. (20)).

- (20) *tıktlasohtlas mo-tłoka-ikni kyenamı taha to-mo-tlasohtla*
 you.will.love.him 2.POSS-man-brother like you 2.SG-REFL-love
 ‘You shall love your neighbor as yourself.’
 Mark 12, 31 (Wycliffe translation)

Adnominal intensification in Tetelcingo Nahuatl is expressed using the combination [*sie* + pronoun] in juxtaposition to the NP (cf. (21)). So far the division of labor established by the intensifying and reflexivizing expressions in (20) and (21) more or less corresponds to the situation in German as illustrated in (7) and (8) above.

- (21) *pos [sie yaha David] kihtoa ipa inu libro de salmos ...*
 well SELF he David he.says in DET book of psalms
 ‘and David himself saith in the book of Psalms: ...’
 Luke 20, 42 (Wycliffe translation)

However, once we turn to the encoding of actor-oriented intensification, we see that yet another expression (*sa -siel*) is necessary because *sie yaha* cannot adjoin to a verbal projection. The actor-oriented intensifier *sa -siel* of Tetelcingo Nahuatl is not directly related to the adnominal intensifier in etymological terms¹² and differs from it in both form and syntactic class: *sa* (‘only, merely’) is an adverbial element, and *-siel* is a relational noun which takes possessor prefixes. *Sa -siel* can be used as a translational (near) equivalent of Engl. *himself* and Germ. *selbst* as illustrated in (6) and (9) above:¹³

- (22) *Šowa [okıchıhchik i-kal sa i-siel].*
 John he.built.it 3.POSS-house only 3.POSS-SELF.AO
 ‘John built his house himself.’

In the following discussion we will precisely be interested in those cross-linguistic patterns of identity and differentiation between reflexives and the two types of SELF-intensifiers as exemplified by the data from English, German and Tetelcingo

¹⁰ Wardaman has a verbal reflexive marker. For adnominal intensification, there is an element *-namaj*, while actor-oriented intensification is expressed using the word *ngajbang* (cf. Merlan 1994:110ff.).

¹¹ To provide an example of a less ‘exotic’ language, Korean can arguably be regarded as making lexical differentiations between the three types of expressions. The adnominal intensifier of Korean is *casin*, the actor oriented intensifier *jikjob*, and the reflexive anaphor *caki*. The distributional boundaries are not always clear-cut, however, especially in view of the fact that *casin* can also be used as a marker of reflexivity. For a survey of the most central relevant facts, cf. Gast et al. (2003).

¹² There is an indirect etymological relationship insofar as both expressions are related to the numeral ‘one’ (*se* in Classical Nahuatl).

¹³ All examples from Nahuatl, Zapotec and Otomí without an indication of the source have been collected in field work by one of the authors.

Nahuatl above. These patterns are summarized in Table 1. Our study will show that not all logically possible patterns of formal identity or relatedness are equally attested. Interestingly, the cross-linguistic patterns of formal overlap seem to indicate that reflexivity is more closely related to actor-oriented than to adnominal intensification. While it is relatively difficult to find languages that use the same expression for the encoding of reflexivity and adnominal intensification, and that oppose such an expression to a formally distinct actor-oriented intensifier, languages which lump together actor-oriented intensification and reflexivity as opposed to adnominal intensification seem to be more widespread. Evidently, such a bias in the actual distribution of logical possibilities is in need of explanation, the more so as it contradicts our expectations and those expressed in the previous research.

	reflexive	adnominal intensifier	actor-oriented intensifier
English	<i>self</i> -forms		
German	<i>sich</i>	<i>selbst</i>	
Tetelcingo Nahuatl	<i>mo-</i>	<i>sie</i> + pronoun	<i>sa -siel</i>

Table 1: Relatedness patterns in English, German and Tetelcingo Nahuatl

3 Cross-linguistic relatedness patterns in the domain of SELF-intensifiers and reflexives

There are five logically possible relatedness patterns between adnominal intensifiers, actor-oriented intensifiers and reflexive markers.¹⁴ First, all three types of expressions may be encoded identically. This pattern, which can be found in English, is also attested in Turkish (pattern I):

(23) Turkish (Münnever Özkurt, p.c.)

a. reflexive

ben *kendi*-m-i sev-er-im
I REFL-1SG-ACC like-AOR-1SG
'I like myself.'

b. adnominal intensifier

müdür-ün *kendi*-si biz-im-le konuş-acak
director-GEN SELF-3SG.POSS we-GEN-with talk-FUT
'The director himself will talk to us.'

c. actor-oriented intensifier

Olga çocuk-lar-ın-ı *kendi*-si okutur
Olga child-PL-3SG.POSS-ACC SELF-3SG.POSS teaches
'Olga teaches her children herself.'

In a second type of language, exemplified by German above, adnominal and adverbial intensifiers are formally identical, and are both differentiated from reflexives. Another language of this type is Tzotzil (pattern II):¹⁵

¹⁴ By formal relatedness we mean morphological similarity based on etymological relatedness or synchronic derivability. Complete identity can be regarded as a special case of formal relatedness.

¹⁵ Note that *stuk* in (24)c. is clearly not contained in the NP *li hŠune*; the clitic *-e* marks the right boundary of this NP.

(24) Tzotzil

a. reflexive

lah yil s-ba ta nen li h-Šun-e
 he.saw 3.POSS-REFL in mirror DET MASC-John-CL
 ‘John saw himself in the mirror.’

b. adnominal intensifier

ta štal s-tuk li preserent-e
 will.come 3.POSS-SELF DET president-CL
 ‘The president himself will come.’

c. actor-oriented intensifier

li h-Šun-e [s-tuk la svaʔan s-na]
 DET MASC-John-CL 3.POSS-SELF he.built 3.POSS-house
 ‘John has built his house himself.’

Third, reflexives and actor-oriented intensifiers may be formally related, while adnominal intensification is expressed by a lexical item of its own. This situation can be found in Tarascan. There is a verbal suffix *-kua.ɛ* which indicates either reflexivity or actor-oriented intensification, but never adnominal intensification. For the latter function, only the loan word *mísimu* (< Spanish *mismo*) is available, which is widely used in both spoken and written language (as in folk tales and the Wycliffe bible translation) (pattern III).

(25) Tarascan (Charapan)

a. reflexive

Juan eše-kua.ɛ-sti
 John see-REFL-PAST.3.IND
 ‘John looked at himself.’

b. adnominal intensifier

uihtsındikua hanósti [hurámuti mísimu]
 yesterday came president SELF
 ‘Yesterday, the president himself came.’

c. actor-oriented intensifier

Juan ú-kua.ɛ-sti kumánchikua
 John make-AO.SELF-PAST.3.IND house
 ‘John built his house himself.’

In a fourth type of language (pattern IV) there are different lexical expressions for the three functions under consideration. This was illustrated for Tetelcingo Nahuatl above. A three-way opposition of this type can also be found in Koyra Chiini (also known as ‘Western Songhay’). There is a reflexive anaphor (or ‘light reflexive’) *ɲgu* and a heavy reflexive marker *bomo* (‘head’), which are sometimes combined (cf. (26)a.). Adnominal intensification is expressed using the NP-adjunct *jaati(r)* (cf. Arabic *đaat* ‘self’), and actor-oriented intensification by the adverbial element *huneyno* (cf. *huna* ‘life’), which takes a pronominal possessor:

(26) Koyra Chiini (Heath 1999: 330, 217, 219)

a. reflexive

i si naaney ŋgi-ye bomo
 they IMPF.NEG trust REFL-3PL REFL
 ‘They don’t trust themselves.’

b. adnominal intensifier

ay ta jaatir di čindi ka goy dooti
 I TOP SELF.ADN DEF remain INF work there
 ‘I myself continue to work there.’

c. actor-oriented intensifier

yeē fatta ay huneyno
 1SG.SUBJ.IMPF exit 1SG.POSS SELF.AO
 ‘I will go out by myself.’

Finally, there are languages in which adnominal intensifiers and reflexive markers are identical or formally related, and are opposed to a special actor-oriented intensifier (pattern V). Mitla Zapotec is a case in point:¹⁶

(27) Mitla Zapotec¹⁷

a. reflexive

bawiä lagahk loä
 I.saw SELF me
 ‘I saw myself.’

b. adnominal intensifier

lagahk Juan kayuhn-ni rolihdz-ni
 SELF Juan is.building-3SG house-3SG.POSS
 ‘Juan himself is building his house.’

c. actor-oriented intensifier

Juan ensilaani kayuhn-ni rolihdz-ni
 Juan SELF.AO is.building-3SG house-3SG.POSS
 ‘Juan is building his house himself.’

The five patterns of relatedness exemplified above are summarized in Table 2. The letters A, B and C stand for the expressions associated with the meanings given at the top of each column. If two cells within a row are filled with identical letters, this means that the expressions associated with the relevant columns are formally related. The different types of relatedness patterns have been assigned Roman numbers (I-V). For the discussion to follow, types III and V are the most prominent ones and, therefore, highlighted. The last but one column indicates the number of languages in our sample exhibiting the relevant pattern (cf. also Table 3 in the Appendix):

¹⁶ In certain contexts, *ensilaani* can occur in a reflexivizing function too, e.g. in *ensilaani badzohnni* ‘s/he negated him/herself’. This suggests that Mitla Zapotec has properties of pattern III languages as well. However, reflexivizing *ensilaani* does not seem productive. Note that classifying Mitla Zapotec as a pattern III language would yield even more support to our analysis; but it would be misleading since adnominal intensifiers and reflexives are clearly formally related, too.

¹⁷ Double consonants indicate tense articulation.

	SELF.ADN	SELF.AO	REFL	n in sample	examples
I	A	A	A	30	English, Mandarin
II	A	A	B	25	German, Tzotzil
⇒ III	A	B	B	10	Tarascan, Japanese
IV	A	B	C	4	Ttlc. Nahuatl, Koyra Chiini
⇒ V	A	B	A	3	Mitla Zapotec, Amharic

Table 2: Relatedness patterns of SELF-intensifiers and reflexives

Our study into the relatedness patterns between the three expressions at issue has led to an interesting finding: as can be gathered from Table 2, type III seems to be considerably more common than type V. In our 72-language sample, there are only three languages that can more or less safely be grouped under type V (Mitla Zapotec, Amharic, Malagasy), while as many as ten languages can be categorized as displaying the pattern associated with type III. We have found this pattern in Cubeo, Japanese, Kinyarwanda, Karo Batak, Lavukaleve, Mezquital Otomí, Tagalog, Tarascan, *Tukang Besi*, and Totonac.

Given the importance of pattern III for the argument to be made in the following, we would like to provide more illustration, this time using data from Japanese. The adnominal intensifier of Japanese is *jishin* (cf. (28)a.), whereas actor-oriented intensification and reflexivization both involve the lexical item *jibun*. When used as a reflexive pronoun, *jibun* takes the appropriate object case marker, i.e. accusative *wo* or dative *ni*; when used as an intensifier, it combines with the instrumental postposition *de* (cf. (28)b. and c.).¹⁸

(28) Japanese

a. adnominal intensifier

Taro-*jishin*/**jibun* kyouju-wo sonkeishiteiru.

Taro-JISHIN/JIBUN professor-ACC honour

‘Taro himself honours the professor.’

Ogawa (1998: 165)

b. reflexive

Taro-wa *jibun*-wo/**jishin*-wo semeta.

Taro-TOP JIBUN-ACC/JISHIN-ACC criticized

‘Taro criticized himself.’

Ogawa (1998: 165)

c. actor-oriented intensifier

Taro-wa *jibun*-de/**jishin*-de¹⁹ kuruma-wo arau.

Taro-TOP JIBUN-INSTR/JISHIN-INSTR car-ACC wash

‘Taro washes his car himself.’

Ogawa (1998: 173)

The fact that pattern III is more widespread than pattern V is remarkable, given that most if not all previous studies assume or simply take it for granted that

¹⁸ Below, we will say that *jibun* is always a reflexive, and that the semantics of an actor-oriented intensifier are a function of the combination of the reflexive marker with an instrumental case marker.

¹⁹ Note that the combination *jibun-jishin-de* is possible, but **jishin-de* alone is not.

reflexives are more closely related to adnominal intensifiers than to actor-oriented intensifiers (e.g. Faltz 1985; Levinson 1987, 1991; Kemmer 1993; König and Siemund 2000a; Heine 2003). As has been mentioned in section 1, the historical development of English shows how reflexive markers can arise from adding an intensifier to an otherwise referentially unspecific object pronoun. We would not like to challenge the general correctness of this analysis for English as well as many other languages. However, we believe that it has (incorrectly) been generalized that the process of grammaticalizing reflexive markers from SELF-intensifiers *always* involves the adnominal intensifier. What our data suggest is that the role of the actor-oriented intensifier has been underestimated in previous studies. In section 6, we will show that in languages like Mezquital Otomí it is clearly the actor-oriented intensifier that has developed into a marker of reflexivity, not the adnominal intensifier. Moreover, we will argue that the historical development does not necessarily proceed from SELF-intensifiers to reflexives. The reverse process is also a possible development, and strategies of actor-oriented intensification may be based on reflexive markers (e.g. Japanese *jibun-de*).

Naturally, explanations for these unexpected diachronic relationships can only be given if we understand how the meaning of actor-oriented intensifiers relates to reflexivity. Moreover, we need to know how this relationship differs from the one between adnominal intensifiers and reflexives. Successfully pursuing these problems, thus, necessitates some knowledge of the meaning of actor-oriented intensifiers, to which we will turn in the next section.

4 The meaning of actor-oriented intensifiers

4.1 Reference to alternative propositions

In a few words, the contribution made by actor-oriented intensifiers to the meaning of a sentence can be characterized as follows: actor-oriented intensifiers are used to emphasize that the action described by a sentence is performed by the subject referent, and not by some other person. For example, (29) states that the action of repairing the bicycle was carried out by John, and not by someone else.²⁰

(29) John repaired the bicycle himself.

The notion of ‘emphasis’ must of course be made more explicit. Using concepts of focus semantics (cf. Rooth 1985, 1992, 1996), we define ‘emphasis’ as *the assertion or mention of a given value against the background and to the exclusion of a set of possible alternative values*. The function of *himself* in (29) can accordingly also be described like this: the actor-oriented intensifier is used to relate the proposition *John repaired the bicycle* to alternative propositions in which someone other than John repaired the bicycle in question, while the other major coordinates of that event remain unchanged (referential interpretation of the NPs involved, tense etc.). Examples of propositions potentially contrasting with (29) are given in (30).

²⁰ In the discussion to follow, we will focus on those aspects of the meaning of intensifiers that are relevant to their interaction with reflexive markers. For more complete discussions of these issues, cf. Siemund (2000: Chapter 8), Hole (2002) and Gast (2002: Chapter 5), as well as relevant references cited there.

- (30) a. John had the bicycle repaired by a bicycle mechanic.
 b. John's brother repaired the bicycle for John.

We can describe the semantics of actor-oriented intensifiers in more general terms if we make use of the macro-role 'actor', used by Foley and van Valin (1984) and in van Valin (ed.) (1993), among others. The role 'actor' is a generalization over the semantic roles associated with the external arguments of transitive and unergative intransitive predicates. In (29), *John* is the 'actor' (more specifically, 'agent') in the action described by the verb *repair* (or the VP *repair the bicycle*).²¹ This role is taken by some individual other than John in (30)a. and (30)b. (*a bicycle mechanic* and *John's brother*, respectively).²²

So far, sentences with actor-oriented intensifiers do not seem to differ from sentences with adnominal intensifiers or free focus constructions. A sentence like *JOHN/John himSELF repaired the bicycle* likewise seems to put emphasis on the agentive involvement of John. A second important aspect of the function of *himself* in (29) is that in both (29) and the contrasting propositions (30)a. and (30)b., there is a presupposition to the effect that John, while not being the actor in the event described, still stands in some other thematic relation to it. We might say, he is an 'event-external causer' in (30)a. and a beneficiary in (30)b. Such (presupposed) alternative thematic relations holding between the referent of the NP interacting with the intensifier and the events described by the alternative propositions can be observed in all instances of actor-oriented intensifiers (cf. Siemund 2000: Chapter 8; Gast 2002: Chapter 5). The presuppositional status of those semantic relations is witnessed by the fact that they are stable under negation. While negating that John has repaired the bicycle in question, (31) still implies that he was responsible for, or interested in, the bicycle being repaired:

- (31) John has not repaired the bicycle himself.

According to the two empirical generalizations made above, the function of actor-oriented intensifiers can be described as in (32).

- (32) Actor-oriented intensifiers are used to relate a proposition π to a set of alternative propositions $R = \{\rho_1, \rho_2 \dots \rho_n\}$ in such a way that:
- in the alternative propositions ρ_i , the actor-role is assigned to some individual y other than the referent x of the associated NP, and
 - x has a different thematic role in the alternative propositions, e.g. that of an external causer or beneficiary (cf. (30)a. and b., respectively).

²¹ The assumption that verbs or VPs assign thematic roles to subjects has repeatedly been challenged (e.g. Williams 1981; Kratzer 1996). We will stick to the more traditional viewpoint here. An analysis of actor-oriented intensifiers in Kratzer's (1996) framework has been provided by Hole (2002).

²² This characterization appears to be incompatible with those instances of intensifiers that have sometimes been referred to as 'anti-assistive' (Hole 2002; Gast 2002). In such uses, an expression of the form *x was the agent of an event e x-self* (where 'e' is a variable ranging over events) contrasts with something like *x was the agent of e, and was helped by some y*. We believe that even in those cases the agent of the alternative proposition is different from that of the proposition containing the intensifier, since such comitative expressions can be regarded as denoting predications with plural agents, from a semantic point of view. For example, in *Fred performed e with the help of John* there is a (collective) plural agent {Fred, John} or [Fred + John]. In logical terms, that plural referent is clearly different from the individual Fred. Note that this assumption does not conflict with the so-called 'cumulativity universal' ($\lambda P_{\langle et \rangle} \forall x \forall y [[P(x) \& P(y)] \rightarrow P(x+y)]$); cf. Krifka 1998), since this is only an implication from distributive to collective predications, but not the other way around.

Let us consider two attested examples in order to provide further illustration for our analysis. In (33) and (34) alternative propositions are explicitly mentioned in the context.

- (33) He announced that he would pick his ministers himself, rather than submit to the dictate of party leaders used to bartering cabinet posts for parliamentary support. [BNC CR7 2043]
- (34) If you are scoring the tests yourself, rather than getting the computer to do it for you, then always do so at the same time of the day – otherwise there would be variability due to time-of-day effects upon your scoring ability. [BNC A75 814]

In (33), the sentence *He picked his ministers himself* is opposed to a proposition in which someone other than the referent of *he* performs the action of picking the ministers, namely *party leaders used to bartering cabinet posts for parliamentary support* (cf. (32)a.). The referent of *he* is conceived as being negatively affected in this case (*SUBMITS to the dictate...*, cf. (32)b.). Similarly, in (34) the proposition *you score the tests* is related to *you get the computer to score the tests*, and the thematic role assigned by the verb *score* to its subject is filled by some individual other than the referent of the NP interacting with the intensifier (*you* vs. *the computer*; cf. (32)a.). In the alternative proposition, the referent of *you* has the role of a beneficiary (cf. (32)b.).

As has been pointed out, we regard the kind of reference to alternatives that is established by actor-oriented intensifiers as a means of *emphasis*. Given that actor-oriented intensifiers oppose propositions to alternative propositions in which the actor-role is assigned to some individual other than the referent of the associated NP, they can be said to emphasize the agent status of a referent in a given predication. This is in more or less accordance with the analyses presented by Edmondson and Plank (1978), Browning (1993) and Hole (2002).²³

4.2 Actor-oriented intensifiers in self-affecting contexts

We can finally turn to the aspect of actor-oriented intensification that will be particularly central to a consideration of their relationship to reflexives: often, actor-oriented intensifiers are used to emphasize that an action which has a (negative) effect on some referent has been carried out by that very referent. (35) is a relevant example. The intensifier in (35) relates the proposition *John has ruined his career* to a set of alternative propositions in which someone other than John has ruined John's career, thereby emphasizing John's agentive involvement. This is illustrated by (36).

- (35) John has ruined his career himself.
- (36) John's career has not been ruined by Bill; John has ruined his career himself.

John's being negatively affected in (35) is presupposed, and the new information is that he is *also* the agent of that event. The SELF-intensifier is thus

²³ For example, Edmondson and Plank (1978), who distinguish categorically between intensifiers combining with agentive verbs and those forming a constituent with verbs of perception (which they classify as 'stative'), describe the function of actor-oriented intensifiers as follows: "The agency/experiencer distinction is a function of the predicate type; non-stative predicates like *roll* when intensified determine their subjects as most agentive; intensified statives as in

(111) The president heard the news himself.

exclude anyone but the most directly involved experiencer." (Edmondson and Plank 1978: 406).

responsible for the fact that the main focus of (35) seems to be on John's 'double involvement'. A similar semantic effect can be observed when an actor-oriented intensifier occurs in a reflexive predication. Here, the intensifier likewise emphasizes that some referent is not only passively, but also actively involved in an action. Unfortunately, English *self*-forms are hard to identify as intensifiers in such contexts, since they cannot formally be distinguished from reflexive pronouns. Consider the examples in (37) and (38) (cf. Dirven 1973; König and Gast 2002 for such 'hybrid' *self*-forms).²⁴

(37) John KILLED himself.

(38) John killed himSELF.

(37) presupposes that something happened to John, and it could be used as an answer to the question *What happened to John?* By contrast, (38) is ambiguous. It could either be used as an answer to the question *Whom did John kill?*, or to the question *Who killed John?* (cf. (39) and (40)).

(39) – Whom did John kill?

– He killed himSELF (it wasn't Bill whom he killed). (adnominal)

(40) – Who killed John?

– He killed himSELF (it wasn't Bill who killed him). (actor-oriented)

In both (39) and (40), *himself* performs a two-fold or 'hybrid' function: on the one hand, it is responsible for the reflexive interpretation of the predication; on the other hand, it functions as an intensifier. Since English does not formally differentiate between SELF-intensifiers and reflexives, and since sequences such as **himself himself* are ungrammatical (where the first *himself* would be interpreted as a reflexive marker, and the second one as an intensifier), the interaction between actor-oriented intensifiers and reflexive-marking is blurred in these contexts. However, the contrast becomes morphosyntactically visible in languages which do distinguish formally between SELF-intensifiers and reflexives. For example, Russian differentiates between an invariant reflexive pronoun *sebjja* and an intensifier *sam*, which inflects for number, gender and case.²⁵ The sentence *John ruined himself* can thus be translated as shown in (41) – (43), depending on aspects of information structure as those outlined above.

(41) John pogubil sebjja (plain reflexive pronoun)

John ruined REFL.
'John RUINED himself.'

(42) John [_{VP} pogubil [_{NP} sam-ogo sebjja]]. (*sam-ogo*: adnominal intensifier)

John ruined SELF-GEN REFL
'John ruined himSELF (he didn't ruin someone else).'

(43) John [_{VP} sam-Ø sebjja pogubil]. (*sam*: actor-oriented intensifier)

John SELF-NOM REFL ruined
'John ruined himSELF (he wasn't ruined by someone else).'

²⁴ Some authors have argued that *all* instances of *self*-forms should be analyzed as intensifiers, and that the object pronoun is phonologically empty (cf. Jayaseelan 1988, 1997; cf. also Gast 2002, section 7.9 for a similar approach). We will stick to the more traditional viewpoint here that *himself* has two lexical entries: one which projects to NP (the reflexive pronoun), and one which is an adjunct (the intensifier).

²⁵ We are indebted to Elena Maslova for information on Russian. Any inaccuracies are our own.

(41) is a ‘neutral’ statement about John – a common VP-focus structure. In (42), it is under discussion that John ruined someone, probably someone else. The intensifier, which is clearly adnominal (cf. the genitive case triggered by NP-internal agreement with *sebjja*),²⁶ is used to emphasize that John ruined no one other than himself. Finally, in (43) it is under discussion that John was ruined, and the sentence provides the piece of information that John himself was responsible for his (own) misfortune. The intensifier *sam* is actor-oriented, and it is associated semantically with the subject NP (cf. the nominative case). The use of actor-oriented intensifiers exemplified in (38) and (43) will play a central role in the following sections, in which we will finally tackle the question of why actor-oriented intensifiers and reflexives are formally related in many languages.

5 Agentivity and involvement – a semantic link between actor-oriented intensifiers and reflexives?

The central issue addressed in this paper is the unexpected strong empirical tie-up between actor-oriented intensifiers and reflexives. If we consider the function of actor-oriented intensifiers as outlined in section 4, this relationship turns out not to be too surprising anymore. We have argued that actor-oriented intensifiers are sometimes used to highlight – though not to express by themselves – the fact that an object referent is also the actor of the relevant event (cf. (40) and (43) above). Reflexive markers, on the other hand, may be defined as linguistic devices that are used to indicate that two arguments of a predicate have identical referents. This seems to point in the following direction: while a reflexive marker GRAMMATICALLY INDICATES that two arguments have identical referents, the actor-oriented intensifier PRAGMATICALLY EMPHASIZES that fact. Since it is commonly assumed in grammaticalization research that (pragmatic) emphasis often gives rise to the development of grammatical formatives, we seem to have a first clue as to why actor-oriented intensifiers and reflexives are formally related in many languages. A similar point has been made by Edmondson and Plank (1978). Edmondson and Plank define the function of actor-oriented intensifiers in terms of a high degree of agency or ‘involvement’ (cf. endnote 23). They characterize the interrelation between actor-oriented intensifiers and reflexives as follows (cf. also Browning 1993):

Finally, we take up the question of the linkage between intensifiers and reflexive pronouns. One can see the common ground in these two phenomena most clearly in the value of *himself*₂ [actor-oriented intensifiers, VG & PS]. This intensifier relates actions or states with the participants in such actions or states in a particular way. The most direct involvement of an individual in an action that requires two or more participants is to fill both roles [actor and undergoer, VG & PS] simultaneously. (Edmondson and Plank 1978: 407 f.)

The concept of ‘agency’ or ‘directness of involvement’ seems to provide a plausible link between actor-oriented intensifiers and reflexives. However, there is a conceptual problem that considerably complicates the matter (but which, as we will argue in section 6, falls into place if we change our perspective a bit): given that actor-oriented intensifiers do not interact with object NPs directly, how can they specify the referential interpretation of those NPs? Let us illustrate this problem

²⁶ In Russian, animate object NPs receive genitive case.

using an example from Old English. As was pointed out in section 2.3, Old English had a series of object pronouns which could be used both in contexts of local coreference of the subject referent and the object referent, and in contexts of locally disjoint reference. Therefore, (44) is ambiguous (cf. König and Siemund 2000: 59). If we add an adnominal intensifier to *hine*, however, the object pronoun is interpreted as referring back to *Judas*.

- (44) Judas_i aheng hine_{i/j}.
 ‘Judas hanged him(self).’
 (45) Judas_i aheng [hine self-ne]_{i/*j}.
 ‘Judas hanged him*(self).’

As has repeatedly been pointed out, the reanalysis of an adnominal intensifier as a reflexive marker is relatively well studied and we will not discuss it any further here. In this paper, we are interested in the question of how and why an ACTOR-ORIENTED intensifier may trigger reflexivity. Let us therefore consider what happens if we adjoin an actor-oriented intensifier to the VP in such languages. This is illustrated in (the hypothetical) (46).

- (46) Judas_i [[aheng hine_{i/j}] self-Ø_i].
 Judas [[hanged him] SELF-NOM]
 ‘Judas_i hanged him_{i/j} himself.’

The SELF-intensifier in (46) emphasizes that the one who hanged ‘the referent of *hine*’ was Judas, and no one other than Judas. Moreover, it is presupposed that Judas stood in some (non-agentive) thematic relation to the action of hanging ‘the referent of *hine*’, in addition to the asserted actor-relation. But nothing is implied as to who that referent is. The referential interpretation of *hine* is simply not at issue, since the intensifier *self* interacts only with the NP *Judas*. Consequently, it is difficult to see how *self* in (46) should have had a reflexivizing effect in Old English. Do we have to discard our argument, then?

We believe we don’t. The crucial point is that actor-oriented intensifiers and reflexives interact only in a specific type of context, and they interact in a way that is crucially different from the interaction between reflexive markers and adnominal intensifiers. In section 6, we will argue that there are two scenarios in which a relationship between actor-oriented intensifiers and reflexives can be established: on the one hand, reflexives may form part of a construction conveying the semantics of an actor-oriented intensifier (cf. section 6.1). On the other hand, actor-oriented intensifiers can function as reflexive markers in contexts in which the main verb has undergone some operation of diathetic change – typically, they are used in combination with a middle marker as expressions of reflexivity (cf. section 6.2). In this case, the actor-oriented intensifier is not used to disambiguate between two different referential interpretations of an object pronoun (‘referential disambiguation’). Rather, it emphasizes the agentive involvement of its associated NP, thus disambiguating between a transitive/active reading and a detransitivized/middle reading of a predicate (‘role disambiguation’).

6 Two scenarios relating actor-oriented intensifiers and reflexives

6.1 Oblique reflexives expressing actor-oriented intensification

As has been pointed out in section 2.3, certain languages have special actor-oriented intensifiers which differ formally from the adnominal intensifiers (e.g. Koyra Chiini, Tetelcingo Nahuatl). Typically, the adnominal intensifiers of such languages cannot occur at a distance from their associated NPs. We may now ask what happens if (a), a language has an adnominal intensifier which does not adjoin to verbal projections and (b), it does not have a specialized actor-oriented intensifier either. Such languages often resort to a multi-morphemic strategy in order to express the semantics of actor-oriented intensification: a reflexive pronoun is embedded in some prepositional or postpositional phrase, and the whole PP is adjoined to the VP. This construction is akin to the English expression *by himself/herself/itself* as illustrated in (47).

(47) John_i [_{VP} did it [_{PP} by himself_i]].

Strategies of intensification as exemplified in (47) seem to be particularly widespread among Afro-Asiatic languages (e.g. Amharic, Hebrew and Oromo),²⁷ but can also be found in Indo-European (Italian *da sé*) and a number of other languages (e.g. Japanese *jibun-de*). Examples from Italian, Japanese, and Arabic are provided in (48) – (50).

(48) Italian

Olga fa lezione ai suoi bambini da sé.
 Olga does lecture to her children PREP REFL
 ‘Olga teaches her children herself.’

(49) Japanese (Ogawa 1998: 173)

Taro-wa jibun-de kuruma-wo arau.
 Taro-TOP REFL-INSTR car-ACC wash
 ‘Taro washes his car himself.’

(50) Arabic

Ar-raʔis-u katab-a al-kitāb-a bi nafs-i-hi.
 DET-president-NOM wrote-3SG DET-book-ACC INSTR REFL-GEN-3SG
 ‘The president wrote the book himself.’²⁸

The strategy illustrated in (48) – (50) achieves the semantic effect of actor-oriented intensification in a way which can be derived compositionally. Recall from section 4 that actor-oriented intensifiers are typically used to oppose a proposition to a set of alternative propositions in which the relevant action is carried out by someone other than the referent of the NP interacting with the intensifier. To illustrate with another example, consider (51).

(51) ... “relevant function” means the performance by a person of the functions of one of the following – (i) manufacturer, (ii) convertor, (iii) packer/filler, (iv) importer, (v) wholesaler, or (vi) seller, either himself or through an agent acting on his behalf ... [www]²⁹

²⁷ For more information and relevant examples, cf. Gast et al. (2003).

²⁸ M. Nekroumi, p.c.

²⁹ Source: <http://www.hmso.gov.uk/si/si1997/70648--k.htm> (03/19/03).

In (51), the actor-oriented intensifier *himself* contrasts with the instrumental PP *through an agent*. The contrast is thus between two opposing ‘instruments’, and it could be illustrated as in (52).

(52) the performance by a person ... either through [REFL]_F or through [an AGENT]_F.

The term ‘instrumental’, of course, is to be understood in a metonymic sense here. The actor-oriented intensifier does not really correspond to an instrumental constituent, i.e. the referent does not ‘make use of himself/herself’. Rather, the instrumental adjunct is metonymically reanalyzed as standing for the agent role. This metonymic effect is exploited by the languages listed above to convey the semantics of an actor-oriented intensifier.

Since in Italian, Japanese, and Arabic actor-oriented intensification is expressed by an adjunct with a thematic role that is not subcategorized for by the predicate – in Japanese and Arabic an instrument, and in Italian an ablative PP (‘from’) – we will call these constructions ‘oblique reflexives’. The existence of such constructions provides a first explanation for the strong empirical tie-up between reflexives and actor-oriented intensifiers: a number of languages use oblique reflexives to express actor-oriented intensification without there being any kind of formal relatedness of adnominal intensifiers and reflexives. For example, the Japanese SELF-intensifier *jishin* does not function as a reflexive marker, but a close empirical relation can be established between the actor-oriented intensifiers and the reflexive anaphor of Japanese insofar as *jibun* forms part of the strategy of actor-oriented intensification [REFL + instrumental]. Consequently, Japanese is of type III in Table 2. This correspondence pattern is illustrated in (53) (\approx is to be read as ‘formally related’).

(53) $jishin_{ADN} \neq [jibun_{REFL} \approx jibun-de_{SELF.AO}]$

Actor-oriented intensifiers that can be analysed as ‘oblique reflexives’ can also be found in many Bantu languages. For example, Kinyarwanda has an adnominal intensifier *ub-*, which takes possessive suffixes and adjoins to the right of an NP (cf. (54)a.). Actor-oriented intensification, by contrast, is expressed by a combination of the verbal reflexive marker *ii(y)-* with an applicative suffix *-er-*. The applicative marker gives the object agreement marker the interpretation of an oblique argument, thus assigning to the entire construction a meaning roughly equivalent to Japanese *jibun-de* (cf. (54)b.).

(54) Kinyarwanda (C. Emkow, p.c.)

- a. nda-shaka ku-vúga-na na [direkteri ub-we]
 1SG.PRES-want INF-speak-SOC with director SELF-3POSS
 ‘I want to talk to the director himself.’
- b. devoirs á-ra-z-í-kór-er-a
 homework 3SG-PRES-OBJ-REFL-do-APPL-IMPF
 ‘He does his homework himself.’

6.2 Actor-oriented intensifiers as reflexive markers

The second type of context where actor-oriented intensifiers pattern with reflexives to the exclusion of adnominal intensifiers is instantiated by strategies of reflexivization that are semantically, syntactically and/or phonologically ‘weak’.

‘Semantic weakness’ implies that a reflexive marker – typically a verbal reflexive, in the terminology of Faltz (1985) – is ambiguous between a middle reading and a referential reading. This kind of ambiguity can be observed in most of the languages that have monomorphemic anaphors (though not necessarily SE-anaphors, in the terminology of Reinhart and Reuland 1993) or verbal reflexives. Russian is a case in point. The suffix *-sja* functions as a (referential) reflexive marker only in combination with a specific class of verbs, which we could call ‘typically self-directed predicates’ (cf. (55); see also Haiman 1983, 1995; König and Siemund 2000; Smith 2004). Such predicates denote actions that are commonly carried out on oneself, e.g. *wash* or *shave*. In combination with predicates that are not typically self-directed *-sja* often indicates diathetic operations that are not directly related to reflexivity. For example, it can be found as an impersonal passive marker (cf. (56)), as an ‘emotion middle’ in Kemmer’s (1993) terms (cf. (57)), and in sentences with unspecific object reference (cf. (58)). (59) illustrates that *kusat’/ukusit’* ‘to bite’ can also be used with a referential object.

- (55) Ivan mo-et-sja dvazhdy v den’. (grooming/reflexive)
 Ivan wash-3SG-REFL/MID twice in day
 ‘Ivan washes twice a day.’
- (56) Kak èto dela-et-sja
 how that do-3SG-REFL/MID
 ‘How is that done?’
- (57) On bespoko-it-sja. (emotion middle)
 He disquiet-3SG-REFL/MID
 ‘He is worried.’
- (58) Sobaka kusa-et-sja. (unspecific object reference)
 dog bite.IMPF-3SG-REFL/MID
 ‘The dog bites.’
- (59) Sobaka ukusi-l-a chelovek-a. (transitive/active)
 dog bite.PF-PAST-FEM.SG man-GEN.
 ‘The dog bit the/a man.’

The polyfunctionality of *-sja* may lead to ambiguities in certain cases. For example, *myt’sja* can be interpreted as both ‘wash (oneself)’ and ‘be washed’. Such ambiguities can also be observed in languages whose reflexive markers we would call (monomorphemic) ‘reflexive pronouns’ in the terminology of Faltz (1985). German is such a language. Consider the ambiguous example in (60).

- (60) Hans hat sich verletzt.
 Hans has REFL injured
 ‘John got hurt.’ or ‘John injured himself.’

(60) is ambiguous because it is not clear whether Hans deliberately injured himself, or whether he inadvertently got hurt. In the first case, *sich* is interpreted as a referential reflexive pronoun, while in the second case, it functions as a middle marker. The difference between the two occurrences of *sich* can be illustrated syntactically: only referential *sich* can be topicalized and focused. Therefore, (61) only has an agentive reading.

- (61) Sich hat Hans verletzt.
 ‘It was himself that John injured.’

In order to avoid the type of ambiguity illustrated in (60), speakers may use the expression constituting the subject matter of this paper: an actor-oriented intensifier can be added to the VP. The intensifier will invariably select for the referential interpretation of the reflexive pronoun. If we add *selbst* to the VP [*sich verletzt*] in (60), *sich* can only be interpreted referentially. This is shown in (62) (*wieder mal* ‘once again’ has been added in order to favor the reading of (62) in which *selbst* is in construction with *verletzt*, not with *sich*).³⁰

- (62) Hans hat [VP sich (wieder mal) selbst verletzt].
 Hans has REFL (once again) SELF injured
 ‘(Once again), John injured himself.’ (not: ‘John got hurt.’)

(62) allows only for a referential interpretation of *sich*, while the middle reading is blocked. Why should this be so? Obviously, it is emphasis on agentivity, expressed by the actor-oriented intensifier, that is responsible for the univocal meaning of (62). (60) above is not ambiguous with regard to the reference of the undergoer, who is in both cases *Hans*; it is ambiguous only with regard to the question of *who is the (intentional) agent*. Either, no agent is explicitly mentioned, and the action may not even have been carried out intentionally (the middle reading, cf. Engl. *John got hurt*); or John is the agent, which induces the referential reading *John injured himself*. By using an actor-oriented intensifier, John’s agentive involvement is emphasized, qua reference to alternative propositions in which someone other than John is the agent. As a consequence, the non-agentive reading is blocked, and the sentence is understood in such a way that John actively injured himself.

In German, actor-oriented intensifiers are used in the context of reflexive-marking only if emphasis is desired, or if the context does not clearly select for one or the other reading. It thus depends on the assessment of the speaker whether s/he will use an actor-oriented intensifier or not. In other languages, the semantic bleaching of reflexive markers has advanced further than in German, and certain contexts strongly disfavor if not categorically disallow a referential reading of reflexive markers. This situation can be found in Mezquital Otomí. Otomí has a middle and reflexive prefix *n-*, which in (63) adjoins to the verb *hyó* ‘to kill’. For independent (phonological) reasons, the resulting form is *hñó* ([hɲó]).

- (63) Ra Šuwa bi hñó.
 Ra Šuwa bi n- hyó
 DET Juan 3PAST- REFL/MID- kill
 ‘Somebody killed Šuwa.’ (marginally also ‘Šuwa killed himself.’)
 Priego Montfort (1989: 120)

Under certain circumstances, the verb form *hñó* in (63) can be interpreted as a (referentially) reflexive predicate. However, there is an increasing tendency in contemporary Otomí to use the actor-oriented intensifier *sěhé* in order to make it

³⁰ Daniel Hole has pointed out to us that the insertion of *wieder mal* is not a safe way of doing away with the possibility that *sich* could be in construction with *selbst*, since *sich* might have been moved leftwards across *wieder mal* (‘scrambling’). All we want to show is that there is a reading of (62) in which *selbst* does not form a constituent with *sich*, and *wieder mal* has an illustrative character here. The (assumed) constituent structure of (62) is indicated by the brackets.

clear that the relevant sentence is to be interpreted reflexively. (64) provides an example which unambiguously describes an action of Šuwa's killing himself.

- (64) Ra Šuwa bi hñó sěhé.
 Ra Šuwa [[bi n- hyó] sěhé]
 DET Juan 3.PAST- REFL/MID- kill SELF.AO
 'Juan killed himself.' (but not: 'Juan was killed.')

Priego Montfort (1989: 120)

In accordance with what we would expect from the perspective of grammaticalization theory (cf. Lehmann 1995), the adverbial element *sěhé* shows a strong tendency to cliticize to the verb, thus losing its tones and becoming an affix *-se*. This is illustrated in (65).

- (65) Ra Šuwa bi hñóse.
 Ra Šuwa bi- n- hyó -se
 DET Juan 3PAST- REFL/MID- kill -SELF.AO
 'John killed himself.'

In view of the fact that the nasalizing prefix *n-* is phonologically relatively weak (insofar as it is not segmental), it comes as no surprise that it is completely lost in certain contexts. For example, it can hardly be heard if the verbal root begins with /h/ and contains a nasal consonant, since co-articulation will always trigger nasalization of the adjacent vowel. In such contexts, the actor-oriented intensifier *sěhé* is often the only marker of reflexivity (cf. (66)).

- (66) Bi hyění sěhé.
 3PAST cut SELF.AO/REFL
 'He cut himself.'

Priego Montfort (1989: 120)

Again, the reason why an actor-oriented intensifier is used as a reflexive marker can be related to its emphasizing the agent role of the NP it interacts with, and the function of *sěhé* in the Otomí examples provided above parallels that of German *selbst* in (62). The difference is that the Otomí prefix *n-* is phonologically much weaker than German *sich*, and that therefore, reinforcement (in the sense of Lehmann 1995) through an actor-oriented intensifier is more necessary from the perspective of 'striving for clarity' (*Deutlichkeitsstreben*; cf. von der Gabelentz 1901: 256).

Like Japanese, Otomí is one of the languages in which reflexives and actor-oriented intensifiers are formally related, while adnominal intensifiers are formally distinct; note that Otomí does not have a specialized adnominal intensifier, and it uses a focus construction to express the semantics of adnominal intensification. These facts are illustrated in (67).

- (67) [FOCUS CONSTRUCTION]_{SELF.ADN} ≠ [(n-)...sěhé_{REFL} ≈ sěhé_{SELF.AO}]

A similar strategy of reflexive marking can be observed in many languages that allow conversion of verbal roots, i.e. diathetic alternations without any morphological indicator. For example, Guirardello (1999) reports for Trumai that

reflexivization is expressed using an element *falapetsi*, which qualifies as an actor-oriented intensifier, in our terminology:

- (68) Trumai
 ha falapetsi ka_in
 I do.alone/SELF.AO FOC/TENSE
 ‘I made (it) by myself.’ (Guirardello 1999: 325)

The verb *make* ‘bite’ can be used intransitively, with an unspecific (potentially reflexive) object. In order to unambiguously indicate a reflexive reading, *falapetsi* can be added (the first person pronoun in the dative is optional):

- (69) ha falapetsi ha make (hai-tl)
 I do.alone/SELF.AO I bite (1-DAT)
 ‘I bit myself (lit.: ‘I did (it) alone, I bit.’)

If we consider the strategy of reflexive marking employed by Otomí and Trumai, and if we compare the resulting patterns of formal relatedness to the one characteristic of Japanese and Kinyarwanda, a crucial difference between languages of the first and second type can be observed. In Japanese and Kinyarwanda, a reflexive marker (*jibun*) forms part of a strategy of actor-oriented intensification. The lexical element *jibun* combines with the postposition *de* to form the ‘complex actor-oriented intensifier’ *jibun-de*. In Otomí, by contrast, the actor-oriented intensifier *sěhé* forms part of a strategy of reflexivization, which is made up of the prefix *n-* plus that intensifier.

7 Conclusions – parameters in the diachronic development from SELF-intensifiers to reflexives (and vice versa)

In this paper we have considered three different processes that relate SELF-intensifiers to markers of reflexivity: first, adnominal intensifiers can be used to mark an underspecified object pronoun as reflexive (OE *hine* + *self*). Second, we have shown that (pro)nominal reflexives can be used in prepositional phrases to express the semantics of an actor-oriented intensifier (‘oblique reflexives’, Jap. *jibun* + *de*). Finally, we have demonstrated that actor-oriented intensifiers can also be used to reinforce semantically weak strategies of reflexivization, i.e. they are often used in combination with middle markers to express (referential) reflexivity (Otomí (*n-*) + *sěhé*). These processes are summarized in (70).

- (70) a. unspecified object pronoun + adnominal intensifier → reflexive marker
 b. oblique preposition + (pro)nominal reflexive → actor-oriented intensifier
 c. middle marker + actor-oriented intensifier → reflexive marker

The three developments represented in (70) are fundamentally different for several reasons. First, there is a crucial difference between a. and c. on the one hand and b. on the other: while a. and c. represent the derivation of a strategy of reflexivization from a SELF-intensifier (plus some other grammatical device), b. is a process by which an actor-oriented intensifier is derived from a reflexive marker. Furthermore, there is a crucial difference between a. and c.: in a., the adnominal intensifier is used to resolve an ambiguity that concerns the referential interpretation of an object pronoun. The actor-oriented intensifier in c., by contrast, is used to

clarify the thematic role, the kind or degree of involvement of a given referent in the event denoted by the verbal predicate. We therefore consider it appropriate to refer to the process shown in a. as one of ‘referential disambiguation’ or simply ‘reference disambiguation’, while the process illustrated in c. should best be called ‘role disambiguation’. Diagram 1 summarizes the different relatedness patterns that have been described in this study.

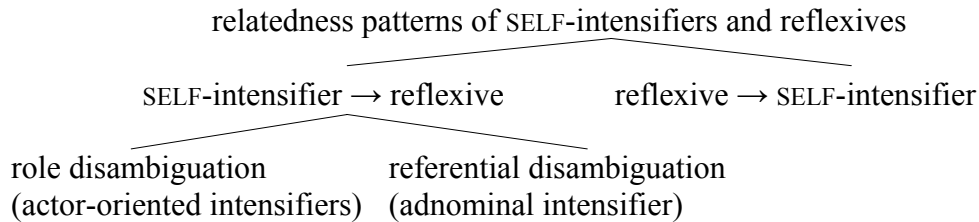


Diagram 1: Types of relationships holding between reflexives and SELF-intensifiers

The argument made in this paper has a number of repercussions on our assumptions concerning the synchronic and diachronic relationship between SELF-intensifiers and reflexives. First, it is often assumed or at least implied that this process is unidirectional in the sense that SELF-intensifiers may develop into reflexives, but not vice versa (e.g. Faltz 1985; König and Siemund 2000; Schladt 2000; Heine 2003). We have shown that the opposite direction is also possible, and that in languages of the Japanese type a reflexive marker can give rise to an expression of actor-oriented intensification if it combines with an appropriate case marker.

The second corollary of our paper concerns common assumptions about the type of SELF-intensifier that is involved in grammaticalization processes leading to the development of reflexives. It is often taken for granted that it is always the adnominal intensifier which is central to that process (cf. Faltz 1985; König and Siemund 2000b), but we have shown that there are languages where it is clearly the actor-oriented intensifier that gives rise to the formation of new reflexive markers.

Finally, we hope that our argument has made it clear that even a diachronic relationship as well studied as the one between SELF-intensifiers and reflexives requires cautious observation and fine-grained analyses if one is to avoid the pitfalls of rashly made generalizations and resulting oversimplifications. While it is certainly tempting to assume a uniform process of grammaticalization which can be summarized in the formula ‘SELF-intensifier > reflexive’, a closer look reveals that adnominal intensifiers, actor-oriented intensifiers and reflexives form a ‘triangular’ semantic field with various diachronic and synchronic connections between all of the three categories. This is illustrated in Diagram 2:

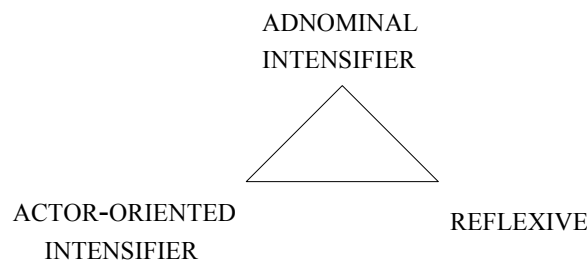


Diagram 2: Synchronic and diachronic relations between reflexives and intensifiers

Appendix

Abbreviations

ACC	accusative
AOR	aorist
CL	clitic
DAT	dative
DET	determiner
FOC	focus (marker)
FUT	future tense
GEN	genitive
IMPF	imperfect(ive)
IND	indicative
INF	infinitive
INSTR	instrumental
MASC	masculine
MID	middle voice
NEG	negation
NOM	nominative
PAST	past tense
PF	perfective aspect
POSS	possessive
PREP	preposition
REFL	reflexive
SELF	SELF-intensifier
SELF.ADN	adnominal intensifier
SELF.AO	actor-oriented intensifier
SG	singular
SOC	sociative
SUBJ	subject
TENSE	tense
TOP	topic

Sample

ID	language	family	area	INT.ADN	INT.AO	REFL	pattern
01	Abkhaz	N-Caucasian	N-Eurasia Caucasus	-xatà	xà-t ^o	-xà	II
02	Albanian	IE Albanian	N-Eurasia Balkans	vetë	vetë	(vet)vetja	I
03	Amharic	Afro-Asiatic Semitic	Africa North	ras-	bä-gäzza eðð-	ras-	V
04	Arabic, Egyptian	Afro-Asiatic Semitic	Africa North	nafs-	bi nafs-	nafs-	I
05	Armenian	IE Armenian	S-Eurasia Asia Minor	ink ³ -/ir-	ink ³ -/ir-	ir-	I
06	Bagvalal	N-Caucasian	N-Eurasia Caucasus	PRO-da	PRO-da	PRO-da	I
07	Bambara	Niger-Congo Mande	Africa West	yère	yère	í	II
08	Basque	isolate	N-Eurasia W-Europe	-eu-/bera-	-eu-/bera-	buru-	II
09	Bengali	IE Indo-Iranian	S-Eurasia S-Asia	nije-	nije-	nije-	I

ID	language	family	area	INT.ADN	INT.AO	REFL	pattern
10	Bulgarian	IE Slavonic	N-Eurasia Balkans	sam	sam	sebe	II
11	Cantonese	Sino-Tibetan	S-Eurasia SE-Asia	jihgéi	jihgéi	jihgéi	I
12	Comanche	Uto-Aztecan	America North	pũ-	pũ-	VERBAL	II
13	Cubeo	Tucanoan	America South	-wahari	baxu-	baxu-	III
14	Danish	IE Germanic	N-Eurasia N-Europe	selv	selv	sig	II
15	Finnish	Finno-Ugric	N-Eurasia N-Europe	itse-	itse-	itse-	I
16	Fulani	Niger-Congo Atlantic-Congo Atlantic	Africa Central	bee hoore	bee hoore	hoore	I
17	Gaelic, Irish	IE Celtic	N-Eurasia W-Europe	féin	(PRO) féin	(PRO) féin	I
18	Georgian	S-Caucasian	N-Eurasia Caucasus	tviton	tviton	tav-	I
19	Greek, Modern	IE Greek	N-Eurasia Balkans	ídhios	ídhios	eaftó	II
20	Greenlandic, West	Eskimo-Aleut	America North	nammineq	nammineq	immi-	II
21	Gujarati	IE Indo-Iranian	S-Eurasia S-Asia	pote-	potaan-	pote-	I
22	Hausa	Afro-Asiatic Chadic	Africa West	kâi-	dà kâi-	kâi-	I
23	Hebrew	Afro-Asiatic Semitic	S-Eurasia Middle East	-at-sm-	be-at-sm-	-at-sm-	I
24	Hungarian	Finno-Ugric	N-Eurasia E-Europe	mag-	mag-	mag-	I
25	Indonesian, Riau	Austronesian	Austr./Oc. Indonesia	sendiri	sendiri	(sen)diri	I
26	Japanese	isolate	N-Eurasia E-Asia	jishin	jibun-de	jibun	III
27	Kannada	Dravidian	S-Eurasia S-Asia	taan	taan	VERBAL + taan	I
28	Karo Batak	Austronesian	Austr./Oc. Indonesia	jine	bana	bana	III
29	Kinyarwanda	Niger-Congo Atlantic-Congo Volta-Congo	Africa Central	ub-	-ii-...-er- [-REFL-...-APPL-]	-ii-	III
30	Koasati	Muskogean	America North	-bí: no	-ná: li	VERBAL	IV
31	Korean	isolate	N-Eurasia E-Asia	casin	jikjob	caki	IV
32	Koyra Chiini	Nilo-Saharan	Africa West	jaati(r)	huneyno	bomo	IV
33	Latin	IE Italic	N-Eurasia S-Europe	ipse	ipse	se	II
34	Lavukaleve	East Papuan	Austr./Oc. Solomon Islands	--	-muan	-muan	III
35	Lezgian	N-Caucasian	N-Eurasia Caucasus	wič-	wič-	wič-	I
36	Lingala	Niger-Congo Atlantic-Congo Volta-Congo	Africa Central	mókó	mókó	-mí-	II
37	Lithuanian	IE Baltic	N-Eurasia NE-Europe	pât-	pât-	savè	II
38	Malagasy	Austronesian	Africa South	tena-	ihany no 'only FOC'	tena-	V
39	Malayalam	Dravidian	S-Eurasia S-Asia	tanne	tanne	taan	I
40	Mandarin	Sino-Tibetan	S-Eurasia SE-Asia	zijī	zijī	zijī	I
41	Maori	Austronesian	Austr./Oc. New Zealand	tino	tino	-anoo	II
42	Maricopa	Hokan	America North	maatm	maatm	mat-	II
43	Mixtec, Chalcatongo	Otomangue	America Mesoamerica	máá-	mááʔh̄	máá-	I

ID	language	family	area	INT.ADN	INT.AO	REFL	pattern
44	Nahuatl, Classical	Uto-Aztecan	America Mesoamerica	-noʔmaʔ	-noʔmaʔ	mo-	II
45	Ndyuka	Creole (E)	America South	seefi	seefi	seefi	I
46	Ngiti	Nilo-Saharan	Africa Central	-tírò	-tírò	ndi	II
47	Oromo, Afaan	Afro-Asiatic Cushitic	Africa East	ofii	ofii	of	II
48	Otomí, Mezquital	Otomangue	America Mesoamerica	[FOC CONSTR]	sěhě	[MID] + sěhě	III
49	Persian	IE Indo-Iranian	S-Eurasia Middle East	xod-	xod-	xod-	I
50	Pitjantjatjara	Australian Pama-Nyungan	Austr./Oc. Australia	-nku	-nku	-nku	I
51	Podoko	Afro-Asiatic Chadic	Africa Central	ba mudarə	ba mudarə	bə PRO	II
52	Quechua (Huallaga)	Quechuan	America South	kiki-	kiki-	kiki-	I
53	Shona	Niger-Congo Atlantic-Congo Volta-Congo	Africa South	-mèně	-zvi-...-ir-... [-REFL-...-APPL-]	-zvi-	II
54	Somali	Afro-Asiatic Cushitic	Africa East	naft-	naft-	is	II
55	Soninke	Niger-Congo Mande	Africa West	yinmé	yinmé	du	II
56	Tachelhit	Afro-Asiatic Berber	Africa North	nit	nit	agayu	II
57	Tagalog	Austronesian	Austr./Oc. Philippines	mismo	sarili	sarili	III
58	Tamil	Dravidian	S-Eurasia S-Asia	ANPH-ee	ANPH-ee	ANPH-ee	I
59	Tarascan	isolate	America Mesoamerica	mísimu	-kuare/-kui	-kuare/-kui	III
60	Totonac	Totonacan	America Mesoamerica	māniʔ	-aʔkstu	MID + -aʔkstu	III
61	Tukang Besi	Austronesian	Austr./Oc. Indonesia	alaʔa	karama-	karama-	III
62	Turkish	Altaic	S-Eurasia Asia Minor	kendi-	kendi-	kendi-	I
63	Tuvaluan	Austronesian Mayalo-Polynesian	Austr./Oc. Polynesia	loa	(ei)loa	loa	I
64	Tzotzil	Maya	America Mesoamerica	-tuk	-tuk	-ba	II
65	Usan	Trans-New Guinea	Austr./Oc. Papua New Guinea	-onou	-onou	-onou(mi)	I
66	Waiwai	Carib	America South	rma	rma	VERBAL	II
67	Wardaman	Australian Gunwinguam	Austr./Oc. Australia	namaj-	ngajbang	VERBAL	IV
68	Wolof	Niger-Congo Atlantic-Congo Atlantic	Africa West	ci bopp-	ci bopp-	bopp-	I
69	Yimas	Sepik-Ramu	Austr./Oc. Papua New Guinea	panawt-	panawt-	panawt-	I
70	Yoruba	Niger-Congo Atlantic-Congo Volta-Congo	Africa West	fúnra-	fúnra-	ara	II
71	Zapotec, Mitla	Otomangue	America Mesoamerica	lagahk	ensilaani	lagahk	V
72	Zoque, Copainalá	Mixe-Zoque	America Mesoamerica	-neʔkɪ	-neʔkɪ	-win	II

Table 3: The sample

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