

Russian peripheral reciprocal markers and unaccusativity

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Introduction

In the last few decades, the unaccusativity hypothesis and notion of unaccusativity has been widely discussed in linguistics. The hypothesis, as formulated by Perlmutter (1976), Rosen (1984), Mithun (1991), and others, says that the class of intransitive verbs is not homogenous. Different syntactic criteria show that in many languages one observes two classes of intransitives: *unaccusative verbs* and *unergative verbs*. The former are, roughly speaking, ‘patientive’ verbs which denote a situation which the subject does not control – in other words, the subject is a patient rather than an agent, since the absence of control, according to Dowty (1991) and Ackerman & Moore (2001) characterizes prototypical patients, and not prototypical agents. Structurally, according to Perlmutter (1976), the subject of unaccusatives at some level of representation occupies the same place as the object of transitive verbs.

In contrast, the core of the unergative class includes situations controlled by the subject (though other verbs join the unergative class as well). In the syntactic structure, the subject occupies the same place as the subject (agent) of transitive verbs.

In this paper, I discuss ‘peripheral’ reciprocal markers in Russian¹. First, I analyze the grammatical properties of the prefix *vzaimo-* ‘mutually’. Surprisingly, this prefix, which cannot be the sole reciprocal marker in the verb form, can serve as the sole marker in nouns and even in participles. I am trying to explain this difference between verbs vs. participles and nouns. I argue that there are reasons to treat verbs carrying this prefix as unaccusatives, though they are not at all typical representatives of the unaccusative class. Then, I turn to the adverbial *vzaimno* ‘mutually’. This marker is always optional and accompanied by another reciprocal marker, but I will show that it has a peculiar semantic property: it is compatible with structures including the reflexive possessive pronoun *svoj* ‘own’ and changes the interpretation of *svoj*. In Section 1, I briefly present different means of expressing reciprocity in Russian, including the suffix *-sja*, the reciprocal pronouns *drug druga* and *odin drugogo*,² and the markers

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¹The term ‘peripheral’ refers both to low frequency of these lexical items and to absence of attention to them in linguistic research.

²*Drug druga* and *odin drugogo* are called ‘pronouns’ in Russian grammar tradition. In fact, though,

vzaimo-, *vzaimno* and *vzaimnyj*. In my paper, I will focus on the last group of markers. In Section 2, the prefix *vzaimo-* and its relation to reciprocity and unaccusativity is discussed. Finally, in Section 3, I analyze the properties of the adverbial *vzaimno*.

1 Means of expressing reciprocity in Russian

In Russian, as in many other languages, reciprocity is expressed with a variety of means which belong to different domains of grammar.

1.1 Pronoun *drug druga*

The main reciprocal marker, both in respect of text frequency and lexical productivity, is the pronoun *drug druga* ‘each other’. Though synchronically it seems to include the forms of the word *drug* ‘friend’, historically it contains two forms of the short masculine form of adjective *drugoj* ‘other’ which is rather natural for reciprocal markers.

The first component of the pronoun is always in the form *drug*³, whereas the second one reflects the case and syntactic position of the second (syntactically lower) participant of the reciprocal relation: it is accusative DO in (1), dative IO in (2) and accusative complement of the preposition *za* ‘for’ in (3)⁴.

- (1) Vanj-a i Petj-a ne ljubi-l-i drug druga-a.
 Vanja-NOM and Petja-NOM not like-PST-PL other other-ACC
 ‘Vasja and Petja did not like each other.’
- (2) My doverja-em drug druga-u.
 we trust-PRS.1PL other other-DAT
 ‘We trust to each other.’
- (3) Na vybor-ax politik-i golosuj-ut drug za druga-a.
 on election-PL.LOC politician-PL.NOM vote-PRS.3PL other for other-ACC
 ‘On the elections, the politicians vote for each other.’

The pronoun has virtually no restrictions on its use except the one which was pointed at by Knjazev (2007): the pronoun can hardly be used in the position of agentive instrumentally-marked NP in passive constructions such as ²*ranen-y drug druga-om* ‘injured by each other’ (injure.PART.PASS-PL other-NOM other-INS).

they are complex diachronically and even synchronically: for instance, prepositions occupy the position between the components of the pronouns and not before both components (e.g. *drug s drugom* ‘with each other’), contrary to English where prepositions occur before both elements (*with each other*).

³Note that this form of the first component does not always correspond to syntactic subject. The pronoun *drug druga* can be bound by two non-subject referents, for instance: *Ja poznamomi-l-∅ Vasj-u i Petj-u drug s drug-om* (I.NOM introduce-PST-SG.M Vasja-ACC and Petja-ACC other with other-INS) ‘I introduced Vasja and Petja to each other’, where the pronoun is bound by the direct object and the prepositional phrase with *s* ‘with’.

⁴Abbreviations: 1, 2, 3 - first, second, third person; ACC - accusative case; DAT - dative case; F - feminine; INS - instrumental case; LOC - locative case; M - masculine; NACT - non-active (middle) inflection; NOM - nominative case; PART - participle; PASS - passive; PL - plural; PREF - prefix; PRS - present tense; PST - past tense; REC - reciprocal; REFL - reflexive; SG - singular.

Another reciprocal pronoun is *odin drugogo* ‘one another’ which is much less frequent than *drug druga* but does not differ from it significantly, both in semantic and syntactic respects. For instance, in examples (1)-(3) *odin drugogo* could be substituted for *drug druga*. Knjazev (2007) notes that there is one semantic difference, though it is a tendency, rather than a strict rule: *odin drugogo*, more than *drug druga*, tends to denote reciprocal relation between **two** participants.

1.2 Suffix *-sja*

The most grammaticalized (but not the most frequent and productive) marker of reciprocity is the intransitivizer *-sja*. Though almost all European languages have a cognate suffix or clitic, productivity of particular readings differs from one language to another. In some languages, such as Bulgarian and French, the reciprocal reading is very productive, whereas in some others, including Russian, it appears to be a peripheral phenomenon. According to Knjazev (2007), only two groups of verbs regularly have reciprocal derivatives on *-sja*: namely, aggressive contact verbs, such as *tolkat* ‘push’, *pixat* ‘push aggressively’, and ‘close relation verbs’ – the group which includes some verbs of contact, such as *celovat* ‘kiss’, *obnimat* ‘hug’, as well as some lexemes denoting social events, for instance, *vstretit* ‘meet’, *uvidet* ‘see’, ‘meet’:

- (4) a. Paren'- \emptyset celova-l- \emptyset devuš-k-u.
boy-SG.NOM kiss-PST-SG.M girl-SG.ACC
‘The boy kissed the girl.’
b. Na skamejk-e celova-l-i-s' paren'- \emptyset i devuš-k-a.
on bench-SG.LOC kiss-PST-PL-REC boy-SG.NOM and girl-SG.NOM
‘A boy and a girl were kissing on the bench.’
- (5) a. Menja kto-to tolkn-u-l- \emptyset .
I.ACC someone.SG.NOM push-PST-SG.M
‘Someone pushed me.’
b. V metro vs-e tolka-j-ut-sja
in metro all-PL.NOM push-PRS.3PL-REC
‘Everyone pushes each other in the metro.’

In other words, we can say that *-sja* alone marks the reciprocal meaning with ‘inherent reciprocals’ (Kemmer 1993):

celovat'-sja ‘kiss each other’ *traxat'-sja* ‘fuck each other’
obnimat'-sja ‘hug each other’ *vstrečat'-sja* ‘meet each other’
tolkat'-sja ‘push each other’ *videt'-sja* ‘meet each other’ (lit. ‘see each other’)

Inherent reciprocals, in Kemmer’s definition, are verbs describing situations which are more natural (or at least not less natural) in their reciprocal variants than in non-reciprocal ones. For instance, very often when A kisses B, B also kisses A (although it is not obligatory). The situation ‘meet’ is in a sense obligatorily reciprocal: if A meets B, it is also true that B meets A.

The suffix *-sja* has also a range of other meanings which have been discussed in a number of works, including Janko-Trinickaja (1962), Knjazev (2007a, 2007b), and so on. Let us quote only some most productive and textually frequent meanings:

Anticausative meaning:

- (6) a. Vasj-a razbi-l-∅ čašk-u.
 Vasja-SG.NOM break-PST-SG.M cup-SG.ACC
 ‘Vasja broke the cup.’
 b. Čašk-a razbi-l-a-s’.
 cup-SG.NOM break-PST-SG.F-REFL
 ‘The cup broke.’

Reflexive meaning:

- (7) a. Maš-a brej-et dedušk-u.
 Masha-SG.NOM shave-PRS.3SG grandfather-SG.ACC
 ‘Masha shaves her grandfather.’
 b. Dedušk-a brej-et-sja.
 grandfather-SG.NOM shave-PRS.3SG-REFL
 ‘The grandfather shaves.’

The suffix also has passive meaning (see 18 below).

This polysemy may seem to be irrelevant for the reciprocal issue; however, below I will show that it is crucial for our topic that *-sja* has not only reciprocal, but also reflexive and other readings.

1.3 Vzaimo-, vzaimnyj, vzaimno

The present paper will be focused on the reciprocal prefix *vzaimo-*. This marker belongs to a group of markers derived from stem *vzaim-*: there is also adjective *vzaimnyj* ‘mutual’ and adverb *vzaimno* ‘mutually’. Let me first sketch some features of the adjective and the adverb.

1.3.1 Vzaimnyj

The adjective *vzaimnyj* modifies nouns (mainly deverbal nouns):

- (8) vzaimn-aja ljubov’-∅
 mutual-F.SG.NOM love-SG.NOM
 ‘mutual love’
 (9) vzaimn-yje oskorblenij-a
 mutual-PL.NOM insult-PL.NOM
 ‘mutual insults’

In most cases, the same verbal nouns can combine with *drug druga*, the two constructions being roughly similar, as in (10):

- (10) ljubov’-∅ drug k drug-u
 love-SG.NOM other for other-DAT
 ‘love for each other’

There are, however, some exceptions when constructions with *drug druga* are impossible, less frequent or awkward. For instance, the construction with *drug druga* in genitive is impossible for the noun *oskorblenije* ‘insult’

- (11) *oskorblenij-a drug drug-a
 insult-PL.NOM other other-GEN
 Intended: ‘mutual insults’

The sole possible construction is *oskorblenija v adres drug druga* [lit. insult-PL.NOM in address other other-GEN] ‘insults directed against each other’. Here, *drug druga* is governed by the complex preposition *v adres* + GEN ‘in address, directed to’. However, this variant is much less frequent and much worse stylistically than (9).

Cases like (11) usually emerge when the base verb which the noun is derived from is transitive and the participants of the reciprocal relation are Subject and Direct object. Some transitive verbs, such as *ljubit* ‘love’ in (8) and (10) seem to be counterexamples, because their deverbal nouns can take a prepositional object. However, when the deverbal noun can only take a genitive object (this is the case of *oskorbljat* ‘insult’: the noun *oskorblenije* can only take a genitive object, cf. *oskorblenij-e milicioner-a* [insult-SG.NOM policeman-SG.GEN]), the construction with *drug druga* is impossible.

1.3.2 Vzaimno

The adverb *vzaimno* ‘mutually’, contrary to *vzaimnyj* ‘mutual’, cannot be the sole marker of reciprocity in the clause; it must be accompanied by *-sja* or *drug druga* (in terms of Nedjalkov & Geniušienė (2007) it is an adverbial modifier). For instance, in (12) the main reciprocal marker is *drug druga*:

- (12) Oba userdno prinja-l-i-s’ vzaimno oskorblja-t’ drug-∅
 both.NOM heartily begin-PST-PL-REFL mutually offend other-NOM
 drug-a.
 other-ACC
 ‘Both of them begin heartily to offend each other’.

If *drug druga* was eliminated from (12), the sentence would become ungrammatical. However, below I will present a piece of evidence that the adverb *vzaimno* is not a pure modifier either.

2 Prefix vzaimo-

The prefix *vzaimo-* is not a very productive marker. It appears mainly in the formal style and is not very frequent in the Russian National Corpus. The prefix can modify verbs (13a) and nouns (13b), it can also sometimes occur with adjectives (13c).

- (13) a. Častic-y vzaimo-uničtožaj-ut-sja.
 particle-PL.NOM REC-destroy-PRS.3PL-REC
 ‘The particles destroy each other.’
 b. vzaimo-svjaz’-∅
 REC-connection-SG.NOM

- ‘mutual relation’
 c. *vzaimo-vygodn-yj*
 REC-beneficial-NOM.SG.M
 ‘mutually beneficial’

We will first discuss the use of *vzaimo-* with finite forms of verbs.

Vzaimo- with finite forms of verbs

With finite forms, the prefix *vzaimo-*, like the adverb *vzaimno* ‘mutually’, cannot be the sole marker of reciprocity. This is why (14) is ungrammatical, contrary to (13a) which is perfectly correct:

- (14) **Častic-y vzaimo-uničtožaj-ut.*
 particle-PL.NOM REC-destroy-PRS.3PL
 ‘The particles destroy each other.’

A rare case when *vzaimo-* is the sole reciprocal marker is illustrated by (15):

- (15) *Sotrudnik-i vzaimo-dejstvuj-ut.*
 worker-PL.NOM REC-act-PRS.3PL
 ‘The workers interact.’

However, in this case the prefixal derivative has undergone some lexicalization: its meaning ‘interact’ is rather far from ‘act on each other’ – we can rather rephrase it as ‘act together, contacting each other’, therefore, in this case *vzaimo-* marks something different from the reciprocal meaning *sensu stricto*. Moreover, the use of *vzaimo-* in (15) is not very typical, because the verb *dejstvovat* ‘act’ is intransitive, and *vzaimo-* mainly attaches to transitive verbs. In any case, *-sja* in the reciprocal reading is impossible for (15).

In what follows, I will analyze syntactic properties of *vzaimo-*. I will show that, although this prefix is usually accompanied with other means of expressing reciprocity, it cannot be regarded as a pure case of optional modifier.

2.1 Is *vzaimo-* just a modifier?

In most cases, the suffix *-sja* is used together with *vzaimo-*. Addition of *-sja* to (14) makes the sentence grammatical:

- (16) *Častic-y vzaimo-uničtožaj-ut-sja.* (=13a)
 particle-PL.NOM REC-destroy-PRS.3PL-REC
 ‘The particles destroy each other.’

The sentence (16) bears the same reciprocal meaning as examples (1)-(5) and (5). This makes us think about the status of *vzaimo-*.

Indeed, if *-sja*-derivatives without *vzaimo-* bear the same meaning as with *vzaimo-*, this seems to mean that *vzaimo-* is not really a reciprocal marker. It is rather a reciprocal *modifier*, just as the adverb *vzaimno*:

- (17) *My vzaimno podderživa-l-i odin-ø drug-ogo.*
 we.NOM mutually support-PST-PL one-M.SG.NOM other-M.SG.GEN

'We (mutually) supported one another.

In (17), it is possible to eliminate *vzaimno*, but the meaning will not change and the reciprocity will remain the same.

However, the situation of *vzaimo-* is not that simple. Elimination of *vzaimo-* from (16) will lead to a grammatical possible structure, but with different meaning:

- (18) Častic-y uničtožaj-ut-sja.
 particle-PL.NOM destroy-PRS.3PL-REC
 i. 'The particles are destroyed (by sth. or sb.).'
 ii. 'The particles disappear (by themselves).'
 iii. *'The particles destroy each other.'

The main meaning of (18) is passive, where an agent not mentioned in the sentence destroys the particles. Another meaning which is a bit colloquial but nevertheless perfectly grammatical is anticausative where the particles are destroyed or disappear by themselves. However, the sentence has no longer the reciprocal reading. As I have mentioned, *-sja* denotes reciprocity with only two restricted verb classes, and the verb *uničtožat* 'destroy, make disappear' does not belong to either of them.

2.2 Circumfix?

Therefore, we face a problem: in (16), two markers express reciprocity, but neither of them can express it alone. A usual solution in this situation is to postulate a circumfix *vzaimo-...-sja* which expresses reciprocity as a whole.

In fact, this solution seems plausible, because Russian has a number of circumfixes including a verbal prefix and the suffix *-sja*:

- (19) a. Malčik-i beg-ut.
 boy-PL.NOM run-PRS.3PL
 'The boys run.'
 b. Malčik-i raz-beža-l-i-s'.
 boy-PL.NOM PREF-run-PST-PL-REFL
 'The boys ran to different directions, one from another.'

It is impossible to eliminate either the prefix *raz-* or the suffix *-sja*: verb forms **raz-bežat* and **bežat-sja* do not exist. Therefore, the meaning of motion in different directions is expressed by the complex of two markers. Moreover, in this particular case the meaning is very close to reciprocal: the situation is symmetrical, the subject is obligatorily plural (or collective), and each of them moves in the same way with respect to the others.

Unfortunately, this solution is hardly plausible for *vzaimo-*. The reason is that the verb form *vzaimouničtožat* (and similar ones) sometimes occur without *-sja*. The suffix can be replaced with the reciprocal pronoun *drug druga* and *odin drugogo*:

- (20) Et-i kul'tur-y vzaimo-obogaščaj-ut drug drug-a.
 this-NOM.PL culture-NOM.PL REC-enrich-PRS.3PL each.other-ACC
 'These cultures mutually enrich each other.'

In this case, *vzaimo-* is really a modifier – in other words, the sentence has the same meaning without it. However, existence of structures like (20) make the circumfix analysis problematic: it means that *vzaimo-* can occur without *-sja*. For circumfixes like *raz-...-sja* it is impossible: for instance, the meaning of motion in different directions with the verb *bežat* ‘run’ can only be expressed by the combination of prefix and suffix.

Structures like (20) also pose the problem of relative order of derivations. On the one hand, if we consider that *vzaimo-* is attached first, and then *drug druga* is added, this analysis cannot explain why the sentence is ungrammatical without *drug druga*.

On the other hand, it is equally implausible to consider that *drug druga* is attached first: in general, it is strange for a morphological marker to be attached **after a free lexical item**. In what follows, I will explain that *vzaimo-* is attached before, and not after *drug druga*.

The distribution of *-sja* and *drug druga* in constructions with *vzaimo-* is unclear. However, it seems that two factors play a role: degree of lexicalization and degree of patientivity of the subject. *vzaimo-...-sja*, contrary to *vzaimo- + drug druga*, is used when the reciprocal verb is more lexicalized and the subject is patientive or, at least, is not a prototypical agent.

To account for this situation I will consider applications of unaccusativity hypothesis proposed for similar cases.

2.3 Unaccusativity

In the literature, we observe very similar examples in works by Alexiadou, Anagnostopoulou (2004), Embick (2004) and others. The difference is that it occurs in the domain of reflexivity, rather than reciprocity.

In Modern Greek as well as in Fula (Atlantic, Western Africa), Tokpaya (a dialect of Yavapai, Yuman, western Arizona) and a number of other languages mentioned by Embick (2004), there exists a reflexive marker which is not entirely grammaticalized (it cannot be the sole reflexive marker). It must be accompanied by a grammatical marker of intransitive / unaccusative configuration or by inactive (middle) inflection markers:
Greek:

- (21) I Maria htenizete kathe mera.
the.NOM.SG.F Maria comb:NACT.3SG.PRS every day
‘Maria combs everyday.’ (active form: *htenizei*).
- (22) O Yanis afto-katastrefete.
the.NOM.SG.M Yanis self-destroy:NACT.3SG.PRS
‘Yanis destroys himself.’ (active form: *katastrafei*).

For instance, neither in (21), nor in (22) in Greek can we replace the non-active inflection type with the active one – the resulting structure is ungrammatical.

Moreover, the lexical distribution of two ways of expressing reflexivity: one with the non-active inflection only, as in (21), and one with the non-active inflection and the prefix *afto-*, as in (22) is roughly the same as the distribution of *-sja* reciprocals and *vzaimo-...-sja* reciprocals in Russian. For instance, in Greek, reflexivity can be expressed by the sole change of inflection type only inside a small group of grooming

verbs, such as *htenizo* ‘comb’ which, according to Kemmer (1993) are the best candidates to form grammatical reflexives. Outside this group, change of inflection type expresses other meanings related to detransitivization and non-agentivity: for instance, without *afto-*, (23) will have the passive meaning:

- (23) O Yanis katastrofike.
 the.NOM.SG.M Yanis destroy:NACT.3SG.PST
 ‘Yanis was destroyed.’

Embick proposes that *afto*-derivatives and their analogues are something like ‘passives’. More precisely, he thinks that the structure is as in (24):

- (24) the structure of *afto*-reflexives
- (Embick 2004: 145)
-
- ```

graph TD
 vP --> v
 vP --> sqrtP
 sqrtP --> sqrtROOT1[sqrtROOT]
 sqrtP --> DP
 sqrtROOT1 --> afto[afto-]
 sqrtROOT1 --> sqrtROOT2[sqrtROOT]

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In other words, Embick supposes (22) is literally something like ‘Yanis is self-destroyed’, and not ‘Yanis destroys himself’, as the most natural translation presupposes. The structure in (22) is passive, just as in (23) – the prefix *afto-* simply occupies the syntactic position of the agent of passive construction. The main reasoning he uses is that *afto*-formation uses the same inflection type (inactive inflection) as passives and anticausatives.

Let us address the question of whether the same line of argumentation is plausible for Russian. The answer seems to be no.

First of all, consider the construction with *vzaimo-* and *drug druga*. It can hardly be considered as unaccusative, even if the variant with *vzaimo-* and *-sja* can. Contrary to *-sja*, *drug druga* hardly changes the transitive verb into an unaccusative – the verb in (20) continues to be transitive, though the direct object position is occupied by *drug druga*. This pronoun is a free reciprocal pronoun in terms of Reinhart, Siloni (2004): according to Nedjalkov (2007), markers of this type markers do not change transitivity and agentivity of the base verb (the sole difference between *drug druga* and a free NP is that *drug druga* is a reciprocal anaphor and cannot occupy the subject position which is, however, very typical of anaphors).

Another feature of Russian which contradicts the unaccusativity analysis is a special construction with participles.

## 2.4 *Vzaimo-* and participles

Surprisingly, *vzaimo-* behaves in a special way with participles. In such constructions, *-sja* is optional, and *vzaimo-* can be the only reciprocal marker, as in (25):

- (25) Vzaimo-uničtožaj-ušč-ije-(sja) častic-y.  
 REC-destroy-PART.PRS-PL.NOM-(REFL) particle-PL.NOM  
 ‘Mutually destroying particles.’

This fact is unexpected from the view of unaccusativity theory, as well as other theories of transitivity. Grimshaw (1990) and Alexiadou (2004) argue that the structure of deverbal nouns is different from that of verbs. In Russian, for instance, deverbal nouns cannot have a direct object, and are syntactically different from verbs in many other relations. The fact that they can, as in (26), take *vzaimo-* as the sole reciprocal marker, cannot be considered really surprising (here I do not propose a description for this fact<sup>5</sup>).

- (26) vzaimo-uničtož-enij-e  
 REC-destroy-NMLZ-SG.NOM  
 ‘mutual destruction / destroying’ (‘destroying each other’)

Note, for instance, that deverbal nouns in Russian cannot take *-sja* at all (here I do not address the question why the structure in (26) is not ungrammatical, just like (14) and other examples of verbs with *vzaimo-* as the sole reciprocal marker).

However, no difference between finite verbal forms and participles is predicted by the theory.<sup>6</sup> Of course, if *-sja* was an unaccusativity marker, it would be obligatory in participles, because otherwise the participle in (25) would not be unaccusative. It is strange to propose that the same participle of the same verb, such as *vzaimo-uničtožaj-ušč-ije-(sja)* in (25), can be or not be unaccusative, depending on the presence of *-sja*, whereas the verb with *vzaimo-* is always unaccusative, because *-sja* is obligatory in (16). In our view, this means that *vzaimo-* should not be considered to be an unaccusativity marker. Moreover, we should revisit our hypothesis concerning the role of *-sja* in examples like (25).

## 2.5 *-sja* is a deobjectivizer

As in many languages, in Russian the direct object can be omitted under some conditions. For instance, some verbs admit object omission if the object is generic or indefinite:

- (27) Ubiva-t' grex-∅.  
 kill-INF sin-NOM.SG  
 ‘To kill is a sin.’

For emotion verbs, the condition is different: the object can be omitted when it is co-referent to the speaker or the addressee:

<sup>5</sup>What should be noted, however, is that *vzaimo-* **can** denote reciprocity on its own, without support of another reciprocal marker. This suggests that the second marker which is added to *vzaimo-* in previous examples (e.g., *-sja* in (16)) bears another function, not that of marking reciprocity. This function will be discussed in 2.8 below. I thank the anonymous reviewer for discussion of these matters.

<sup>6</sup>Along with the active present participle on *-ušč / -ašč*, Russian also has the active past participle with the marker *-uš*, the passive present participle with *-m* and the passive past participle with *-n*. I do not take into account the passive participles and the active past participle takes *vzaimo-* much more rarely than the active present participle. In this paper, I discuss only the active present participle.

- (28) Udivlja-et          tot          fakt- $\emptyset$  čto on          ne pozvoni-l- $\emptyset$ .  
 surprise-PRS.3SG that.NOM.SG fact    that he.NOM not call-PST-SG.M  
 ‘The fact that he did not call surprises (me / us).’

The crucial point for our analysis is that some verbs do not admit or rarely admit object omission in their finite forms. However, their participles can be used without an object (see also Grimshaw (1990) and others for the idea that argument frames can be postulated only for verbs; however, there seems to be no common opinion concerning the question whether the participles behave like verbs or like deverbal nouns):

- (29) a. Vozdejstvij-e    alkoholj-a          razrušaj-et          ?[organism- $\emptyset$   
 impact-SG.NOM alcohol-SG.GEN destroy-3SG.PRS [organism-SG.ACC  
 čelovek-a].  
 human-SG.GEN]  
 ‘Impact of alcohol destroys human’s body.’  
 b. razrušaj-ušč-eje                                  vozdejstvij-e    alkoholj-a  
 destroy-PART.PRS.ACT-NOM.SG.N impact-NOM.SG alcohol-SG.GEN  
 ‘destructive impact of alcohol’ (literally ‘destroying  $\emptyset$  impact of alcohol’)

This makes some authors of dictionaries and grammars regard forms like *razrušajuščij* as adjectives. In any case, the ability of participles to become objectless (or adjectives) is rather illustrative of their special syntactic properties.

In my opinion, the difference observed with *vzaimo-* between participles and finite forms is closely related to cases like (29a) and (29b). The hypothesis is that *vzaimo-* is not a syntactic modifier: it introduces only the semantics of reciprocity, not changing transitivity characteristics. And the possibility of objectless use in (25) and similar examples results from inherent syntactic properties of a participle like *uničtožaj-uščij* ‘destroying’, though a necessary condition for this use is presence of the reciprocal component in the meaning of the verb form (this is what *vzaimo-* denotes).

Now it is easy to see why *-sja* is used with finite forms of verbs. According to Janko-Trinickaja (1967) and Knjazev (2007), *-sja*, apart from uses like (6), (7) etc. is sometimes used as a deobjectivizer: it eliminates the direct object of the base verb:

- (30) a. Sobak-a          kusa-et          svo-ego          xozjain-a.  
 dog-SG.NOM bite-PRS.3SG own-M.SG.ACC owner-SG.ACC  
 ‘The dog bites its owner.’  
 b. Sobak-a          kusa-et-sja.  
 dog-SG.NOM bite-PRS.3SG-REFL  
 ‘The dog bites.’ (lit. ‘The dog bites itself’).

In examples like (30b), it is hardly plausible to regard the verb as unaccusative. For instance, circumstances like *special’no* ‘by purpose’ are possible with the verb *okusat’-sja*, which is unusual for unaccusatives.

In another use, *-sja* does not eliminate the object, but demotes its status to a peripheral instrumental NP:

- (31) a. Vas’-a          kidaj-et          kamn-i.  
 Vasja-NOM throw-3SG.PRS stone-PL.ACC  
 ‘Vasja throws stones.’

- b. Vas'-a kidaj-et-sja kamn'-ami.  
 Vasja-NOM throw-3SG.PRS -REFL stone-PL.INS  
 'Vasja throws stones.' (lit. 'Vasja throws with stones').

While *vzaimo-* is really only a semantic operator, but not a syntactic marker of reciprocity, this means that another marker of object demotion is needed: *-sja* fulfills this function in examples like (16).

*Drug druga* also fulfills the syntactic function in structures like (17). While the semantic component of reciprocity is already marked by *vzaimo-*, the verb is transitive and should have the DO position filled: this is why *drug druga* is used and why the sentence is ungrammatical without this pronoun.

## 2.6 Traces of unaccusativity

Though I have shown that *vzaimo-*derivatives are not obligatorily unaccusatives, a piece of evidence points to the fact that *vzaimo-* is in a way related to unaccusativity.

No verb which can be modified by *vzaimo-* has an agentive subject. Some of these verbs, such as *izmenit'* 'change', *uničtožat'* 'destroy' and so on, can in principle have agentive subjects, but in this case reciprocity is not usually marked by *vzaimo-* and is never marked by the combination of *vzaimo-* and *-sja*.

## 2.7 Incorporation

We have analyzed the synchronic properties of *vzaimo-*. However, how did a situation like this occur historically? Let us say some words on the history of this prefix.

Historically, *vzaimo-* is an incorporated variant of the adverb *vzaimno*. In Russian, incorporation is characteristic for nouns and participles, but not finite verb forms:

- (32) a. kislород-soderž-ašč-ij  
 oxygen-contain-PART.PRS.ACT-SG.M.NOM  
 'oxygen-containing'  
 b. \*kislород-soderža-t'  
 oxygen-contain-INF  
 Intended meaning: 'to contain oxygen'

Again, the question whether the participle in (32a) is a verbal form or an adjective is irrelevant for our analysis. Even if we consider it to be adjective, we need to explain why a deverbal adjective is morphologically different from finite verbs.

The data of Russian National Corpus support our assumption. In all texts created before 1900, finite verb forms take *vzaimo-* only in 6 cases (in all of them the verb is *vzaimodejstvovat'* 'interact', which is unique with respect to *vzaimo-*: it is the sole intransitive verb which regularly takes the reciprocal prefix). In contrast, nouns take *vzaimo-* in 312 cases. The situation between 1901 and 1950 is similar: although verbs now can take *vzaimo-*, they (except *vzaimodejstvovat'*) occur with the prefix in 19 cases only (8 of them are participles and converbs), whereas the number of nominal *vzaimo-*derivatives reaches 2385 occurrences. In other words, up to now the prefix is more characteristic for nouns than for verbs.

## 2.8 Conclusion on *vzaimo-*

Thus, *vzaimo-* is not just an optional reciprocal modifier, and I have shown that it does not form a circumfix with the postfix *-sja*. I argued that it is more plausible to distinguish *semantic reciprocity* and *syntactic intransitivity* in Russian. While *vzaimo-* is a reciprocal marker which bears no syntactic function (it only introduces a reciprocal relation, but does not intransitivize the verb), *-sja* in cases like (16) does not have any particular semantic function – in contrast, it makes the verb intransitive.

Thus, the question why structures like (14), with *vzaimo-* as the sole reciprocal marker are impossible, seems to be solved: verbs in Russian cannot be deobjectivized without any restrictions. But why are structures like (33) impossible, where a ‘usual’ NP occupies the object position?

- (33) \*Petj-a      vzaimo-obogaščaj-et Vasj-u  
 Petja-NOM REC-enrich-PRS.3SG Vasja-ACC  
 ‘Petja and Vasja mutually enrich each other’ (lit. ‘Petja mutually enriches Vasja’).

In (33), the verb remains transitive, thus, constraints on detransitivization do not account for ungrammaticality of this sentence. In my opinion, this fact results from a more general constraint which can be formulated as in (34):

- (34) **No reciprocal verb in Russian can govern one participant of reciprocal relation as a subject, and the other one as a direct object.**

This constraint accounts not only for structures like (16) with *-sja*, but also for the type (20) with *drug druga*. In (20), the verb remains transitive, but it is not true that one participant of the reciprocal relation is a subject and the other one a direct object: while the subject position is occupied by the NP denoting the whole group of participants, the object position is occupied by the reciprocal pronoun which is bound by the subject NP.

Yet, in this formulation, the constraint is too strong, since it does not account for verbs like *napominat* ‘be similar’ (lit. ‘remind’) or *vstretit* ‘meet’ which really denote a reciprocal relation. One participant is a subject, the other one an object:

- (35) Teper' kvartir-a    napomina-et    zal-∅      ožidanij-a.  
 now   flat-SG.NOM remind-PRS.3SG hall-SG.ACC waiting-SG.GEN  
 ‘The flat now resembles a waiting room.’

It seems that the relation ‘to be similar’ is really symmetrical – in other words, *napominaet* is a verb with a reciprocal component of meaning. If an object A is similar to B, it is also true that B is similar to A. Though one can say that the two arguments in (35) have different pragmatic properties, in general sentences of this type contradict our constraint. A plausible way is to restrict the formulation to structures with **grammatically marked** reciprocity.

The constraint is similar to Grimshaw’s (1991) well-formedness condition which prohibits bivalent verbs (except passive forms) to have a patient in the subject position and an agent in a non-subject one. Grimshaw’s rule says that syntactic arguments and semantic roles should match: the subject position must be occupied by the most agentive role. Our constraint is of the same type: it says that semantically reciprocal

and grammatically marked predicates should also be syntactically reciprocal: in other words, they should have a ‘symmetric’ pattern where the set of participants of the reciprocal relation occupies the same syntactic position. Note that though Dimitriadis (ms.) and Nedjalkov (2007) mention discontinuous reciprocals, which do not follow the symmetrical pattern of the type (4b-5b), Nedjalkov (2007) directly points to the fact that the symmetrical pattern is more prototypical for reciprocals in the world’s languages, and some languages, such as Adyghe (Letuchiy 2007) do not have discontinuous reciprocals at all.

As is widely known, constraints on detransitivization differ across languages: for instance, in English many transitive verbs can be used intransitively, though the English detransitivization is not of the same semantic class as in Russian. But the constraint on ‘transitive reciprocals’ is not universal either. For instance, in Arabic many reciprocals coded with a morphological marker are, nonetheless, syntactically transitive:

- (36) si’r-u            du:la:r-i            y-usa:w-i            si’r-a  
 price.SG-NOM    dollar.SG-GEN    3SG.M-be.equal-PRS.SG    price.SG-ACC  
 yu:ru:.  
 euro.SG.GEN  
 ‘The price of dollar is equal to the price of euro.’ (Internet page).

Judging from the data of Baranov’ (1996) dictionary, it is easy to draw the conclusion that at least in some cases, the form of the third stem, which is built by lengthening the second vowel of the root, bears the reciprocal meaning (cf. also *qatala* ‘kill’ – *qa:tala* (III stem) ‘fight (with each other)’).

Below I will return to another marker of the same root (*vzaimno* ‘mutually’) to show that it is really a modifier. They are not core reciprocal markers, since they usually do not serve as the sole reciprocal marker. It does not mean, though, that *vzaimno* does not add any semantic content to the meaning of the sentence.

### 3 Adverbial *vzaimno*

#### 3.1 Is *vzaimno* just a modifier?

Above I have shown that the adverb *vzaimno* ‘mutually’ is really an adverbial modifier: it never occurs without another reciprocal marker. However, there exists one case when *vzaimno* behaves very similarly to *vzaimo-*: namely, it changes the interpretation of the reflexive derivative it modifies.

- (37) Oni            vzaimno obogaščaj-ut-sja.  
 they.NOM mutually enrich-PRS.3PL-REC  
 ‘They (mutually) enrich each other. / They are (mutually) enriched by each other.’

This case is similar to (16): without *vzaimno*, the verb *obogaščat’sja* can have either passive (‘they are enriched by someone / something’) or anticausative meaning (‘they become richer by themselves’). No reciprocal interpretation is available. However, when the adverb is added, the sole possible interpretation is reciprocal.

In this case, however, a remark is in order. *Vzaimno* is not a verbal prefix; therefore we do not need to postulate a reciprocal interpretation for the verb form in (37), as we have done in (16). In contrast, we can say that the verb in (37) has a passive interpretation, and *vzaimno* does not affect it (in this case it semantically corresponds to the agent of passive).

The main question, however, is what syntactic position *vzaimno* occupies.<sup>7</sup> We have at least two possible decisions:

1. *vzaimno* is an adverbial modifier proper (the structure is passive, like ‘They are enriched by each other’);
2. *vzaimno* changes the interpretation of the verb form (the structure is reciprocal, like ‘They (mutually) enrich each other’)

If we adopt the first hypothesis, the structure is roughly like ‘They are enriched by each other’. *Vzaimno* in this case binds the syntactic subject with the (non-expressed) agent of the passive construction. The fact that *vzaimno* can bind arguments with very different syntactic properties is illustrated by (38):

- (38) My        *vzaimno* obogati-l-i-s’        opyt-om.  
 we.NOM mutually enrich-PST-PL-REC experience-SG.INS  
 ‘We enriched each other with experience.’

In this example, *vzaimno* binds two arguments one of which is a subject, and another one is not even an argument of the verb ‘enrich’ – it is a possessor of *opyt* ‘experience’, which is expressed in the non-reciprocal correlate of (39) by the possessive modifier *tvoj* ‘your’<sup>8</sup>:

- (39) Ja        obogati-l-sja        tvoj-im        opyt-om.  
 I.NOM enrich-PST-SG.M-REC your-SG.M.INS experience-SG.INS  
 ‘I enriched (myself) with your experience.’

Under the second hypothesis, *vzaimno* changes the interpretation of the verb form: the latter no longer bears the passive meaning, but has the reciprocal interpretation ‘to enrich each other’.

In my view, the first analysis is more plausible. One argument is that predicates which do not bear a passive meaning in the *sja*-form do not participate in constructions like (38) and (39): for instance, we found no examples of combination *vzaimno izmenit’-sja* ‘mutually change’ in this meaning (the reflexive verb *izmenit’sja* ‘change’ can bear only anticausative, but not reflexive meaning).

<sup>7</sup>See Partee (2008, 2009) and Staroverov (in press) dealing with a similar problem, concerning semantics of symmetrical constructions like ‘husband and wife’. In this paper, I do not examine the compositional semantics of the construction under analysis, but see Letuchiy (2010) on semantics of other reciprocal constructions in Russian.

<sup>8</sup>Another variant is that *vzaimno* binds the subject with the agent of passive, just as in (37). However, the idea that the second argument is a possessor seems more plausible, because (38) has the meaning that we enriched each other *with our / each other’s* experience, thus, the semantics of the sentence contains the possessive component.

The distinction between passive and anticausative is obvious for this case. Only passives, but not anticausatives, are compatible with agentive NP in the instrumental case cf. (38) and (40) which is ungrammatical:

- (40) \*Situacij-a izmeni-l-a-s' peregovor-ami.  
 situation-SG.NOM change-PST-SG.M-DEC negotiations-PL.INS  
 Intended: 'The situation changed as a result of negotiations'

If *vzaimno* changed the reading of *-sja* and carried a reciprocal meaning, there would be no distinction of this sort between passive and anticausative. Therefore, in examples like (37) and (38) *vzaimno-* is a modifier which does not yield a reciprocal interpretation to the verb form.

### 3.2 Further towards reciprocity: reciprocal interpretation of *svoj* 'own'

However, there is an interesting feature of *vzaimno* which make its analysis as a pure modifier doubtful, namely that this adverbial can change the interpretation of the possessive reflexive pronoun *svoj* 'own'.

- (41) Vuz-y v Čexi-i vzaimno priznaj-ut svoj-i  
 university-NOM.PL in Czech mutually accept-PRS.3PL own-PL.ACC  
 ekzamen-y i začet-y.  
 exam-PL.ACC and test-PL.ACC  
 'Czech universities accept (results of) exams and tests of each other'.  
 (42) Eti grupp-y mog-ut vzaimno uvaž-a-t' svoj-i  
 this-PL.NOM group-PL.NOM can-PRS.3SG mutually respect-INF own-PL.ACC  
 različij-a.  
 distinction-PL.ACC  
 'These groups can mutually respect their distinctions.'

The Russian pronoun *svoj* is much similar to English *one's own*. However, (41) should not mean that each university accepts the results of its own its exams and tests. To the contrary, the author wants to say that each university accepts exams and tests of other universities. In other words, *svoj* bears a reciprocal interpretation when used together with *vzaimno*.

However, in my opinion, this reciprocal interpretation is not really reciprocal as it may seem. It is rather plausible to say that *svoj* has a usual reflexive interpretation in (41) and (42). *Vzaimno* only makes one type of interpretation of reflexive more plausible than the other one.

Let us speak of two interpretations of reflexives: collective and individual. In constructions with plural subject and reflexive marker, individual interpretation occurs when each subject is co-referent with different individual object, whereas under the collective interpretation, the whole class of subjects is co-referent with one class of objects. For instance, the sentence *John and his wife saw their parents on TV* most probably has the individual interpretation (John and his wife has different parents). In contrast, for *John and his brother saw their parents on TV*, the collective interpretation is accessible: it is possible that John and his brother together watched TV and saw their



parents in one TV show.

In sentence like (43), mainly the individual reading is accessible:

- (43) Vuz-y v Čexi-i zaščičaj-ut svoj-ix student-ov  
 university-NOM.PL in Czech defend-PRS.3PL own-PL.ACC student-SG.GEN  
 ‘Czech universities defend their students’.

For (43), the reading that the whole set of universities defend students of all these universities (for instance, if someone studies at St. Charles University, other Czech universities will also defend him) is maybe possible, but rather rare. The main reading is that each of the universities defends its own students, but not the students of other universities.

However, this reading is incompatible with *vzaimno*. This is why in (41) and (42), the individual reading changes to the collective one – thus, *svoj* does not bear any specific reciprocal semantics.

The collective reading is particularly clear in (42). Of course, the sentence cannot mean that each of the groups respects its own distinctions. Moreover, the notion of distinction itself is only defined when there are several distinct objects (on one element, it is not defined). Therefore, the sentence means something like ‘The whole set of groups can respect their (of the whole set) distinctions’, with the collective reading, and *vzaimo-* bears the reciprocal component.

In (43), even with collective reading, the meaning is that all universities defend their students. The difference between (43) in collective reading and (42) is that (42) means that each university defends *students of other universities*, whereas in (43), in collective reading, each university defends *students of all universities*, including its own students.

## 4 Conclusions

In the present paper, I analyzed the properties of Russian reciprocal markers *vzaimo-* and *vzaimno*. I have shown that, although these markers have been ignored by linguists and belong mainly to formal style, they have very interesting properties which can help us in understanding reciprocal meaning as such.

The common feature of the markers under analysis is that they cannot be the sole reciprocal marker when used with finite verb forms. However, *vzaimo-* can serve as the sole reciprocal marker when used with participles and nouns.

The prefix *vzaimo-* must be accompanied with the detransitivizer *-sja* or the reciprocal pronoun *drug druga* ‘each other’. The adverbial *vzaimno* can also be supported by *-sja* and *drug druga*, but also by the reflexive possessive pronoun *svoj* ‘own’. I tried to show that all these variants must be analyzed differently.

The first two variants, namely with *-sja* and *drug druga*, let us propose the distinction between *syntactic reciprocal markers* and *semantic reciprocal markers* (*drug druga* belongs to the first group, and *vzaimo-* to the second one). *Syntactic reciprocal markers* not only introduce a reciprocal component into the meaning of the sentence, but also change valency structure of the verb: the verb no longer is transitive, and the subject position is occupied by the NP (usually in plural) referring to all participants of the reciprocal relation.

In contrast, semantic reciprocal markers only add the reciprocal meaning component, but do not bear a valency-changing function. They cannot make the verb intransitive by themselves. They need the support of syntactic markers to carry out necessary syntactic changes.

An important fact is that the semantic reciprocal markers cannot exist without syntactic ones. Sentences like ‘Peter mutually kisses Maria’ are impossible in Russian, just as in English. I proposed that this is due to an independent principle which says that grammatically-marked reciprocals cannot be ‘usual’ transitive verbs in Russian: **No grammatically marked reciprocal verb in Russian can govern one participant of reciprocal relation as a subject, and the other one as a direct object.** This of course does not mean that reciprocal verbs cannot be transitive: in constructions with *drug druga* they are, but the subject position is occupied by a plural or group noun denoting the whole set of participants of the reciprocal relation. Therefore, if the verb is a grammatically marked reciprocal, it should also follow the ‘reciprocal’ syntactic pattern: the set of participants should occupy only one argument position. I showed that this constraint is similar to Grimshaw’s well-formedness constraint. The constraint allowed me to show that *-sja* does not bear the reciprocal function in *vzaimo*-derivatives, but functions as a pure detransitivizer.

Finally, an important fact is that semantic markers can influence the meaning of non-reciprocal markers. As I showed, the adverb *vzaimno* which is syntactically a pure optional modifier, nevertheless changes the reading of the reflexive possessive pronoun *svoj*. I proposed that the meaning of *svoj* cannot be **reciprocal** – it is rather a collective reading of reflexive. This is the sole reading which is possible with *vzaimno*, whereas without *vzaimno* *svoj* mostly denotes individual reflexivity, and only rarely collective reflexivity.

Let me repeat that optional semantic markers in the world’s languages cannot be ignored, since in some cases, such as (16) in Russian, they become the main markers of reciprocity, though syntactically they must be supported with syntactic markers.

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