

# Reciprocal Sentences are Zoom Constructions

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This paper aims at arguing that reciprocal sentences are multiclausal sentences. In particular, it will be claimed that they are variants of a type of constructions I termed zoom constructions.

The paper is organized as follows: after section 1, where the complexity of reciprocals will be highlighted, section 2 will present the rationale of the proposed analysis. Syntactic evidence supporting this analysis and a sketch of a formal account of it will be presented in section 3. In section 4 its explanatory potential will be exploited and in section 5 some open issues will be commented on<sup>1</sup>.

Due to the constraints on the extension of the paper, the assessment of former hypothesis about reciprocals, as well as the detailed defense of formal accounts of the syntactic and semantic analyses I propose cannot be presented here. For these topics the reader is referred to Branco (92) and Branco (forth-a).

## 1 General motivation: the linguistic analysis of reciprocals is a non trivial issue

It is a fact that reciprocals have not been paid much attention in the literature. Presumably this is due to the assumption that the analysis of reciprocals is not a difficult or relevant linguistic problem. In this section I will comment on a typical example of such assumption, and some data will be presented which both contradict it and strongly suggest that the analysis of reciprocals is a non trivial linguistic issue.

**The perspective of traditional grammar** In Barbosa (1871):107sq,180sq, the reciprocal reading is seen as a consequence of the use of the clitic *se*. Since this is also the item responsible for the reflexive reading, the reciprocity marker *uns...os outros* ("each other"<sup>2</sup>) is said to be an expression "useful for eliminating the ambiguity"<sup>3</sup>. Moreover, there is there the remark that this is one of the expressions which can be used for that purpose alongside with others like *entre si* ("between themselves") *mutuamente* ("mutually") or *reciprocamente* ("reciprocally"). This is also, in its basic lines, the position of Cunha and Cintra (86):282, nowadays a prominent traditional grammar of Portuguese, where the reciprocity marker is classified without further qualification as a "pronominal expression".

This traditional stance faces immediate problems when we come to examples of reciprocal sentences where the clitic is not allowed, as in (2) and (3):

- (1) a. Eles apresentaram-se um ao outro à Maria.  
*they introduced-SG.MASC.IND.ART. to\_the other to\_the Maria*  
"They introduced each other to Maria."  
b. \* Eles apresentaram um ao outro à Maria.  
*they introduced SG.MASC.IND.ART. to\_the other to\_the Maria*

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1 The results to be presented here were obtained during a research which materialized in a MA dissertation (Branco (92)). In that work an integrated syntactic and semantic analysis of reciprocals and zoom constructions was worked out to which a formal account in GB and DRT frameworks was given. The supervising assistance of Prof. Henriëtte de Swart (Rijksuniversiteit Groningen and Stanford University) for semantics and Prof. Inês Duarte (Universidade de Lisboa) for syntax should be acknowledged.

I thank Patrick Fogarty for his helping to translate some of the examples into English.

2 Literally, "[indefinite article] ... the other", with both nouns singular or plural, masculine or feminine.

3 "...para tirar toda a equívocação...".

Actas do IX Encontro Nacional da Associação Portuguesa de Linguística, 1993  
Proceedings of the IX National Meeting of the Portuguese Linguistics Association, 1993

- (2) a. \* Eles apresentaram-se as raparigas umas às outras.  
*they introduced-se the girls PL.FEM.IND.ART. to\_the others*  
b. Eles apresentaram as raparigas umas às outras.  
*they introduced the girls PL.FEM.IND.ART. to\_the others*  
"They introduced the girls to each other."
- (3) a. \* Eles falaram-se um com o outro.  
*they talked-se SG.MASC.IND.ART. with the other*  
b. Eles falaram um com o outro.  
*they talked SG.MASC.IND.ART. with the other*  
"They talked with each other."

Also, the expression *uns...os outros* can be shown not to exhibit the same syntactic distribution of the other candidates to the role of reciprocity markers.

- (4) a. Eles felicitaram-se uns aos outros.  
"They congratulate each other."  
b. Eles felicitaram-se mutuamente/reciprocamente.  
*they congratulated mutually/reciprocally*  
c. \* Eles felicitaram-se entre si.  
*they congratulated between themselves*
- (5) a. Eles gostam uns dos outros.  
"They like each other."  
b. \* Eles gostam mutuamente/reciprocamente.  
*they like mutually/reciprocally*  
c. \* Eles gostam entre si.  
*they like between themselves*
- (6) a. Eles combinaram uns com os outros ir ao cinema.  
"They arranged with each other to go to the cinema."  
b. \* Eles combinaram mutuamente/reciprocamente ir ao cinema.  
*they arranged mutually/reciprocally to go to the cinema*  
c. Eles combinaram entre si ir ao cinema.  
*they arranged between themselves to go to the cinema*

The data of (4)-(6) illustrate that, unlike what happens as to "between themselves" or "mutually"/"reciprocally", the distribution of *uns...os outros* is not determined by the type of verb which it cooccurs with.

This syntactic prominence of *uns...os outros* has a counterpart on the semantic side. While "mutually"/"reciprocally" and "between themselves" seem to select (cf. (4)b.) or reinforce (cf. (6)c.) the collective reading available, *uns...os outros* is not limited to that role:

- (7) a. Os meus amigos encontraram-se para combinar as próximas partidas de sueca.  
"My friends meet to arrange the next card games."  
b. Os meus amigos encontraram-se uns com os outros para combinar as próximas partidas de sueca.  
"My friends meet each other to arrange the next card games."

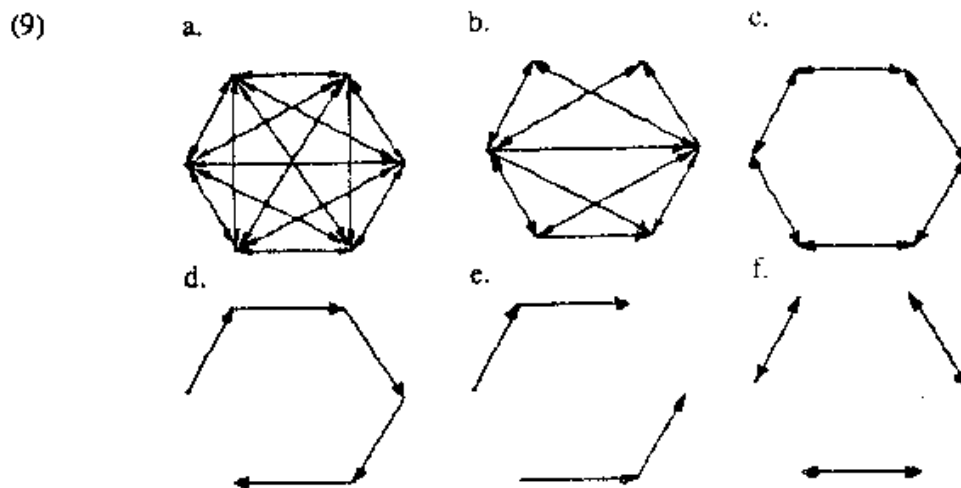
(7)b. can be used to describe a state of affairs which corresponds to the reinforcement of the collective reading of (7)a.: the meeting where my friends come to an arrangement concerning the next card games. But it is not limited to that interpretation. Unlike (7)a., (7)b. can also be used under the perfective aspect to describe a state of affairs where, in different eventualities - in this

case, different meetings -, different groups of friends of mine made different arrangements, possibly one for each group<sup>4</sup>. This shows that, differently from traditional wisdom, the set of readings available in the interpretation of reciprocals includes but it is not limited to the reinforcement of the collective reading (possibly induced by the clitic *se*).

**The puzzle of truth conditions** Evidence of this semantic fact can be as easily brought to light as we consider a wider range of examples.

In (8) and (9) six pairs made of reciprocal sentence plus diagram were gathered. Each diagram represents a relation which the corresponding sentence can be used to describe.

- (8)
- a. Aqueles seis convidados cumprimentaram-se uns aos outros.  
"Those six guests greeted each other."  
[each greeted each one of the other five]
  - b. Seis amigos meus visitaram-se uns aos outros durante as férias.  
"Six friends of mine visited each other during the holidays."  
[each visited a different number of friends]
  - c. Aqueles seis escuteiros estão sentados uns ao lado dos outros à volta da fogueira.  
"Those six boy scouts are sitting next to each other around the fire."
  - d. Os seis condenados que estavam lado a lado numa fila para serem fuzilados passaram o segredo uns aos outros antes da ordem de disparo.  
"The six convicts who were side by side in a queue to be shot told the secret to each other before the order to fire."
  - e. Estes seis pratos estão empilhados uns em cima dos outros.  
"These six plates are stacked on top of each other."  
[two piles of three]
  - f. Aqueles três rapazes e aquelas três raparigas que conhecemos nas férias do ano passado casaram-se uns com os outros.  
"Those three boys and those three girls we met during last year's holidays got married to each other."



The mere inspection of these data is thus sufficient to certify that the large set of types of eventualities reciprocal sentences can describe cannot be reduced to the typical "grouping" eventuality described in the reflexive collective reading induced by the simple occurrence of the clitic *se*. But more than revealing the inadequacy of traditional wisdom about reciprocals, the data displayed above should be seen as a quite suggestive hint of the complexity as well as of the interest of reciprocals for linguistic analysis.

<sup>4</sup> For a similar point in English, see Moltmann (92):423.

## 2 The rationale of the analysis

The heuristic rationale the research was based on is the following: one should not drop, under the risk of loss of generality, the perspective that the elements of the reciprocity marker have the syntactic and semantic properties they usually bear in other non reciprocal contexts. This is not an innovative stance *per se* as it has been adopted, at least partially, by some former proposals dealing with reciprocals. However, the widespread favoritism nowadays attributed in the literature to the Binding Theory, which obliterates this point, as well as the explanatory potential it came to enhance make of it an important starting point that should be conveniently stressed<sup>5</sup>.

It was under this methodological guidelines that the highly plausible hypothesis - firstly sketched in Branco (90) and fully developed in Branco (92) - that reciprocals are variants of zoom constructions (ZCs) came to light.

## 3 Reciprocals are variants of ZCs

**Some examples of ZCs** ZCs are a type of construction which, as far as I have been able to determine, no attention was given to yet either in the syntactic or semantic literature. Here are some examples:

- (10) a. Eles falaram com elas, o Pedro com a Maria, o Miguel com a Ana.  
*they talked with them, the Pedro with the Maria, the Miguel with the Ana*  
"The boys talked with the girls, Pedro with Marta, Miguel with Ana."
- b. Eles foram para Lisboa, o Pedro no sábado, o Miguel no domingo.  
*they went to Lisbon, the Pedro on\_the Saturday, the Miguel on\_the Sunday*  
"They went to Lisbon, Pedro on Saturday, Miguel on Sunday."
- c. Os espões foram enviados para esse país, um para cada capital de província.  
*the spies were sent to that country, SING.MASC.IND.ART. to each capital of province*  
"The spies were sent to that country, one to each provincial capital."
- d. Eles conversaram com os pais, o Pedro com o pai, a Maria com a mãe, acerca desses assuntos, o Pedro acerca de futebol, a Maria acerca de cinema.  
*they talked with the parents, the Pedro with the father, the Maria with the mother, about of\_those subjects, the Pedro about of football, the Maria about of cinema*  
they talked with their parents, Pedro with his father, Maria with her mother, about those subjects, Pedro about football, Maria about cinema

In this section evidence of common syntactic properties of reciprocals and ZCs will be provided.

**Ellipsis** Contrarily to what happens as to elliptical constructions in general, and gapping constructions in particular, in ZCs the relevant elliptical predicators cannot be replaced by items with phonetic content, as can be seen from (11). (12) shows that reciprocal variants have a similar behavior<sup>6</sup>.

- (11) a. Eles foram \_ , [o Pedro \_ a Paris, o Miguel \_ a Londres].  
*they went \_ , [the Pedro \_ to Paris, the Miguel \_ to London]*  
"They went, Pedro to Paris, Miguel to London."
- b. \* Eles foram \_ , [o Pedro foi a Paris, o Miguel foi a Londres].  
*they went \_ , [the Pedro went to Paris, the Miguel went to London]*

<sup>5</sup> It is worth noting that previous proposals espousing this view - cf. Dougherty (74) or Heim et al. (91) - exhibit severe weaknesses in the account of syntactic or semantic facts. However, these drawbacks should be seen as a sign not of the bold inadequacy of this basic commitment to generality, but of the fact that an integrated consideration of both syntactic and semantic facts have always been neglected. For extended elaboration on this see Branco (92):Chap.2.

<sup>6</sup> In the examples the sign '\_' marks the position of a predicator or complement without phonetic content.

- (12) a. Eles bateram \_ [uns \_ nos outros].  
*they hit \_ [PL.MASC.IND.ART. \_ in\_the others]*  
 "They hit each other."  
 b. \* Eles bateram \_ [uns bateram nos outros].  
*they hit \_ [PL.MASC.IND.ART. hit in\_the others]*

**Distribution** ZCs are sensitive to the occurrence of sentence adverbial expressions but not to VP adverbials. Contrarily to what happens in the context of VP adverbials (vd. (14)), the constituent with the elliptical predicator(s) cannot follow sentence adverbial expressions (vd. (13)).

- (13) a. Eles conversaram \_ , [o Pedro \_ com a Maria, o Miguel \_ com a Ana], porque queriam saber a verdade.  
*"They talked, Pedro with Maria and Miguel with Ana, because they wanted to know the truth."*  
 b. \* Eles conversaram \_ porque queriam saber a verdade, [o Pedro \_ com a Maria, o Miguel \_ com a Ana].  
*they talked \_ because they wanted to know the truth, [Pedro \_ with Maria, Miguel \_ with Ana]*
- (14) a. Eles conversaram com elas, [o Pedro \_ com a Maria, o Miguel \_ com a Ana], delicadamente.  
*they talked with them, [Pedro \_ with Maria, Miguel \_ with Ana], politely*  
 b. Eles conversaram com elas delicadamente, [o Pedro \_ com a Maria, o Miguel \_ com a Ana].  
*"They talked with them politely, Pedro with Maria, Miguel with Ana."*

The same pattern is exhibited by reciprocal variants:

- (15) a. Eles conversaram \_ [uns \_ com os outros] porque queriam saber a verdade.  
*"They talked with each other because they wanted to know the truth."*  
 b. \* Eles conversaram \_ porque queriam saber a verdade [uns \_ com os outros].  
*they talked because they wanted to know the truth with each other.*
- (16) a. Eles conversaram \_ [uns \_ com os outros] delicadamente.  
*"They talked with each other politely."*  
 b. Eles conversaram \_ delicadamente [uns \_ com os outros]  
*they talked politely with each other.*

**Transcategoriality** Like ZCs in general (vd. (17)), the reciprocal variants (vd. (18)) are transcategorial constructions:

- (17) a. Eles roubaram [os documentos secretos, [o Pedro o documento YY, o Paulo o documento XX]]VP.  
*they stole [the documents secret, [the Pedro the document YY, the Paulo the document XX]]VP*  
*"They stole the secret documents, Pedro document XX, Paulo document YY."*  
 b. [Os segredos deles acerca delas, [do Pedro acerca da Maria e do Paulo acerca da Ana]]NP, foram descobertos.  
*[the secrets of them about of them, [of the Pedro about of the Maria and of the Paulo about of the Ana]]NP, were discovered*  
*"The boys' secrets about the girls, Pedro's about Maria and Paulo's about Ana, were discovered."*

- c. Os actos de espionagem [condenáveis por esses países nessas épocas, [pela Inglaterra em 1887-91 e pela Alemanha em 1923-34]]<sub>AP</sub>, deixaram de ser punidos desde a década de cinquenta.

*the actions of spying [condemnable by those countries in those periods, [by the England in 1887-91 and by the Germany in 1923-34]]<sub>AP</sub>, stopped of to be punished since the decade of fifty*

"The acts of spying condemnable by England and Germany during those periods, by England from 1887 to 1891, by Germany from 1923 to 1934, have not been punished since the fifties."

- (18) a. Eles conversaram [uns com os outros]<sub>VP</sub>.

*they talked [PL.MASC.IND.ART. with the others]<sub>VP</sub>*

"They talked with each other."

- b. [As opiniões deles [acerca uns dos outros]]<sub>NP</sub> foram discutidas em público.

*[the opinions of them [about PL.MASC.IND.ART. of the others]]<sub>NP</sub> were discussed in public*

"Their opinions about each other were discussed in public."

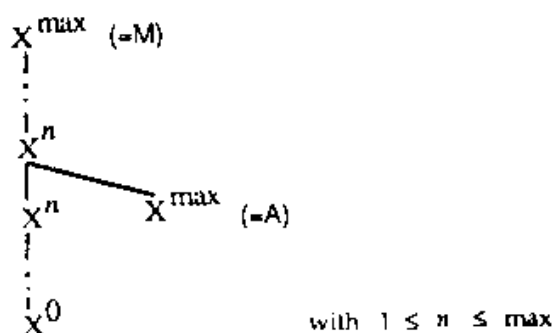
- c. Os impostos [cobráveis pelos Estados membros [uns aos outros]]<sub>AP</sub> diminuíram no ano passado.

*the taxes [collectable by the States member [PL.MASC.IND.ART. to the others]]<sub>AP</sub> diminished in the year last*

"The taxes collectable by the member States from each other diminished last year."

**Adjunction / Modification** Taking into account the above observations, it is easy to recognize a high level of plausibility to any analysis of ZCs which be built along these basic lines: from a syntactic point of view, a ZC is made up of two constituents (M and A in (19)) with identical category X, where X is NP, AP or VP<sup>7</sup>; A is an adjunct to M; and the relevant predicator of A (or predicators, in case A results from a coordination) must have no phonetic content<sup>8</sup>.

(19)



7 I am assuming that the reciprocity marker in a verbal variant of a reciprocal like (18)a. is both a clause (with a Subject) and a VP. That it is a clause with a Subject follows from the evidence relative to verbal ZCs in general - see, for instance, (11)a.. That it is a VP follows from the evidence concerning nominal and adjectival variants of ZCs and the generalist presupposition of invariance of the underlying syntactic pattern (cf. (19)) among the different categorial variants.

One of the solutions for the formal accommodation of these two facts - the reciprocity marker is both a clause and a VP - can be worked out by taking into account proposals like those of Koopman and Sportiche (88), Sportiche (88),(89), and Larson (88),(90), where the VP is seen as a small clause which in D-Structure includes the Subject of the corresponding sentence.

Other solution consists in dropping the elegant generalist assumption about the invariance of the basic syntactic pattern of ZCs and accept that (19) is valid for nominal and adjectival variants, while in verbal variants M and A are not of the same category, letting A in these cases to be an Int<sup>9</sup>.

There are possibly still other solutions. This is a point whose final formulation depends on the theoretical framework adopted and the empirical adequacy of its formal tools.

8 For a more detailed syntactic analysis of ZCs developed upon these basic ideas and a possible formal account of it in GB framework, see Branco (92) and Branco (forth.-b). The sketch now presented should however be enough for the intended purposes of the present paper.

From a semantic point of view, a ZC instantiates a restrictive modification relation, a typical semantic counterpart of the syntactic relation of adjunction, enhanced with additional requisites of part relation between the relevant entities: under a neo-davidsonian/austinian perspective, the eventuality described by a verbal ZC is one which belongs to the set of eventualities described by the main clause *M* ('main event' from now on) and which the eventualities described by the adjunct clause *A* are subevents of ('subevents' from now on)<sup>9</sup>.

#### 4 The explanatory potential of the analysis

In this section the explanatory potential of the hypothesis put forward will be assessed by checking the correctness of predictions concerning central syntactic and semantic properties of reciprocal sentences.

##### 4.1 Form

**More than one complement position** A widespread assumption about reciprocals, either in traditional grammar or in recent accounts (e.g. in GB: Raposo (92):222), is that the reciprocity marker is a syntactic unit occupying a single complement position. (20) presents evidence showing that this is an incorrect assumption as in (20)b. each element of the reciprocity marker clearly is a different complement of the verb:

- (20) a. Ele lançou a bola daqui para ali.  
       "He threw the ball from here to there."  
       b. Os miúdos lançaram a bola \_\_ [ \_\_ \_\_ duns para os outros].  
       *the kids threw the ball \_\_ [ \_\_ \_\_ from PL.MASC.IND.ART. to the others]*  
       "The kids threw the ball to each other."

In the present proposal this receives a straightforward account since each element of the reciprocity marker is seen as a different complement in the adjunct clause.

**Discontinuity** Given this incorrect assumption, it is usual to find in the literature the associated observation that the reciprocity marker is a discontinuous constituent (e.g. Belletti (82)). This is apparently supported by the fact that between the two items of the reciprocity marker *uns* and *os outros* another expression always occurs, usually the preposition selected by the subcategorization frame of the relevant predicator. This is another feature of reciprocals that is easily explained by the present hypothesis without requiring any additional principle or rule: the reciprocity marker is an elliptical clause whose relevant predicator and possibly some complements of it (see next subsection) have no phonetic content.

In particular, a nice explanation can be given to some cases where the preposition is not determined by the subcategorization frame of the verb. In those cases the item *os outros* is the Direct Object in the adjunct clause:

- (21) a. Eles visitaram a Maria.  
       *they visited the Maria*  
       "They visited Maria."  
       a'. \* Eles visitaram à Maria.  
       *they visited to the Maria*

<sup>9</sup> For a detailed account of the semantic analysis of ZCs now broadly sketched, its formal treatment in DRT and its extension to the semantics of reciprocals, see Branco (92) and Branco (forth.-a). For the sake of the discussion below on the semi-fixed form of the reciprocity marker, it is worth noting that in reciprocals the adjunct clause/reciprocity marker contributes to the interpretation of the corresponding reciprocal clause by means of the description of one or more subevents of the main event. This is a claim that cannot receive here a detailed justification.

- b. \* Eles visitaram-se \_ [uns \_ os outros].  
*they visited-se* \_ [PL.MASC.IND.ART. \_ the others]  
 b'. Eles visitaram-se \_ [uns \_ aos outros].  
*they visited-se* \_ [PL.MASC.IND.ART. \_ to the others]  
 "They visited each other."

To understand contrasts like (21), we just need to recall that in Portuguese there exists the phenomenon of clitic doubling:

- (22) a. O Pedro barbeou-se \_.  
*the Pedro shaved-se* \_ .  
 "Pedro shaved himself."  
 b. O Pedro barbeou-se a si próprio.  
*the Pedro shaved-se to him self*  
 "Pedro shaved himself."  
 c. \* O Pedro barbeou-se si próprio.  
*the Pedro shaved-se him self*
- (23) a. O Pedro barbeou-o \_.  
*the Pedro shaved-o* \_ .  
 "Pedro shaved him."  
 b. O Pedro barbeou-o a ele.  
*the Pedro shaved-o to he*  
 "Pedro shaved him."  
 c. \* O Pedro barbeou-o ele.  
*the Pedro shaved-o he*

The fact that the reflexive or pronominal Direct Object with phonetic content (vd. (22)b. and (23)b.) must be preceded by the preposition *a* is usually explained in GB in the following terms: the clitic, reflexive or pronominal, inhibits the ability of the verb to assign accusative Case (or absorbs the Case to be assigned by the verb) and for the Case Filter to be observed the preposition *a* appears as a supplementary Case assigner.

Taking this into account, examples of reciprocals like (21)b'. show that the identity between the elliptical predicator of the adjunct clause and the non elliptical predicator of the main clause is not restricted to identity of semantic content. It covers also identity of syntactic form: the elliptical predicator of the adjunct clause is actually a complex made up of verb plus clitic. And the clitic is the responsible for the inhibition of Case assignment by the elliptical verb and for the associated occurrence of the preposition *a* in the adjunct clause<sup>10</sup>.

**The so-called semi-fixed form** Keeping the focus of the discussion on the common, but incorrect, assumption that the reciprocity marker occupies a single complement position, it is worth noting that one of the arguments in favor of that assumption relies on the claim that the reciprocity marker has

<sup>10</sup> It seems that, when the elliptical material to be recovered inside the adjunct clause is not only the verb but the verb plus clitic, there are additional restrictions on the closeness between the elliptical and the corresponding non elliptical items (vd. the ungrammaticality of (i)b. vs. the grammaticality of (i)a.):

- (i) a. Eles apresentaram o Pedro [uns aos outros].  
 "They introduced Pedro to each other."  
 b. Eles apresentaram [uns aos outros] o Pedro.  
 "They introduced to each other Pedro"
- (ii) a. Eles apresentaram-se [uns aos outros] ao Pedro.  
 "They introduced each other to Pedro."  
 b. \* Eles apresentaram-se ao Pedro [uns aos outros].  
 "They introduced to Pedro each other"



what can be taken as a sort of semi-fixed form. Apart from differences concerning the lexical value of the preposition occurring between *uns* and *os outros*, it seems to be very difficult to insert any other item between those two elements. This is illustrated in (24)a.:

- (24) a. # Eles gostam [uns loucamente dos outros ]  
*they love [PL.MASC.IND.ART. madly of \_the other]*  
 b. Eles gostam loucamente [uns do outros].  
*they love madly [PL.MASC.IND.ART. of \_the other]*  
 "They are madly in love with each other."

Again, the hypothesis that reciprocals are variants of ZCs gives us an explanation for this fact. We just need to observe that in ZCs any "aspect" common to different subevents cannot be repeatedly described by the corresponding sub-clauses:

- (25) a. # Eles gostam delas, o Pedro \_ da Maria, o Pedro \_ da Isabel e o Miguel \_ da Ana.  
*they love them, Pedro \_ Maria, Pedro \_ Isabel and Miguel \_ Ana*  
 b. Eles gostam delas, o Pedro \_ da Maria e da Isabel e o Miguel \_ da Ana.  
 "They love them, Pedro Maria and Isabel, and Miguel Ana."  
 (26) a. # Eles gostam, o Pedro loucamente da Maria, a Ana loucamente do Miguel.  
*they love, Pedro madly Maria, Ana madly Miguel*  
 b. Eles gostam loucamente, o Pedro da Maria, a Ana do Miguel.  
 "They are madly in love, Pedro with Maria and Ana with Miguel."

This sort of principle of non redundant explicitness of the relevant information - most likely a consequence of the semantics of ZCs - should thus be expected to be active also in reciprocal variants. In reciprocals where the adjunct clause describes more than one subevent, the occurrence of items other than *uns*, *os outros* and the relevant preposition will contribute to describe the same "aspect" for each different subevent, thus violating that restriction of non redundant explicitness. Consequently, these kind of reciprocals are rule out. That is what happens in (24)a., where the adjunct clause describes the subevent of Pedro being madly in love with Maria and the subevent of Maria being madly in love with Pedro and where the "aspect" being redundantly made explicit is the fact that in each of these subevents the relation between the relevant individuals occurs in a "mad" form. The apparent semi-fixed form of the reciprocity marker should thus be seen just as a syntactic side effect of the compliance with that semantically driven restriction of non redundant explicitness.

Therefore, this account of the so-called semi-fixed form of the reciprocity marker predicts that in reciprocals where the adjunct clause/reciprocity marker describes only one subevent of the main event, the occurrence of items other than *uns*, *os outros* and the relevant preposition should be possible. In these cases the occurrence of those items contributes to made explicit information concerning only one subevent, and not several subevents, which does not conflict with the non redundant explicitness condition.

- (27) a. O Pedro e a Maria entraram [um sorrateiramente a seguir ao outro].  
*the Pedro and the Maria entered [SG.MASC.IND.ART. slyly after \_the other]*  
 b. O Pedro e a Maria entraram sorrateiramente [um a seguir ao outro].  
*the Pedro and the Maria entered slyly [SG.MASC.IND.ART. after \_the other]*  
 "Pedro and Maria entered slyly one after the other."

This is a correct prediction, as can be seen from the data of (27)a., where the adjunct clause describes only one subevent of the main event. Given the meaning of the verb 'to enter', that adjunct clause describes either the subevent where Maria entered after Pedro or the subevent where Pedro entered after Maria but not both: one cannot, under the same circumstances, enter after and before another given person.

**Coordination** Another set of data enhancing the plausibility of the claim that in a verbal reciprocal construction the reciprocity marker is an adverbial elliptical clause, and not a sort of a discontinuous semi-fixed constituent filling in one complement position, involves coordination.

It is a well known fact that in a non hierarchical coordination of multiple conjuncts the conjunction *e* ("and") cannot be iterated:

- (28) a. \* *Elas bateram no Paulo e no Pedro e no Francisco.*  
they hit Paulo and Pedro and Francisco.  
b. *Elas bateram no Paulo, no Pedro e no Francisco.*  
"They hit Paulo, Pedro and Francisco."

Sometimes this rule seems to be overlooked in cases like the following, where the contrast of (28) appears to have been inverted:

- (29) a. *Elas bateram no Paulo e no Pedro e com bastante violência.*  
they hit in\_the Paulo and in\_the Pedro and with great violence  
"They hit Paulo and Pedro with great violence."  
b. \* *Elas bateram no Paulo, no Pedro e com bastante violência.*  
they hit in\_the Paulo, in\_the Pedro and with great violence

Examples like (29), however, should not be taken as evidence of a second rule for the iteration of *and*. Actually, the second occurrence of the conjunction in (29)a. is very likely to be analyzed not as connecting the adverbial expression *with great violence* with the internal argument *in Paulo and in Pedro*, but as connecting a sentence or a VP with an elliptical expression, as sketched in (30):

- (30) a. [*Elas bateram no Pedro e no Paulo*] e [ \_ com bastante violência].  
[they hit in\_the Paulo and in\_the Pedro] and [ \_ with great violence]  
"They hit Pedro and Paulo with great violence."  
b. [*Elas bateram no Pedro e no Paulo*] e [bateram com bastante violência].  
[they hit in\_the Paulo and in\_the Pedro] and [hit with great violence]  
"They hit Paulo and Pedro and hit with great violence."

This is perhaps a syntactic device used for focus marking, the adverbial expression being the focused item in (29)a..

In what concerns the interrelation between the reciprocity maker and coordination, the data confirm the expected behavior of the marker as an adverbial expression:

- (31) a. *Elas bateram no Paulo e no Pedro e umas nas outras.*  
they hit in\_the Paulo and in\_the Pedro and PL.FEM IND.ART. in\_the others  
"They hit Paulo, Pedro and each other."  
b. \*/? *Elas bateram no Paulo, no Pedro e umas nas outras.*  
they hit in\_the Paulo, in\_the Pedro and PL.FEM IND.ART. in\_the others

The contrast of (31) is closer to the pattern of (29) than the one of (28), which shows that the reciprocity marker has an adverbial nature and does not make part, on a par with *Paulo and Pedro*, of the internal argument of the verb *to hit*.

#### 4.2 Agreement

**Reciprocity marker / antecedent** The agreement pattern in romance languages between the so-called reciprocity marker and its antecedent is one of the most distinctive features of reciprocals in these languages. But, like other features, it is one of those that, as far as I have been able to determine, have never been addressed.

The usual agreement pattern in Portuguese between a dependent interpretation expression and its non split antecedent is illustrated in (32) with reflexive anaphors:

- (32) a. *O Pedro*<sub>SG</sub> gosta de *si próprio*<sub>SG</sub>.  
 "Pedro likes himself."  
 b. \* *O Pedro e o Miguel*<sub>PL</sub> gostam de *si próprio*<sub>SG</sub>.  
 Pedro and Miguel like himself  
 c. \* *O Pedro, o Miguel e o Paulo*<sub>PL</sub> gostam de *si próprio*<sub>SG</sub>.  
 Pedro, Miguel and Paulo like himself
- (33) a. \* *O Pedro*<sub>SG</sub> gosta de *si próprios*<sub>PL</sub>.  
 Pedro likes themselves  
 b. *O Pedro e o Miguel*<sub>PL</sub> gostam de *si próprios*<sub>PL</sub>.  
 "Pedro and Miguel like themselves."  
 c. *O Pedro, o Miguel e o Paulo*<sub>PL</sub> gostam de *si próprios*<sub>PL</sub>.  
 "Pedro, Miguel and Paulo like themselves."

The dependent interpretation expression bears the same value of number and gender of the antecedent.

Reciprocity markers, commonly seen as reciprocal anaphors, exhibit a quite different behavior as to the feature of number:

- (34) a. \* *Aquele rapaz*<sub>SG</sub> bateu *uns*<sub>SG</sub> *no outro*.  
 that boy ...  
 b. *Aqueles dois rapazes*<sub>PL</sub> bateram *uns*<sub>SG</sub> *no outro*.  
 "Those two boys hit each other."  
 c. \* *Aqueles três rapazes*<sub>PL</sub> bateram *uns*<sub>SG</sub> *no outro*.  
 those three boys ...  
 d. \* *Aqueles quatro rapazes* <sub>PL</sub> bateram *um* <sub>SG</sub> *no outro*.  
 those four boys ...
- (35) a. \* *Aquele rapaz*<sub>SG</sub> bateu *uns*<sub>PL</sub> *nos outros*.  
 that boy ...  
 b. \* *Aqueles dois rapazes*<sub>PL</sub> bateram *uns*<sub>PL</sub> *nos outros*.  
 those two boys ...  
 c. *Aqueles três rapazes*<sub>PL</sub> bateram *uns*<sub>PL</sub> *nos outros*.  
 "Those three boys hit each other."  
 d. *Aqueles quatro rapazes*<sub>PL</sub> bateram *uns*<sub>PL</sub> *nos outros*.  
 those four boys ...

Both singular and plural reciprocity markers must have a plural expression as antecedent. Moreover, the singular marker must have as antecedent an expression in whose denotation exactly two entities are involved (vd. (34)); the plural marker must have as antecedent an expression in whose denotation more than two entities are involved (vd. (35)).

The present analysis allows us to understand why this is so. For the adjunct clause of reciprocals to be interpreted, their constituents, elliptical or not, must be assigned a semantic value. As to the elliptical elements their interpretation is done under the usual requirements of semantic content recovery involving some sort of identity between elliptical and corresponding non elliptical elements.

In what concerns the central non elliptical elements of the reciprocity marker/adjunct clause, one should notice that they are dependent interpretation expressions. In broad terms, *uns* denotes a proper non empty part of the denotation of its antecedent, and *os outros* denotes the contextually

relevant complement of the denotation of *uns*<sup>11</sup>. Focusing on examples (34)a. and (35)a., it is thus easy to see why these are not acceptable. Being "that boy" the antecedent for *umsg*, the context of (34)a. fails to provide a non empty reference for *o outrosg* since the only entity available is in the denotation of *umsg*; as to (35)a., the context even fails to provide a suitable reference for *unspl*, a plural dependent interpretation expression with a singular antecedent. This explains why the reciprocity marker, singular or plural, must have a plural antecedent.

Consider now the other cases of the singular reciprocity marker. It is easy to see that, if exactly two entities are involved in the denotation of the antecedent (vd. (34)b.), then the context provides possible references for *umsg* and for *o outrosg*. Each will refer one of the two available entities, and the reciprocal becomes interpretable. When more than two entities are involved in the denotation of the antecedent (vd. (34)c.,d.), the following circumstance occurs: since *umsg* can only denote one of more than two entities, the relevant complement of its denotation is not made up of a single entity. But since *o outrosg* is a singular expression, it cannot be assigned that "plural" semantic value. This is why in these cases reciprocals are not interpretable.

Coming now to the cases of the plural reciprocity marker, the explanation runs like this. When exactly two entities are involved in the denotation of the antecedent (vd. (35)b.), a reference for *unspl* is available but not for *os outrospl*, since all the relevant entities are in the denotation of *unspl*. That is the reason for the non interpretability of this kind of reciprocals.

For expository purposes, the case where more than two entities are involved in the denotation of the antecedent (vd. (35)c.,d.) will be split into two sub-cases. If there are more than three relevant entities ((35)d.), it is easy to see that there will be many possibilities to distribute them between the denotations of *unspl* and the denotation of *os outrospl* in such a way that at least two entities are involved in each of them, thus making reciprocals interpretable.

If there are exactly three relevant entities ((35)c.), then at least two of them must be in the denotation of *unspl*. Therefore at most one entity is available for the reference of the plural expression *os outrospl*. Given that this kind of reciprocals is acceptable, we are lead to the conclusion that we are most likely face to a phenomenon of dependent plural<sup>12</sup>.

We are thus lead to conclude that the apparent specific agreement pattern between the reciprocity marker and its antecedent is not the result of a specific rule of morpho-syntactic agreement for reciprocals but simply an effect of the interrelation of the usual properties of the different elements involved in this type of sentences.

**Dougherty's puzzle of "reciprocal" heterosexual relations** In his work of 1974 on reciprocals, Dougherty pointed out a problematic contrast involving the predicator 'to have heterosexual relations' for which he found no explanation. Actually, this is a problem which no solution was ever proposed for by any author working on reciprocals, and which holds also in Portuguese:

- (36) a. O Pedro, o Paulo e a Maria bateram uns nos outros.  
       "Pedro, Paulo and Maria hit each other."  
       b. # O Pedro, o Paulo e a Maria tiveram relações heterossexuais uns com os outros.  
       Pedro, Paulo and Maria had heterosexual relation with each other.

11 For a detailed and more complete discussion of this point see Branco (92) and Branco (forth.-a).

12 In principle there is no reason not to assume that the plural elements of the reciprocity marker can induce the whole range of readings (collective, cumulative, etc.) typically associated with plurality. In this particular case, where more than one entity is involved in the semantic value of *uns* and just one entity is involved in the semantic value of *os outros*, we should bear in mind that the adjunct clause of a reciprocal describes different subevents of the main event by virtue of successive assignments of different semantic values to these dependent interpretation items. This makes it easy to grasp the possible parallel between what occurs in this concrete interpretation of the adjunct clause of a reciprocal and what occurs in the interpretation of a sentence with a typical occurrence of plural dependence, like *The kids of this school bear yellow jackets*, where each kid is associated with one single different jacket.

For a detailed discussion of this point of the semantics of reciprocals see Branco (92) and Branco (forth.-a).

- (37) a. O Pedro, o Paulo, a Maria e a Ana bateram uns nos outros.  
 "Pedro, Paulo, Maria and Ana hit each other."  
 b. O Pedro, o Paulo, a Maria e a Ana tiveram relações heterossexuais uns com os outros.  
 "Pedro, Paulo, Maria and Ana had heterosexual relations with each other."  
 c. # O Pedro, o Paulo, o José e a Maria tiveram relações heterossexuais uns nos outros.  
 Pedro, Paulo, José and Maria had heterosexual relations with each other.

Plural reciprocals with the referred predicator are not acceptable if there is only one male or female individual involved in the denotation of the antecedent of the reciprocity marker (vd. (36)b. and (37)c.).

In order to understand this we should take into account that, due to the conventional meaning of *to have heterosexual relations*, individuals of the same sex cannot be said to be involved in heterosexual relations. This imposes that, in (36)b. and (37)c., if there is at least one man involved in the denotation of *uns*, then all men are involved in it. This is so because otherwise some men will be involved in the denotation of *os outros*, which will lead to the non interpretable description by the adjunct clause/reciprocity marker of a subevent where a heterosexual relation between individuals of the same sex would occur. Therefore, in (36)b. and (37)c., when *uns* refers the men, *os outros* refers the woman, Maria.

But we should notice that the relation denoted by *to have heterosexual relations* is a symmetric one. Consequently, if the state of affairs of men having heterosexual relations with Mary is a subevent of the main event described by the main clause, the state of affairs of Mary having heterosexual relations with the men must also be stated as a subevent of that main event. But this implies that *uns* should be made to refer Mary, a single entity, which is impossible given the plural form of *uns*. This conflict is thus the reason for the unacceptability of sentences like (36)b. or (37)c., and an answer for Dougherty's problem in Portuguese<sup>13</sup>.

### 4.3 Distribution

**Exceptions to Binding Theory predictions predicted** It is known since Lebeaux (83) that in English reflexive anaphors and reciprocity markers do not have the same syntactic distribution. Also in Portuguese, but in contexts different from those pointed out for English, the reciprocity marker and the reflexive anaphor cannot be interchanged, as the contrasts a.-b. of (38) and (39) reveal.

- (38) a. \*/? Ele foi barbeado por si próprio.  
 "He was shaved by himself."  
 b. Eles foram barbeados uns pelos outros.  
 "They were shaved by each other."  
 c. Eles foram barbeados, o Pedro pela Maria, o Miguel pela Ana.  
 "They were shaved, Pedro by Maria and Miguel by Ana."
- (39) a. Ele acha-se (a si próprio) muito corajoso.  
 "He finds himself very brave."  
 b. \* Eles acham-se um ao outro muito corajosos.  
*they find-3PL SG.MASC.IND.ART. to\_the other very brave*  
 "They find each other to be very brave."  
 c. \* Eles acham-se, o Pedro a/à Maria, o Miguel a/à Ana, muito corajosos.  
*they find-3PL, the Pedro the/to\_the Maria, the Miguel the/to\_the Ana, very brave*  
 "They find each other, Pedro Maria and Miguel Ana, very brave."

<sup>13</sup> For the conditions under which there might be a possible extension of this solution to English see section 4.4 below.

The parallel between examples b.-c. shows that this difference in distribution is correctly predicted by the present proposal, as general ZCs (in c.) have the same grammatical status of the reciprocal counterparts (in b.).

**The restriction on syntactic closeness between reciprocity markers and their antecedents**  
While dependent interpretation expressions, reciprocity markers seems to exhibit a specific behavior as regards the closeness to their antecedents: roughly put, a reciprocity marker and its antecedent must apparently be in the same clausal "domain":

- (40) a. O Pedro e o Miguel bateram um no outro.  
"Pedro and Miguel hit each other."  
b. \* *Eles*<sub>FM</sub> disseram-me que o Pedro e o Miguel bateram *umas*<sub>FM</sub> na outra.  
they told me that Pedro and Miguel hit each other

In some theories, this fact has been accounted for by including the reciprocity markers in the class of expressions whose distribution is ruled by Principle A of Binding Theory, whatever might be the definitive formulation of a principle like this. In the present proposal one does not need to appeal to a specific distributional principle. Like many other features of reciprocals, the necessary syntactic closeness between the reciprocity marker and its antecedent is simply a consequence of the fact that reciprocals are variants of ZCs.

Given the structure of verbal ZCs, the relevant predicators of the adverbial clause and of the main clause are instances of the same verb. This is one of the requirements for a ZC to be interpretable, namely for the adverbial clause to describe subevents of the main event described by the main clause: the predicators of both clauses, being instances of the same verb, denote the same relation. Given this, other such requirement has thus to be that the relevant entities involved in the subevents are entities (or, most probably, part of them) also involved in the main event. Therefore, for a reciprocal variant of ZCs to be interpretable, the elements *uns* and *os outros* of the adjunct clause/reciprocity marker can only denote entities (or part of them) which are involved in the denotation of expressions of the main clause, thus imposing that *uns* and *os outros* can only have as antecedents expressions belonging to the respective main clause. This is what gives ground for the *prima facie* plausible but incorrect claim that there is a specific and independent distributional principle in the grammar for fixing the syntactic closeness between the reciprocity marker and its antecedent.

**C-command does not command** Assigning to reflexive anaphors and reciprocity markers the same distributional pattern leads still to other wrong predictions. In particular, it leads to the incorrect claim that, like what happens as to reflexive anaphors and their antecedents, reciprocals are grammatical iff the antecedent c-commands the corresponding reciprocity marker. That this is an incorrect claim can be shown from examples like (41)a., where the antecedent can hardly be said to c-command the marker, but the construction is grammatical.

- (41) a. Eles apresentaram *umas* às outras *as raparigas*.  
they introduced to each other the girls  
b. \* O psicanalista descreveu a *si própria* a Maria.  
the psychoanalyst described to herself Maria

This is something that is correctly accounted for by the present analysis. In order to see how, we just need to observe that the dependent interpretation expression *uns* does not require to be c-commanded by its antecedent:

- (42) O Pedro contou-me que o director chamou *os empregados do 5º e do 6º andar* ao seu gabinete. Ouvi dizer que *uns* alegaram que estavam ocupados, *os outros* que tinham de sair imediatamente.

"Pedro told me that the director called the employees of the 5th and 6th floors to his office. I heard some of them (possibly those of the fifth floor, those of the sixth floor or any other group of employees) said they were busy, the others they had to leave immediately."

This explains why examples like (41)a. are grammatical even if a relevant c-command relation does not hold (cf. ungrammaticality of (41)b.).

But if there is no c-command requirement in reciprocals, then the examples of (43), where the antecedent does not c-command the marker and the construction is not grammatical, remain to be explained.

- (43) a. \* *Eles apresentaram às raparigas umas às outras.*  
*they introduced to the girls<sub>IO</sub> each other.*  
 b. \* *Os pais das raparigas gostam \_ [umas \_ das outras].*  
*the parents of the girls like \_ [PL.FEM.IND.ART. \_ of the others]*  
*the girls' parents like each other*

As it came to light in last subsection, since the adjunct clause of a reciprocal describes subevents of the main event described by the main clause, there is a sort of convergence between what is described by the two clauses. In fact, for a reciprocal to be interpretable, the denotation of a given complement of the adjunct clause, say the Direct Object, must be identical to the denotation, or part of it, of the Direct Object of the main clause - the same happening *mutatis mutandis* as regards the other complements. Therefore, there must be a sort of "semantic alignment" between the complements of the main and adjunct clause<sup>14</sup>.

Now, what happens in (44) (= (43)a.) is that, since the Direct Object of the main clause has no phonetic content, the main clause does not provide an overt expression which may be the antecedent of *uns*, thus making the reciprocal non interpretable.

- (44) \* *Eles apresentaram  $\emptyset_{DO}$  às raparigas [ \_ \_ umas<sub>DO</sub> às outras].*

As to (43)b., its unacceptability is easily explained as well since there is there also a failure of "semantic alignment". Given that *umas* has "the girls" as antecedent (and not the Subject of the main clause), and *as outras* has, in turn, *umas* as antecedent, both *umas* and *as outras* refer part of the girls. This way the adjunct clause can only describe subevents involving girls as agents and patients of the liking relation, but not girls' parents. But the main clause, in turn, can only describe events where the girls' parents, and not the girls, are involved as agents in the liking relation. Therefore, the adjunct clause cannot describe events which are subevents of the main event.

#### 4.4 Extension to Other Languages

The present analysis was built upon examples taken from Portuguese. Given the data available in the literature, it seems highly plausible that the analysis might be appropriate for other romance languages as well, like French and Italian, as the following examples strongly suggest:

<sup>14</sup> It is interesting to note that in cases where this alignment can be done in different ways, the reciprocal sentence presents disjoint sets of interpretations:

- (i) a. *Os meus irmãos colocaram os vizinhos \_ [ \_ \_ uns contra os outros ].*  
*the my brothers put the neighbors \_ [ \_ \_ PL.MASC.IND.ART. against the others]*  
 "My brothers put the neighbors in conflict with each other."  
 b. *Os meus irmãos colocaram os vizinhos \_ [ uns \_ \_ contra os outros ].*  
*the my brothers put the neighbors \_ [ PL.MASC.IND.ART. \_ \_ against the others]*  
 (approx. transl.) "Different brothers of mine put some neighbors in conflict with some other brothers of mine."

When in the referred "alignment" *uns* is in correspondence with the Direct Object of the main clause (when this complement is the antecedent of *uns* and, consequently, *uns* is the Direct Object of the adjunct clause - vd. (i)a.), the sentence describes situations where the fight was provoked between the neighbors. When *uns* is in correspondence with the Subject ((i)b.), the sentence describes events where the fight was provoked between the neighbors and my brothers.

- (45) a. Eles falaram uns com os outros.  
 "They talked to each other."  
 b. Elles discutaien les unes avec les autres.  
 (French, Kayne (75):(42))  
 "They argued with each other."  
 c. I miei amici parlano l'uno dell'altro.  
 (Italian, Belletti (82):(1))  
 "My friends talk about each other."

It is probable that it come to be shown that the present hypothesis is also appropriate to English, provided we take *each other* as a lexicalized expression resulting from a possible language changing process which obliterated its syntactic structure but kept almost all, if not all, of its original semantic properties. The disappearance of the difference between the uses of *each other* (requiring a two entity antecedent) and *one another* (requiring a more than two entity antecedent), a difference still operative in romance languages, might be a significant trace of that change<sup>15</sup>.

## 5 Open issues

In this last section some interesting data for which a balanced account is still lacking will be briefly reviewed.

Contrarily to what might be expected, (46)b. is grammatical. Apparently, the item *uns* was displaced from its original position in (46)a., which is synonymous with (46)b.,

- (46) a. Eles falaram \_ [uns \_ acerca dos outros].  
*they talked \_ [PL.MASC.IND.ART. \_ about of\_the others]*  
 "They talk about each other."  
 b. Eles falaram \_ [ \_ \_ acerca uns dos outros].  
*they talked \_ / \_ \_ about PL.MASC.IND.ART. of\_the others]*  
 "They talk about each other."

Examples like (46)b. are not the only ones where *uns* does not appear in the expected position. This item seems to have been displaced also in (47)a.. As a matter of fact, the interpretation of this sentence seems to require an underlying structure like (47)a', which cannot materialize as a well-formed surface sequence (vd. (47)b.)<sup>16</sup>.

- (47) a. Eles guiaram [os carros uns dos outros]<sub>NP</sub>.  
*they drove [the cars PL.MASC.IND.ART. of\_the other]<sub>NP</sub>*  
 "They drove each others' cars."  
 a'. eles guiaram \_ [uns \_ [os carros dos outros]<sub>NP</sub>]  
*they drove \_ [PL.MASC.IND.ART. \_ [the cars of\_the others]<sub>NP</sub>]*  
 b. \* Eles guiaram uns os carros dos outros.  
*they drove PL.MASC.IND.ART. the cars of\_the others*

<sup>15</sup> One should not exclude the hypothesis that the data pointed out in Section 5 below might be consequences of the fact that a similar process for romance languages has also started its way out.

<sup>16</sup> It is interesting to note that the Italian counterpart of (47)a. is a construction which is like (47)b. in terms of the location of the first element of the reciprocity marker:

- (i) a. I miei amici ammiravano l'uno [le foto dell'altro]<sub>NP</sub>.  
 "My friends admired each other's pictures."  
 b. \* I miei amici ammiravano [le foto l'uno dell'altro]<sub>NP</sub>.  
 (Belletti (82):(28))

An appealing explanation of this difference between Portuguese and Italian could be given by assuming that, contrarily to what happens as to Portuguese, the possible changing process referred to in the previous note is not active in Italian.



It is likely that this uncommon displacement to the right, to near *os outros*, for which I have no justification, is the clue for understanding why in some aspects reciprocal variants present a specific syntactic behavior not exhibited by general ZCs. In (48) we find examples of cleft (a.), focus marking (b.) and topicalization (c.) involving the reciprocity marker/adjunct clause. In (49) we see that for non reciprocal ZCs these constructions yield ungrammatical results.

- (48) a. Foi [uns nos outros] que eles bateram.  
*(it) was [PL.MASC.IND.ART. in\_the others] that they hit*  
 "It was each other they hit."  
 b. Eles bateram foi [uns nos outros].  
*they hit was [PL.MASC.IND.ART. in\_the others]*  
 c. [Uns nos outros], eles não bateram.  
*[PL.MASC.IND.ART. in\_the others], they not hit*
- (49) a. \* Foi, [a Maria no Pedro, a Ana no Miguel] que eles bateram.  
*(it) was, [the Maria in\_the Pedro, the Ana in\_the Miguel] that they hit*  
 b. \* Eles bateram foi, [a Maria no Pedro, a Ana no Miguel].  
*they hit was, [the Maria in\_the Pedro, the Ana in\_the Miguel]*  
 c. \* [A Maria no Pedro, a Ana no Miguel], eles não bateram.  
*[the Maria in\_the Pedro, the Ana in\_the Miguel], they not hit*

One way of explaining (48)/(49) contrasts could be by claiming that in reciprocal variants, due to the displacement of *uns*, the syntactic structure of the adjunct clause is "reshuffled", in some principled way to be detailed, which enhances, in some way to be explained, the mobility of this subclause. Maybe this is even what underlies the difference in prosodic contour between the adjunct clauses of general ZCs and the adjunct clauses of the reciprocals, signaled in the writing by a comma in the former but not in the latter.

We can still take the displacement of *uns* as a clue to understand why no internal argument in the main clause other than NPs provides an acceptable antecedent for *uns* :

- (50) a. O Pedro apresentou as raparigas \_ | \_ \_ umas às outras].  
*the Pedro introduced the girls \_ | \_ \_ PL.FEM.IND.ART. to\_the others]*  
 "Pedro introduced the girls to each other."  
 b. \* O Pedro falou acerca das raparigas \_ | \_ \_ acerca dumas com as outras].  
*the Pedro talked about of\_the girls \_ | \_ \_ about of\_PL.FEM.IND.ART. with the others]*

This could perhaps be explained by recalling that, if the first item of the reciprocity marker has an antecedent immediately included in a PP, it must also be a PP (cf. previous remarks on "alignment" of complements between main and adjunct clauses in section 4.3), and then by hypothesizing that the above referred movement to the right only holds for NPs<sup>17</sup>.

All these are topics for which further research is required."

17 Is this due to restrictions on the landing site? It is interesting to note that there are some reciprocals which accept a sort of conversion of the PP into a NP ((i)b.-c.), and some other which seem not to accept such "conversion" ((ii)b.-c.).

- (i) a. a opinião do ministro A pp acerca do ministro B  
*the opinion of minister A about\_of minister B*  
 "the opinion of minister A about minister B"  
 b. \* as opiniões dos ministros dunspp acerca dos outros  
*the opinions of\_the ministers of\_PL.MASC.IND.ART.pp about of\_the others*  
 "the ministers' opinions about each other"  
 c. as opiniões dos ministros acerca unsNP dos outros  
*the opinions of\_the ministers about PL.MASC.IND.ART.NP of\_the others*

## 6 Conclusions

Empirical evidence and arguments were presented showing the high degree of plausibility of the hypothesis that reciprocals are variants of zoom constructions.

As a consequence of this main result, solutions for important drawbacks of former analyses of reciprocals and for problematic issues for which there was no account in the literature yet were also proposed: the properties of reciprocals were shown to be simply the outcome of the interaction of the usual properties of the items and the constructions involved.

The result that there is no need of any specific principle in the grammar in order to account for the properties of reciprocals (Principle A or other with better empirical adequacy) should thus be counted as one of the most salient of the paper.

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- (ii) a. a avaliação do ministro App pelo ministro B  
the evaluation of the minister A by the minister B  
"the evaluation of minister A by minister B"
- b. \* as avaliações dos ministros dunspp pelos outros  
the evaluations of the ministers of PL.MASC.IND.ART.pp by the others  
"the ministers' evaluation of each other"
- c. \* as avaliações dos ministros unspp pelos outros  
the evaluations of the ministers PL.MASC.IND.ART.NP by the others