

## Long-distance reciprocals

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### 1 Introduction<sup>1</sup>

In a recent paper, giving an overview of Binding Theory, Asudeh and Dalrymple (to appear) state:

A puzzle that has gone largely unaddressed in the literature on binding is the local nature of reciprocal binding. Though there are many examples of reflexive pronouns that need not be locally bound, there seem to be no comparable examples of long-distance reciprocals.

In other words, what you typically get is the following opposition. In languages allowing ‘long distance binding’ (‘non-local binding’), such as Kannada (cf. (1a)) and Dutch (2a), binding of the reciprocal outside the minimal governing category is excluded (cf. (1b) and (2b); Amritavalli 2000: 67,89; Everaert 1986: 214-218).<sup>2</sup>

- (1) a. [shyaama tannannu<sub>i</sub> priitisuttaane anta] raama<sub>i</sub> heeLidanu  
Shyama self<sub>acc</sub> loves that Rama said  
‘Rama said that Shyama loves him (=Rama)’  
b. \*makkaLu<sub>i</sub> [naanu obbaranna obbaru<sub>i</sub> baide anta] heeLidaru  
children I one<sub>acc</sub> one<sub>nom</sub> scolded that said  
‘The children said that I scolded one another’

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<sup>1</sup> I would like to thank Alexis Dimitriadis, Eric Reuland and Anca Sevcenco for their comments, help.

<sup>2</sup> Note the example in (i), from Broekhuis (1994), in which the reciprocal is non-locally bound. Following Pollard and Sag (1994) one might take this as a case of binding of an exempt anaphor.

- (i) Zij<sub>i</sub> lieten mij stiekem elkaars<sub>i</sub> dagboek lezen  
‘They let me read each other’s diaries in secret’

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- (2) a. Zij<sub>i</sub> lieten mij voor zich<sub>i</sub> werken  
They let me for themselves work  
'They let me work for them'
- b. \*Zij<sub>i</sub> lieten mij voor elkaar<sub>i</sub> werken  
They let me work for each other

Are Asudeh and Dalrymple right in saying that this puzzle has gone largely unaddressed? Not quite. To begin with, the observation itself has been around for quite some time. Even without having access to something as helpful as a 'Case study on Reciprocals' (cf. Everaert and Van Riemsdijk's *The Blackwell Companion to Syntax* for an explanation of the notion of 'case', I was immediately able to come up with the following references.<sup>3</sup>

Yang (1983) is one of the very first to discuss the fact that reciprocals are, cross-linguistically, strictly locally bound. Yang argues for a Reciprocal-Binding principle that is slightly different from that for reflexives: a reciprocal is, in essence, bound within the domain of its first c-commanding subject. Everaert (1986) examines the distributional properties of reciprocals in a number of Germanic languages. He argues (1986:218) that the fact that Dutch anaphors like *zichzelf* (himself/herself/etc.) and *elkaar* (each other) behave like quantified NPs might account for the fact that they are necessarily locally bound. In the outline of their questionnaire for a typology of anaphoric dependencies in South Asian languages, Lust et al. (2000:875) ask their authors to see whether reciprocals allow long-distance binding, resulting in observations as in (1) above. But there is at least one paper that I know of that precisely tries to address the issue raised by Asudeh and Dalrymple. It is Henk van Riemsdijk's 1985 paper *Why long reciprocals don't exist* in the journal *Theoretical Linguistic Research*.<sup>4</sup>

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<sup>3</sup> And I am sure I am missing numerous other references.

<sup>4</sup> Although Van Riemsdijk quite precisely describes what he takes as instances of 'long-distance reciprocals', it is good to make clear that in the context of this discussion we do not include the phenomenon of 'long distance' or 'wide scope' reciprocals in cases such as:

- (i) John and Mary think they like each other.

Higginbotham (1980) argues that this sentence has two interpretations, of which the interpretation "John thinks 'I like Mary' and Mary thinks 'I like John'" could be taken as a long-distance binding of the reciprocal. Dimitriadis (2000), a.o., shows that this interpretation could very well follow from 'local' binding given a proper analysis of the semantics of plural pronouns.

It is a well-known fact that many languages have so-called long reflexives. Long reflexives are bound anaphors in that, unlike pronouns, they require an antecedent within a sentence. They are ‘long’ in that the antecedent, given standard assumptions, occurs outside the minimal governing category containing the reflexive. Principle A of the binding theory is a principle that deals with bound anaphors. In other words it is meant to apply not only to reflexives but also to reciprocals. In most approaches to long reflexives, modifications of principle A play an important role. One would therefore expect these modifications to extend to reciprocals as well, i.e. one would expect there to be long reciprocals under precisely those conditions under which long reflexives are permitted. But the truth of the matter appears to be long reciprocals simply do not exist.

Probably due to the fact that the journal *Theoretical Linguistic Research* ceased to exist quite soon after it appeared, the paper has gone largely unnoticed. In this paper I will reassess the discussion of the point that Henk so poignantly sketched in the quote above.

## 2. Reciprocals as ‘anaphors’

Crucial in Van Riemsdijk’s argumentation above is the assumption that reciprocals and reflexives, both being anaphors, should have a similar distributional pattern. By and large this happens to be the case (cf. Everaert 2000), but there are some cases where their distribution diverges, as the examples in (3) illustrate (Chomsky 1981, Lebeaux 1983, Kuno 1987):

- (3) a. They<sub>i</sub> bought each other<sub>i</sub>’s/\*themselves’<sub>i</sub> books  
 b. [John and Mary]<sub>i</sub> didn’t think that ?each other<sub>i</sub>/\*themselves<sub>i</sub> would leave early  
 c. They<sub>i</sub> think it bothered ?each other<sub>i</sub>/\*themselves<sub>i</sub> that ...  
 d. They<sub>i</sub> made sure it was clear to ?each other<sub>i</sub>/themselves<sub>i</sub> that ...

The most straightforward option to account for the (un)grammaticality of the examples in (3) is that the binding theory itself doesn’t make a difference between reflexives and reciprocals but that such distributional differences are the result of independent principles interacting with the binding principles. Case considerations, i.e. lack of genitive case for reflexives, might, for instance, play a role in the case of (3a) (as has been argued for in Bresnan 2000, a.o.). For the example in (3b) Lebeaux (1983)

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and Chomsky (1986) argue that reflexives but not reciprocals move at Logical Form, resulting in the violation of another principle of grammar (the ECP). For the cases in (3c,d), however, it is not immediately clear how we could account for the distributional differences.

So Van Riemsdijk's point is clear. Setting the examples in (3) apart, there is something to explain. And there are some suggestions in the literature (at least, that I know of) how to go about it.

Let me first begin with Van Riemsdijk's analysis. Van Riemsdijk (1985) observes that in the original formulation of the notion Governing Category (Chomsky 1981), there are two notions 'subject' relevant for determining what is a governing category: the NP serving the grammatical function subject ([NP,S]), and INFL/Tense. The former, Van Riemsdijk argues, one can take as a +Theta position, the latter as a -Theta position. He, furthermore, notes that reciprocals (for some reason) are generally assigned a theta role (+Theta), while reflexives are not necessarily ( $\pm$ Theta): *Jean se lave/Jean parle de lui-même*. Subsequently he argues that the binding conditions could be made sensitive to theta-marking specification. +Theta-marked anaphors must take theta-marked antecedents, i.e. grammatical subjects, while -Theta-marked anaphors take non-theta-marked antecedents (INFL/Tense). Suppose one follows the suggestion in Anderson (1982) that in certain complements (infinitives, subjunctives) INFL/Tense is dependent (co-indexed) upon the matrix INFL/Tense, extending the governing category beyond the immediate domain. In this way, the differences between reflexives and reciprocals are explained. The configuration of long-distance binding will be limited to anaphors that can take INFL/Tense as its accessible subject, i.e. reflexives (depending on their  $\pm$ Theta-specification). Reciprocals, however, necessarily in need of a +theta subject will always be locally bound by the subject of the clause containing the anaphor.

Everaert (1991) offers an explanation of why 'complex reflexives' like *zichzelf* would be barred from long-distance binding, contrary to 'simplex reflexives' like *zich*. He argues that the former type of anaphor is specified  $\langle +A,+P \rangle$  while the latter is specified  $\langle +A,-P \rangle$ . Defining the notions 'governing category'/'minimal governing category' relative to the A(naphor)- and P(pronominal)-features, respectively, it is derived that  $\langle +A,+P \rangle$  reflexives, bound in some governing category and in their minimal governing category, are necessarily locally bound, while  $\langle +A,-P \rangle$  reflexives, bound in some governing category and not bound in their minimal governing category, are not. If it could be argued that reciprocals, cross-linguistically, have to be necessarily specified as  $\langle +A,+P \rangle$ , bound in

their minimal governing category, the lack of long-distance reciprocals would follow. Whatever the precise reason might be to argue for such an analysis (I refer the reader to the discussion in Everaert 1991:104-6, on reciprocals), the parallel between (certain) complex reflexives and reciprocals is central to this analysis: both do not participate in long-distance binding .

There is another line of reasoning that might explain why reciprocals are locally bound. In Belletti (1982) it is argued that the Italian reciprocal *l'uno l'altro* (cf. 5) should be analysed as a complex element containing a floating quantifier (cf. 4):<sup>5</sup>

- (4) a. I miei amici hanno parlato tutti dello stesso problema  
 'My friends spoke all of the same problem'  
 b. [<sub>NP</sub> [tutti]<sub>i</sub> [<sub>NP</sub> i miei amici]<sub>i</sub>] hanno parlato [<sub>PP</sub> e<sub>i</sub> [<sub>PP</sub> dello stesso problema]]
- (5) a. I miei amici hanno parlato l'uno dell'altro  
 'My friends spoke of each other'  
 b. [<sub>NP</sub> [l'uno]<sub>i</sub> [<sub>NP</sub> i miei amici]<sub>i</sub>] hanno parlato [<sub>PP</sub> e<sub>i</sub> [<sub>PP</sub> dell' [<sub>NP</sub> altro]]]

It is precisely this mechanism that is also invoked by Heim, Lasnik and May (1991). They argue that in the case of English *each other*, *each* moves at logical form, leaving behind an NP-trace. The clause boundedness of this type of reciprocal might, thus, be triggered by the presence of an NP-trace, forcing strict locality under the assumption there is no long-distance NP-movement.

### 3 Are there instances of long distance binding of reciprocals?

So far we assumed that the descriptive generalization that reciprocals do not allow long-distance binding is well-established. But is it?

<sup>5</sup> It is tempting to assume that, ultimately, the morpho-syntactic status of reciprocals might be responsible for the fact that reciprocals are clause-bound. However, Polish examples as in (i) (Reinders-Machowska 1991) show that such a position cannot be straightforwardly upheld:

- (i) a. Chłopcy<sub>i</sub> czytali dziewcząt<sub>j</sub> wspomnienia o sobie<sub>i/j</sub>  
 The boys read the girls' memories about them/themselves  
 b. Chłopcy<sub>i</sub> czytali dziewcząt<sub>j</sub> wspomnienia o sobie\*<sub>i/j</sub>  
 The boys read the girls' memories about each other  
 (=the girls,≠the boys)

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In the Lust et al. (2000) volume mentioned above, there are scarce remarks about possible instances of long-distance binding of reciprocals. In the chapter on Hindi/Urdu Davison (2000:433) gives the following example as marginally acceptable.

- (6) ?[raam aur šyaam]<sub>i</sub> sooc-tee hāi [ki ravi-nee kahaa  
 Ram and Shyam think-IMPF are that Ravi say<sub>perf</sub>  
 [ki eek duusraa-nee<sub>i</sub> paagal hai]  
 that one another-M.SG crazy is  
 ‘Ram and Shyam think that Ravi said that each other is crazy’  
 (= Ram and Shyam each think that Ravi said that the other was  
 crazy’

Given the fact that in an identical environment the reflexive *apnaa* cannot take an antecedent across a finite clause boundary (Davison 2000: 418), this is noteworthy.

In the chapter on Marathi Wali (2000:555-556) shows that long-distance bound reciprocals are excluded in finite clause embeddings (7a), but allowed in nonfinite clauses (cf. 7b):

- (7) a. tyaa lokāā-naa<sub>i</sub> vaaTta ki ekamekāā-ni\*<sub>i</sub> dagaD  
 those people-DAT feel that each other-ERG stones  
 phék-l-et.  
 threw-AGR  
 ‘Those people feel that each other threw the stones’  
 b. tyaa lokāā-ni<sub>i</sub> shaam-laa [ekamekāā-naa<sub>i</sub> boekaraay-laa  
 those people-ERG Sham-DAT each other-DAT pinch-INF  
 laavla  
 forced  
 ‘Those people forced Sham to pinch each other’

This, however, may be expected, since the Marathi reflexive *swataah* is also excluded in finite complements, but allowed in infinitives (Wali 2000:530, 534).

- (8) a. lili<sub>i</sub> mhaNaali ki ravi<sub>j</sub> swataah-laa\*<sub>ij</sub> dosh deto  
 Lili said that Ravi self-DAT blame gives  
 ‘Lili said that Ravi blames self’  
 b. lili-ni<sub>i</sub> shaam-laa<sub>j</sub> [swataahlaa<sub>ij</sub> bockaaraay-laa ] laavla  
 Lili-erg Sham-DAT self-DAT pinch-INF forced  
 ‘Lili forced Sham to pinch self’

So, in this case reciprocals behave similar to, at least, one type of reflexive, as predicted by the binding theory.

Japanese might give another example of long-distance reciprocals. Japanese has several strategies to encode a reciprocal relation: the use of the anaphoric element *otagai* (cf. 9a), the use of *aw*, a verb creating a complex predicate marking the predicate as reciprocal, simultaneously forcing the suppression of an (overt) object position (cf. 9b), or a combination of the two (cf. 9c) (Kobuchi-Philip p.c.):

- (9) a. John to Mary ga otagai-o seme-ta  
 John and Mary-NOM each other blame-PAST  
 b. John to Mary ga seme-aw-ta  
 John and Mary-NOM blame-RecM-PAST  
 c. John to Mary ga otagai-o seme-aw-ta  
 John and Mary-NOM each other blame-RecM-PAST  
 ‘John and Mary blame each other’

Nishigauchi (1992) argues that the Japanese reciprocal is in fact a composite reciprocal, as argued for in Heim, Lasnik and May (1991). That is, the reciprocal consists of a distributor part and a reciprocator part, as exemplified in (10).

- (10) [John and Mary] each<sub>i</sub>] like [ e<sub>i</sub> other ]  
 distributor reciprocator

Nishigauchi argues that the reciprocal marker construction (9b) consists of *aw* as an element with a distributor function, licensing an empty element with the reciprocator function. In the case of the reciprocal (pro)noun construction (9a) *otagai* is analysed as a complex anaphor consisting of an

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empty D-operator with the distributor function making it parallel to English *each other*:  $[[e]_D \text{otagai}]/[[\text{each}] \text{other}]$ .<sup>6</sup>

Nishigauchi (1992:159) observes that *otagai* is strictly locally bound (cf. 11a), but that there are some exceptions, as the example in (11b) shows, indicating that an ‘animacy’ condition on intervening antecedents might be responsible for the locality:

- (11) a. \*[John to Mary]<sub>i</sub>-ga Bill-ga otaga<sub>i</sub>-o seme-ta to  
 John and Mary-NOM Bill-NOM each other-ACC accused-PAST that  
 ‘John and Mary thought that Bill accused each other’  
 b. [John to Mary]<sub>i</sub>-ga kono ziken ga otagai<sub>i</sub>-o  
 John and Mary-NOM this incident NOM each other-ACC  
 kizu-tuke-ta to omow-ta  
 hurt that thought  
 ‘John and Mary thought that this incident would hurt each other’

(12) gives a case of long-distance reciprocalization containing only the reciprocal marker:

- (12) ?[John to Mary]<sub>i</sub>-ga zibun-ni sensei-tati<sub>j</sub> ga [e]<sub>i/\*j</sub> home-ta  
 John and Mary- NOM self-GEN teacher-PL NOM praise- PAST  
 to zyasui si-aw-ta  
 that suspect do-RecM-PAST  
 ‘John and Mary each suspected that self’s teachers praised the other’

An interesting case is given in (13), which shows that the place of the reciprocal marker, on the matrix verb, determines the scope of reciprocal (pro)noun *otogai*.

- (13) [John to Mary]<sub>i</sub>-ga Bill ga otagai<sub>i</sub>-ni kai-ta tegami-o  
 John and Mary-NOM Bill NOM each other-DAT wrote letter-ACC  
 yomi-aw-ta  
 read-RecM-PAST  
 ‘John and Mary each read the letter that Bill wrote to the other’

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<sup>6</sup> Nishigauchi (1992:192) seems to suggest that this distributive operator is absent in cases where *otagai* is combined with the reciprocal marker, as in (13).

#### 4 Concluding remarks

It is not at all clear that, on an observational level, it is true that long-distance reciprocalization is blocked. We can only hope that systematic cross-linguistic research will clarify this issue.<sup>7</sup> But suppose, for argument's sake, that the generalization holds. What would be a possible explanation? The above discussion gives some indication. If a language encodes a reciprocal relation via a (verbal) reciprocal marker, a non-local interpretation would be straightforwardly blocked by an independent mechanism such as the Lexical Integrity hypothesis, the reciprocal marker being part of the verb's morphology (cf. Everaert 1991). If the reciprocal is argumental, the semantics of reciprocity might be responsible for it being necessarily a verbal operator, as suggested (for complex reflexives) in Reinhart and Reuland (1991:291). That would mean that, in this respect, the behaviour of reciprocals is not so much different from the reflexivizers triggering strict local binding such as Icelandic *sjálfur sig*, Japanese *zibun zisin*, or Dutch *zichzelf*.

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<sup>7</sup> I know of two projects that aim at such a typology: the DFG/NWO-funded project *A Typology of Reciprocal Markers: Analysis and Documentation* (König, Everaert, Gast and Dimitriadis) and the Australian Research Council-funded project *Reciprocals across Languages* (Evans, Nordlinger).

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