

Reciprocity in Spanish: Two Puzzles of Scope

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1.0. Introduction¹

Heim, Lasnik, and May (1991a, henceforth HLMa) note an interesting contrast in the behavior of the following sentences in English (their 78a-b):

- 1.a) They look like each other.
- b) They look alike.

As HLMa point out, when embedded, the two sentences have distinct properties (their 79a-b):

- 2.a) John and Mary think they look like each other.
- b) John and Mary think they look alike.

Sentence (2a) is ambiguous between broad and narrow scope interpretations. Thus, (2a) can either mean 'John thinks he looks like Mary, and Mary thinks that she looks like John' (the broad reading) or 'John and Mary think they (John and Mary) look like each other' (the narrow reading). In contrast, (2b) can only be construed with narrow scope. For HLMa the ambiguity of (2a) receives an explanation in terms of the morphological complexity of the reciprocal expression *each other*. Specifically, the quantificational distribution element *each* is adjoined to an antecedent, which is then subject to QR via the rule $\text{move-}\alpha$ at logical form (see May 1977, 1985). Put simply, this allows for different scope interpretations, depending on how far up the phrase marker *each* is moved. In contrast, the morphologically simplex *alike* contains no detachable distribution element, and, as a result, only the narrow scope reading is available.

Of interest here is the fact that HLMa base their argument on the distinction between reciprocal meaning that is incorporated within a morphologically simplex versus a morphologically complex item. In support of this claim, they offer the following minimal pair of sentences from Italian (attributed to Luigi Rizzi):²

- 3.a) I due pensano [di essersi battuti] (*contradictory*)
the two thought be-each other-clitic beaten
- b) I due pensano [di avere prevalso l'uno sull'altro] (*ambiguous*)
the two thought have prevailed the one over the other

HLMa note that when taken by themselves, the embedded clauses in (3a-b) are both

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²It is not altogether clear exactly what is meant by "minimal pair" here. A significant difference between the two sentences would seem to be that the embedded verb meaning 'beat' in (3a) subcategorizes for an accusative NP, while the verb meaning 'prevail' does not take an NP complement. The presence of the reciprocal clitic would thus be impossible in (3b). The question of whether a non-contradictory construal of (3a) is available with the full reciprocal remains open.

contradictory, but that only (3b) receives a non-contradictory reading in the embedded construction. In a manner analogous to their treatment of the English data in (1-2), HLMa claim that this distinction is attributable to the fact that the clitic in (3a) forms a morphological unit with the verb to which it is attached and, thus, cannot be moved at LF. In contrast, they follow Belletti (1982) in arguing that the full form of the Italian reciprocal *l'uno...l'altro* includes a distributor *l'uno* which can be detached and moved at LF. Though no specific analysis is provided, it is assumed that the broad scope, and hence non-contradictory, construal of (3b) is attributable to the adjunction of the distributor *l'uno* to the antecedent *I due*.

With these facts in mind, I consider the question of scope in Spanish reciprocal constructions. In sections 2 and 3, I present a surprising scope asymmetry between non-full (clitic) and full reciprocal constructions, which indicates that unlike English, the full reciprocal *el uno al otro* in Spanish does not allow for broad scope interpretations when embedded. In section 4, I argue that *el uno al otro* in Spanish is best analyzed as an adjunct, rather than as the subcategorized argument of the verb. And in section 5, I explore HLM's (1991b) "each-binding" variant of the movement analysis proposed in HLMa, showing that the asymmetry between full and non-full reciprocals can be accounted for in terms of the obligatory local A'-binding of the variable *el uno* of the adjoined full form.

In section 6, I expand the data, providing evidence of another scope asymmetry. Specifically, I show that in contrast to the *el uno al otro* adjunct of the clitic doubled construction, VP adjuncts such as prepositional phrases with a reciprocal object do allow broad construals from embedded clauses. I argue that this asymmetry motivates the need to formally distinguish between at least two types of adjuncts, *appositional adjuncts* such as the doubled *el uno al otro* construction, and standard adjuncts such as PPs. I suggest that a profitable way of making this distinction can be found in restricting the assignment of referential indexes in the Relativized Minimality framework (Rizzi 1990). This approach both preserves the account of the asymmetry between non-full or clitic reciprocals and their doubled counterparts, as allows for broad construals from standard adjuncts.

2.0 Scope Ambiguities and Spanish *se*

In looking at Spanish reciprocals, the HLMa analysis predicts that we should encounter similar scope restrictions for non-full reciprocal forms, that is, constructions containing only the reciprocal clitic³. Quite simply, if the clitic forms a morphological unit with the verb, no distribution element such as the English *each* is available for movement. Thus, embedded non-full reciprocals should be limited to narrow scope interpretations. In fact, this is not the case. Embedded clitic reciprocal constructions in Spanish systematically permit broad scope interpretations. Consider, for example, the data in 4-5, where (4b and 5b) can be considered structurally analogous to the Italian (3a).

- 4.a) Juan y María creían que pro se habían visto.
 J and M thought that cl. had seen
 'Juan and María thought they had seen each other'

³As with other romance languages such as French and Italian, the reciprocal clitic in Spanish is homophonous with the reflexive clitic. Note that for simplicity I refer only to the 3rd person clitic "se" throughout.

b) Juan y María creían PRO haberse visto.
 J and M thought have-cl seen
 'Juan and María thought they had seen each other'

5.a) Franco y Carrillo juraban que pro se odiaban.
 F and C swore that cl- hate
 'Franco and Carrillo swore that they hated each other.'

b) Franco y Carrillo juraban PRO odiarse.
 F and C swore hate-cl
 'Franco and Carrillo swore that they hated each other.'

Both (4) and (5) are clearly ambiguous between broad and narrow construals. Thus, (4) can be interpreted as follows: 1) Juan thought he saw María, and María thought she saw Juan (broad scope); 2) Juan and María thought they (Juan and María) saw each other (narrow scope). Likewise, (5) can either mean: 1) Franco swore that he hated Carrillo, and Carrillo swore that he hated Franco; or 2) both men swore that they (both of them) hated each other.

More evidence in support of the availability of wide scope interpretations is found in the Spanish analogue to (3a). HLMa claim that Spanish speakers "spontaneously reject" the Spanish analogue to this sentence as "somehow deviant". However, they do not specify which of the possible analogues they provided for their informants. The data in (6-7) can both be considered analogues of (3a), and both are ambiguous between contradictory (narrow scope) and non-contradictory (broad scope) interpretations.

6. Emilio y Pedro creían PRO haberse vencido.
 E and P thought have-cl defeated
 'Emilio and Pedro thought they had defeated each other'

7. Emilio y Pedro creían PRO haberse ganado.
 E and P thought have-cl won
 'Emilio and Pedro thought they had won (over) each other'

In contrast to Italian, then, it is clear that Spanish systematically allows for broad scope construals of embedded clitic reciprocals.

3.0 Scope and the Full Reciprocal *el uno al otro*

The ability of clitic reciprocals to take wide scope is, in fact, recognized by HLMa in a footnote (n.17). They provide the following example:

8. Juan y María me confesaron secretamente que se gustaban. Ambos piensan que no son correspondidos.

'Juan and María confessed to me secretly that they (clitic) liked each other. Both think that their feelings (lit.: they) are unrequited.

Obviously, a broad construal must be available here; otherwise, the assertion that each believes that s/he is unrequited would be anomalous. Of particular interest, however, is that HLM

claim that the circumstances under which clitics can take wide scope are distinct from those under which wide scope is available for their non-clitic counterparts. As I have argued above, clitic reciprocals regularly take broad scope. Ironically, however, it is not clear that non-clitic reciprocals in Spanish do, in fact, permit regular broad scope construals when embedded. Consider the data in (9). Note that unlike Italian, the reciprocal clitic obligatorily doubles the reciprocal pronoun *el uno al otro* in the full form, an issue addressed in section 4 below.

- 9.a) Juan y María creían que pro se habían visto el uno al otro.
 J and M thought that cl. had seen the one the other
 'Juan and María thought they had seen each other'
- b) Juan y María creían PRO haberse visto el uno al otro.
 J and M thought to have-cl seen the one the other
 'Juan and María thought they had seen each other'

In contrast to the ambiguous readings available for (4a-b) above, (9a-b) can only be construed with narrow scope. That is, the sentences in (9) can only mean that 'Juan and María thought that they (Juan and María) saw each other.' If, by analogy with English and Italian (Belletti 1982), we maintain that the full reciprocal contains an autonomous distributor *el uno*, the lack of a wide scope interpretation for (9) is surprising. Paradoxically, in fact, the presence of the full form enforces a narrow interpretation in sentences with embedded reciprocals. This is seen clearly in the following full forms corresponding to (6-7) above.

10. Emilio y Pedro creían PRO haberse vencido el uno al otro.
 E and P thought have-cl defeated the one the other
 'Emilio and Pedro thought they had defeated each other'
11. Emilio y Pedro creían PRO haberse ganado el uno al otro.
 E and P thought have-cl won the one the other
 'Emilio and Pedro thought they had won (over) each other'

Contrary to what is predicted by HLMA on the basis of the Italian data in (3), only contradictory interpretations are available in (10-11). In short, the Spanish reciprocal is doubly puzzling: clitic reciprocals permit scope ambiguity in embedded sentences, while full reciprocal forms can only be interpreted with narrow scope.

4.0 The Structure of the Reciprocal

In order to treat the issue of why full reciprocals prohibit broad scope interpretations, it is useful to consider the structure of the full reciprocal form. As noted above, full reciprocals require clitic doubling in Spanish, regardless of whether the verb subcategorizes for an accusative or a dative object. In this sense, full reciprocal (and reflexive) forms pattern with pronouns in triggering obligatory clitic doubling. Consider, for example, the familiar paradigms for non-reciprocal clitics:

12. Accusative Clitics

- a. Juan cortó el pan.
Juan cut the bread.
- b. Juan lo cortó e.
Juan cl-acc. cut
'Juan cut it'
- c. *Juan lo cortó el pan.
John cl-acc cut the bread
'John cut the bread'

Dative Clitics

- d. Pedro le pegó a Juan.
Pedro cl-dat. hit Juan
'Pedro hit Juan'
- e. Pedro le pegó e.
Pedro cl-dat. hit
'Pedro hit him'
- f. *Pedro pegó a Juan.
'Pedro hit Juan'

With respect to clitic doubling, accusative R-expression objects cannot be doubled, while dative R-expression objects must be doubled.⁴ In (12a-c), the verb *cortar* takes an accusative object. Thus, the accusative clitic *lo* cannot double the direct object *el pan*, as seen in (12c). In contrast, the verb *pegar* in (12d-f) subcategorizes for a dative object. Here, the clitic *le* double the indirect object, as seen by the ungrammaticality of (12f). In both cases, the clitic surfaces when the object is an empty category, a fact which has led researchers such as Jaeggli (1986) to argue that clitics in Spanish can absorb case.⁵

Interestingly, the distinction between accusative and dative verbs with regard to clitic doubling is lost when the post-verbal NP is a pronoun. As shown in (12), the accusative-assigning *ver* and the dative-assigning *pegar* must surface with a clitic when they take pronominal objects.

13. Accusative Clitics

- a. La vi a ella.
cl-acc. saw-I her
'I saw her'
- b. Vi a María.
saw-I María
'I saw Mary'
- c. *Vi a ella.
saw-I her
'I saw her'

Dative Clitics

- d. Le pegué a él.
cl-dat. hit-I him
'I hit him'
- e. Le pegué a Juan.
cl-dat. hit-I John
'I hit John'
- f. *Pegué a él.
hit-I him
'I hit him'

Of interest is the fact that in accusative forms, the appearance of a clitic is obligatory in two environments: 1) when there is no overt, post-verbal argument, as in (12b); and 2) when the

⁴In the description of the data here, I limit myself to standard Peninsular Spanish, which does not allow clitic doubling of accusative objects. See Jaeggli (1982,1986).

⁵ See Suñer (1987, 1988) for a different perspective on the role of clitics.

argument of the verb is pronominal, as seen in the contrast between (13a) and (13c). Additionally, it is important to note that both dative and accusative clitic-doubled pronominal objects are marked constructions in Spanish. The full pronoun is primarily used to mark a referential contrast (see Jelinek 1984; Piñar 1991), and is thus given a phonological prominence not found for non-pronominal objects. Bresnan and Mchombo (1987) point out that this type of phonological prominence is one of the principal criteria for determining the status of such doubled "arguments", claiming that languages in which incorporated pronominals are the arguments of the verb, independent pronouns are used primarily for referential contrast or focus. This is precisely the case with the full reciprocal in Spanish. It is not unreasonable, then, to hypothesize that pronominal objects in Spanish are not syntactic arguments, but rather, adjuncts to the verb phrase, as Jelinek (1984) argues. If this is the case, the seemingly odd fact that accusative clitics must double post-verbal pronominal objects, but cannot double R-expression objects, receives a simple explanation. The two environments licensing clitic doubling in accusatives are collapsed into one: accusative clitics must surface when the subcategorized argument is not overt. (13a) can thus be represented as in (14), where, following standard assumptions (e.g. Rizzi 1986), the clitic forms a chain with a coindexed empty category.

14. La_i vi e_i [a ella]
 cl-acc. saw-I e her
 'I saw her'

Returning to the issue of the reciprocal construction, we recall that the full form *el uno al otro* is obligatorily doubled by the reciprocal/reflexive clitic, as shown in (15):

15.a) Juana y Pepe se vieron el uno al otro.
 Juana and Pepe cl saw the one the other
 'Juana and Pepe saw each other'

b) *Juana y Pepe vieron el uno al otro.
 Juana and Pepe saw the one the other.

The ungrammaticality of (15b) shows that *el uno al otro* patterns with object pronouns in triggering obligatory clitic doubling. And, as with the pronouns, the full form of the reciprocal is marked in Spanish, insofar as its primary role is to disambiguate, that is, to distinguish between possible reflexive or reciprocal interpretations. (15a) is thus assigned the structure in (16), where *el uno al otro* is adjoined to VP.

16. _{IP}[Juana y Pepe_i _{VP}[[se_i vieron e_i]_{NP}el uno al otro]]
 J and P cl saw the one the other
 'Juana and Pepe saw each other'

Interestingly, more support for the analysis of the full reciprocal as an adjunct comes from Italian and French. Belletti (1982) notes that Italian allows apparent clitic doubling of the accusative reciprocal clitic by the phrase *l'un l'altro* 'the one the other'. Though *l'un l'altro* differs from Spanish *el uno al otro* in that the Italian construction never shows gender or number agreement with its antecedent, it serves the same disambiguating function as the Spanish full

form. In the Italian case, there would seem to be little doubt that such a form is an adjunct, since Italian does not permit doubled accusative objects⁶. Belletti points out that French (citing Kayne 1975) also allows such doubling in structures with the full reciprocal *l'un l'autre* 'the one the other'. Again, French does not double accusative objects, and the French full form is even more similar to the Spanish *el uno al otro* in that it inflects for number and gender.

In contrast to *el uno al otro*, the clitic reciprocal is assigned the structure in (17), (see Rizzi 1986 and Manzini 1986 for a similar treatment of Italian *si*):

17. $_{IP}$ [Juana y Pepe₁ $_{VP}$ [se₁ vieron e₁]]
 J and P cl saw
 'Juana and Pepe saw each other'

Note that if this analysis is on the right track, the descriptive generalization that emerges for Spanish is that only R-expressions can appear as overt complements of the verb. Non-R-Expressions complements are represented in terms of a chain consisting of an empty element and either a pronominal or an anaphoric clitic, with the clitic pronoun constituting the overt instantiation of the subcategorized argument. As I will show, the treatment of the full reciprocal *el uno al otro* as an adjunct allows for a straightforward account of the puzzle of scope described above.

5.0 Accounting for the Scope Asymmetry

As pointed out in 2, the fact that clitic reciprocals permit wide scope readings poses technical problems for the "each-movement" type of analysis of HLMa. However, responding to Williams (1991), Heim, Lasnik and May (1991b; henceforth HLMb) propose an alternative analysis for English reciprocals, in which *each* is not moved, but rather, A'-bound by a distribution operator *D* adjoined to an antecedent of the reciprocal. Different scopes thus arise as a function of the distance between the variable *each* and its binder. If *each* is bound by an operator in the matrix clause, a wide scope interpretation obtains, while binding by an operator in the embedded clause accounts for the narrow reading. This is shown in (18): (their 7)

18. a) [[John and Mary]₁ D₂]₂ think they₂ like [each₂ other]₃ (broad)
 b) [[John and Mary]₁ D₄]₄ think [[they₁]₁ D₂]₂ like [each₂ other]₃ (narrow)

Here, (18a) represents the broad construal, as the variable *each* is bound by the D-operator adjoined to the matrix subject [John and Mary]. (18b) represents the narrow reading, as *each* is bound by the operator adjoined to the subject of the embedded clause.

In looking at the questions raised by the Spanish reciprocal, I will adopt the essential insight of the HLMb analysis of English. Specifically, I will argue that the constituent *el uno* patterns analogously with the English *each* in functioning as a bound variable which provides the contrast argument for *el otro* (see HLMa for details relating to the semantics of this treatment of the reciprocal construction)⁷. Unlike English *each other*, however, the full reciprocal *el uno*

⁶Except in clitic left dislocation constructions (cf. Cinque 1990).

⁷See also Fiengo and Lasnik (1973) and Langendoen (1978) for discussion of reciprocal interpretation.

al otro is an adjunct rather than an argument, and, as a consequence, the bound variable *el uno* is subject to strict locality conditions. In contrast to the full form, I argue that the morphologically "simplex" clitic reciprocal contains no bound variable and is analyzed as an anaphor, subject only to Condition A of the Binding Theory (Chomsky 1981, 1986, etc.). Scope ambiguities involving the clitic form follow simply from whether the A-binder of the clitic chain is itself a product of bound variable or coreference anaphora.

5.1 Clitic Scope

Let us first address the case of the non-full reciprocal. Consider the data in (4), here repeated as (19);

19. a) Juan y María creían que pro se_i habían visto e_i.
 J and M thought that cl. had seen e
 'Juan and María thought they had seen each other'

Simplifying somewhat from Chomsky (1986), if the chain consisting of the reciprocal clitic and its coindexed empty category is an anaphor, it must be bound in the least complete functional complex (CFC) containing a possible antecedent. In this case, the anaphoric chain (se_i, e_i) must be bound within the IP containing *pro*, which c-commands the empty category and constitutes a possible antecedent. Recalling the examples in (18), two possible representations are available for the IP containing *pro*. These are shown in (20):

20. a) [[Juan y María]₁D]₂ creían que pro₂ se₂ habían visto e₂.
 b) [Juan y María]₁ creían que [[pro₁]D₂]₂ se₂ habían visto e₂.
 J and M thought that pro cl had seen e
 'Juan and María thought they had seen each other'

Scope ambiguity is thus accounted for as follows. (20a) exemplifies the broad construal. Specifically, *pro* receives its interpretation via bound variable anaphora with the distributed matrix subject, as it bears the index of the entire distributed NP. Given Condition A, *pro* must be coindexed with the anaphoric chain (se_2, e_2). As a result, the distributed NP of the matrix clause takes scope over the whole sentence, thus producing the broad reading. In (20b), however, the interpretation of *pro* is derived via its coreferential indexation with the non-distributed [Juan y María]. In turn, *pro* itself is subject to distribution by the operator D. Finally, the anaphoric chain, pace Condition A, is coindexed with the entire distributed NP [[pro₁]D₂]₂, thus providing the narrow construal. In short, broad scope obtains when the anaphoric chain is coindexed with an antecedent which receives its interpretation via bound variable anaphora. And narrow scope is accounted for via the coindexation of the anaphor with an antecedent subject to distribution under D. Note in (20b) that (se_2, e_2) cannot be coindexed with *pro* itself, as *pro* is not an argument, but rather, a constituent of the argument [[pro₁]D₂]₂, and thus does not constitute a potential A-binder of the anaphor.

5.2 Full Reciprocal Scope

Given the analysis here, the full reciprocal construction contains an anaphoric chain (se_i, e_i) as well as the adjunct *el uno al otro*. Like the English *each other* on the HLMb analysis, I argue that the full form contains a variable, *el uno* which must be A'-bound by a distribution operator.

Recall that unlike *each other*, however, the NP *el uno al otro* is an adjunct to VP, rather than an argument. Consider (9a), here repeated as (21).

21. Juan y María creían que pro se habían visto el uno al otro.
 J and M thought that cl. had seen the one the other
 'John and Mary thought they had seen each other'

Following HLMb's treatment of *each other*, (21) can be structurally represented with the indexation in (22):

- 22.a) *[[Juan y María]₁D₂]₂ creían que pro₂ VP[[se₂ habían visto e₂]_{NP}[el uno₂ al otro]₃].
 b) [Juan y María]₁ creían que [[pro₁]₁D₂]₂ VP[[se₂ habían visto e₂]_{NP}[el uno₂ al otro]₃].
 'Juan and María thought they had seen each other'

Note that as in (20), the indexation in (22) satisfies Condition A with respect to the A-binding of the anaphor (se₂, e₂) by the subject of the embedded clause. In addition, however, the variable *el uno* must also be A'-bound by an operator. In (22a), the closest A'-binder is the D operator adjoined to the matrix subject. Since the broad scope construal is not possible with embedded full reciprocals, I conclude that the variable *el uno* is subject to a strict locality condition. Specifically, I claim it must be antecedent governed by its binder. Thus, the unavailability of the wide scope interpretation represented in (22a) is due to the fact that the bound variable is not antecedent governed by its binder, the D operator adjoined to the matrix subject⁸.

Interestingly, then, the possibility of wide scope interpretation in the English analogue to (22a) indicates that English permits long distance binding of the variable *each*, while Spanish does not. An explanation for this difference lies in the argument/adjunct distinction. As a variable within an adjunct it is not unreasonable to expect that *el uno* should be subject to strict locality constraints, similar to those found for movement from adjuncts. Consider, for example, parallels to wh-extraction from adjuncts (cf. Huang 1982; Lasnik and Saito 1984; Chomsky 1986b, etc.):

23. *How do you wonder who fixed the car t
 24. *How did John announce a plan to fix the car t

Interestingly, though the embedded Spanish full reciprocal does not involve movement, the adjunct island effects such as those seen in (23-24) seem to obtain.

In contrast to (22a), the closest A'-binder in (22b) is adjoined to the NP subject of the embedded clause. Here, the clitic chain is A-bound by the embedded subject *pro* under

⁸ Apparently, when there is no c-commanding long distance binder, a broad construal is available. Consider the following:

- i. Sus, entrenadores dijeron que pro₁ se₁ ganarían e₁ [el uno₁ al otro]
 'Their coaches said they would beat each other.'

Here, *pro* is coindexed with the non-c-commanding possessive 'su', and a non-contradictory reading is permitted. I leave this question for further research.

distribution by D. The variable *el uno* is A'-bound and antecedent governed by the D adjoined to the embedded subject *pro*. And the result is the narrow interpretation.

5.3 Summary

The above data reveal a surprising scope asymmetry between full reciprocal and reduced or clitic reciprocal constructions in Spanish. Embedded clitic reciprocals permit both broad and narrow scope interpretations, while embedded full reciprocals are limited to narrow construals. As I have pointed out, this asymmetry is not predicted by the "each movement" theory of HLMa, and the fact that the Spanish data are more easily accommodated within the context of the "each-binding" framework of HLMB constitutes an argument in favor of the latter approach.

Under the analysis proposed thus far, then, the lack of broad scope in embedded full reciprocal constructions finds an explanation in the argument/adjunct distinction. The full reciprocal *el uno al otro* is analyzed as an adjunct to VP, with a variable *el uno* providing the contrast argument for *el otro*. This variable must be bound by a distribution operator D, under strict locality conditions. Drawing parallels to wh-extraction from adjuncts, I propose that the D operator must antecedent govern the variable, thus blocking broad scope construals. The clitic reciprocal contains no internal bound variable and is analyzed as an anaphor, subject only to Condition A of the Binding Theory. Scope ambiguities involving clitic reciprocals are derived straightforwardly from whether the A-binder of the clitic chain is itself interpreted via bound variable or coreference anaphora.

6.0 A Second Puzzle: Adjuncts

Thus far we have focused exclusively on reciprocal constructions in embedded clauses with transitive verbs, that is, verbs subcategorizing for an NP argument. Such verbs obligatorily surface with the clitic reciprocal, while the full reciprocal *el uno al otro* is optional and analyzed as an adjunct to VP. In this sense, the account of the scope asymmetry hinges on the distinction between arguments and adjuncts. Arguments permit scope ambiguities; adjuncts do not. Consider, however, the following contradictory sentence.

25. #Juan y Pepe habían prevalecido el uno sobre el otro
J and P had prevailed the one over the other
'John and Pepe prevailed over each other'

(25) is the Spanish analogue to the embedded Italian sentence in (3b). And like its Italian counterpart, it affords a non-contradictory reading when embedded.

26. Juan y Pepe le dijeron a María que *pro* habían prevalecido el uno sobre el otro
J and P her told Mary that they-had prevailed the one over the other
'John and Peter told Mary that they had prevailed over each other'

That (26) is ambiguous between contradictory and non-contradictory interpretations indicates that broad scope must be available. Note the absence of the clitic reciprocal in (25-26). This is explained by the fact that *prevalecer* 'prevail' does not take an NP object. Here, the full reciprocal construction *el uno sobre el otro* 'the one over the other' in (26) is analyzable as a

prepositional phrase adjunct to the embedded VP.⁹ Interestingly, then, a broad scope reading is available, despite the fact that the full reciprocal is within an adjunct.

Broad scope from within adjuncts is not restricted to (26). In (27a-b), the intransitive *trabajar* 'work' precedes the adjunct [el uno más que el otro] 'the one more than the other'.¹⁰ Note that (27a) is contradictory, while (27b) permits a non-contradictory reading. It is worth noting as well that the English counterpart to (27b) 'John and Pepe told Mary that they had worked more than each other' is marginally non-contradictory at best. Strangely, nothing in the HLMb "each binding" analysis of English would seem to rule out a broad construal here, as *each* can be bound by a c-commanding D operator adjoined to the matrix subject. In Spanish, the clear, non-contradictory reading of (27b) shows that a broad reading is available.

27.a) #Juan y Pepe habían trabajado el uno más que el otro

J and P had worked the one more than the other
'John and Pepe worked more than each other'

b) Juan y Pepe le dijeron a María que pro habían trabajado el uno más que el otro

J and P her told Mary that had worked the one more than the other
'Juan and Pepe told María that they had worked harder than each other'

Consider as well the data in (28), where the full reciprocal *el uno...el otro* surfaces in the locative PP. Though the question here is not one of contradictory versus non-contradictory construals, at least one interpretation of (28) indicates that broad scope is again available.

28. Juan y Pepe le dijeron a María que pro iban a vivir el uno cerca del otro.

J and P her told Mary that were going to live the one near the other
'John and Pepe told Mary they were going to live near each other'

The most salient interpretation of (28) is the narrow reading: 'Juan and Pepe each told María that they (Juan and Pepe) were going to live near each other.' However, a broad construal obtains as well. For example, each of Juan and Pepe can have told María that he was going to live in Tucson, while neither was aware of the fact that the other would be living near him.¹¹ Proof that such a reading is possible is found in examples such as (29).

29. Los dos enemigos le dijeron a María que iban a vivir el uno cerca del otro, pero la gracia está en que ninguno de los dos se ha dado cuenta de que van vivir en el mismo pueblo.

'The two enemies told Mary that they were going to live near each other, but the funny part is

⁹I follow Belletti (1982) in analyzing constructions such as [el uno sobre el otro] 'the one over the other' as a prepositional phrase to which [el uno] is adjoined.

¹⁰I leave open the question of how to analyze the internal structure of the comparative construction [el uno más que el otro]. E. Jelinek (p.c.) has suggested that it might be a small clause. Another possibility is to treat it as an adverb phrase. For the purposes of the present discussion, I argue only that this structure occupies a position adjoined to the VP headed by the intransitive 'trabajar'.

¹¹I am grateful to Andy Barss for discussion concerning such interpretations.

that neither of them has realized that they are going to live in the same town.'

As with (8) above, broad scope must be available in (29). Otherwise, the assertion that neither realizes that he is going to live in the same town as the other would be anomalous.

Taken together, these examples give rise to a paradox. Specifically, if the lack of broad scope interpretations in embedded full reciprocal constructions with transitive verbs is due to the adjunct status of *el uno al otro*, there is no clear explanation for the availability of broad construals in (26-28), where the full reciprocal *el uno...el otro* surfaces in prepositional phrases that are adjuncts to VP. The data thus point toward a second asymmetry. Full reciprocals in embedded VPs headed by transitive verbs do not permit broad scope interpretations, while full reciprocals in adjuncts such as locatives and comparatives do.

6.1 Adjuncts

There are at least two obvious approaches to dealing with this new puzzle. The first is to abandon the claim that the full reciprocal *el uno al otro* is an adjunct in structures such as (16), here repeated as (30).

30. ${}_{IP}$ [Juana y Pepe₁ ${}_{VP}$ [[${}_{se_1}$ vieron e_1] ${}_{NP}$ el uno al otro]]
J and P cl saw the one the other
'Juana and Pepe saw each other'

Under such an approach, *el uno al otro* might be analyzed as an argument in a manner analogous to HLMa&b's treatment of *each other* in English. This strategy is problematic in at least three respects. First, English *each other* systematically permits broad scope readings when embedded, while *el uno al otro* fails to allow broad construals. Secondly, such an analysis provides no obvious explanation for the striking scope asymmetry between clitic reciprocals and their doubled *el uno al otro* counterparts within Spanish. Thirdly, we lose the straightforward explanation for the asymmetry in clitic doubling in accusative constructions in general, that is, the account for why accusative clitics only double pronominal (but never R-expression) "arguments".

Suppose, then, that [el uno al otro] is an adjunct. An obvious consequence of such an approach is the need to further refine the notion "adjunct" in such a way as to preserve the analysis of clitic and full reciprocals above, while providing an account of the asymmetry between the adjuncts in (26-28) and the doubled full reciprocal in (30). I anticipate the nature of this refinement by calling the doubled *el uno al otro* an appositional adjunct or "adposition"¹². In contrast, I reserve the standard term "adjunct" for structures such as the locative PP *el uno cerca del otro* in (28).

Assuming that adpositions and adjuncts are distinct types of adjuncts, a formal codification of this distinction is necessary as it pertains to the scope asymmetry outlined in section 7. That is, if this asymmetry is to receive a syntactic explanation, the representations of these structures must provide the means for limiting adpositions to narrow construals, while permitting broad readings for *el uno...el otro* adjuncts. I suggest that the mechanism for making the necessary distinction can be found within the theory of Relativized Minimality (Rizzi 1990).

¹²This is in the spirit of Jelinek's (1984) adargument vs. adsentential distinction.

Specifically, I will adopt a version of Rizzi's restricted use of referential indexation, arguing that the difference between these adjunct types lies in the licensing of referential indices for the reciprocal *el uno...el otro* in adjuncts but not in adpositions. The consequence of this indexation will be to allow the long-distance binding of the variable *el uno* in adjuncts, while limiting adpositional *el uno* to binding via antecedent government.

6.2 Adpositional Scope

Recalling Chomsky (1965), Rizzi (1990) proposes a restricted theory of indexation by which referential indices are only licensed by a referential theta-role. As a consequence, "arguments" and "adjuncts" are formally distinguished in that only the former are assigned referential indices. Relevant here is the fact that in A' dependencies, operators can be connected to their variables in one of two ways: via binding in the usual sense of referential coindexation under c-command; or via antecedent government, if the variable lacks a referential index.

In this context, consider the adpositional *el uno al otro*, which, we recall, is always doubled by the reciprocal clitic, as in (31).

31. *pro* *se ven* *e* [*el uno al otro*]
 they cl see-3rd-pl e the one the other
 'they see each other'

Following standard assumptions (cf. Chomsky 1981, etc.), the internal theta-role of the verb is assigned to the chain (*se*,*e*) headed by the reciprocal clitic. Now consider the adposition [*el uno al otro*]. If it were to have a theta-role, that theta-role would have to be the same one assigned to the clitic chain. Given the theta-criterion, such assignment is prohibited, and I conclude that *el uno al otro* bears no referential index. Interestingly, the lack of such an index accounts straightforwardly for the inability of the full reciprocal to be interpreted with broad scope when embedded. This becomes clear if we reconsider sentence (22), here repeated as (32), where *el uno al otro* is unindexed.

- 32.a) *[[*Juan y María*]₁D₂]₂ *creían* *que* *pro*₂ *VP*[[*se*₂ *habían visto* *e*₂]_{NP}[*el uno al otro*]].
 J and M thought that *pro* cl had seen e the one the other

- b) [*Juan y María*]₁ *creían* *que* [[*pro*₁]₂]₂ *VP*[[*se*₂ *habían visto* *e*₂]_{NP}[*el uno al otro*]].
 'Juan and María thought they had seen each other'

Recall that the unacceptable (32a) represents the broad construal. Since the variable *el uno* lacks a referential index yet must be bound, the only strategy available within the Relativized Minimality framework is antecedent government, which Rizzi defines as follows (p.92):

33. Antecedent Government: X antecedent governs Y iff
- (i) X and Y are non-distinct
 - (ii) X c-commands Y
 - (iii) no barrier intervenes
 - (iv) Relativized Minimality is respected

Under this definition, the unacceptability of (32a) becomes transparent. The binder of the

variable is the D operator adjoined to the matrix subject [Juan y María]D], which I assume is "non-distinct" and thus a possible antecedent for the variable *el uno*. Although D in (32a) c-commands the variable, the embedded CP would seem to constitute a barrier. Antecedent government is thus blocked by its intervention between D and *el uno*.

Note that even without the barrier clause in the definition of antecedent government, (32a) is further ruled out as a violation of Relativized Minimality, as defined in (34) (Rizzi 1990:7):

34. Relativized Minimality: X α -governs Y only if there is no Z such that
- (i) Z is a typical α -governor for Y,
 - (ii) Z c-commands Y and does not c-command X

In (32a) the subject *pro* of the embedded CP constitutes a typical α -governor for the variable *el uno*, as it is a potential antecedent governor. While *pro* c-commands *el uno*, it does not c-command the matrix subject [_{NP}Juan y María]D]. Thus, by definition, antecedent government by the D of the matrix subject violates Relativized Minimality, since the subject *pro* of the embedded clause is a closer potential governor. Antecedent binding by D in (32a) is again ruled out.

As Rizzi points out, antecedent government is a strictly local relationship. Given the lack of movement implicit in HLMb "each binding" theory assumed here, successive cyclic movement is not an option. That is, *el uno* remains in situ, and must therefore be bound by a strictly local D operator. This is the case in (32b). Here, the embedded subject [[_{pro₁}]D₂]₂ is under a distribution D. The variable *el uno* is antecedent governed by the D operator, as no barrier intervenes, and Relativized minimality is respected. As we expect, the narrow reading obtains. Interestingly, this approach is preferable to the analysis of the lack of wide scope construals in embedded reciprocals in 5.2 above. In 5.2, I simply claimed that the lack of broad scope in clitic doubled reciprocal constructions could be accounted for if *el uno* had to be antecedent governed. Here, however, obligatory antecedent government is a direct consequence of the absence of referential indices.

6.3 Adjunct Scope

The above analysis accounts nicely for the systematic lack of broad scope in embedded full reciprocal constructions. Since the full reciprocal is an appositional adjunct, it receives no referential index. The lack of such an index requires that the dependency between *el uno* and the D operator be one of antecedent government. This analysis, however, raises difficult questions for constructions such as (35).

- 35) Los dos dijeron que *pro* habían prevalecido el uno sobre el otro.
 The two said that *pro* had prevailed the one over the other
 'The two said that they had prevailed the one over the other'

As noted above, the possibility of a non-contradictory construal indicates that broad scope is available. Under a strict interpretation of Rizzi's approach to the assignment of referential indices, the PP adjunct [_{PP}[_{NP}el uno]_{PP}sobre el otro]] is not assigned a referential theta-role by the verb and thus should not license the referential indexation of its object. The lack of such indices, as we have just seen, requires that the variable *el uno* be antecedent bound. In this case, the unfortunate prediction is that a non-contradictory reading for (35) should not be available.

Though the argument is admittedly circular, I suggest that the availability of broad scope in these adjunct constructions indicates that the discontinuous NP object *el uno...el otro* is referentially indexed. Unfortunately, the issue of theta-assignment itself is quite vague¹³ (see, for example, Dowty 1990). But it seems clear that there exists a clear difference between the adpositional *el uno al otro*, whose function is to disambiguate between possible reciprocal and reflexive readings, and adjunct PPs such as *el uno sobre el otro* 'the one over the other' and *el uno cerca del otro* 'the one near the other'. This difference derives, I suggest, from the fact that the adpositional *el uno al otro* has no theta-role, while the objects of adjunct PPs are theta-marked by their respective prepositions. In the case of *el uno sobre el otro*, we might, for example, say that the object of *sobre* expresses the goal of the act of *prevailing over*. Rizzi himself recognizes the need to allow prepositions, in conjunction with verbs, to endow selected prepositional phrases with referential theta-roles. I suggest here that adjunct prepositional phrases in Spanish with the discontinuous reciprocal NP object *el uno...el otro* are selected in this fashion.

Having taken this step, one might attempt to argue that the preposition *a* of the adposition *el uno al otro* can also be said to assign a theta role to its *el uno...el otro* object and thus license the assignment of a referential index in these structures. However, it is not clear that *a* is, in fact, a preposition. Consider the following data, in which the syntactic behavior of the adpositional *el uno al otro* is contrasted with that of true prepositional phrases whose object is the reciprocal *el uno...el otro*. In (36a), for example, we see that the preposition *a* can never precede *el uno*. In contrast, in (37a-b) the *cerca* of the complex preposition *cerca de* 'near' can either precede or follow *el uno*.

36.a) *Juan y María se ven [al uno el otro]
 J and M cl see "a" the one the other

b) Juan y María se ven [el uno al otro]
 J and M cl see the one "a" the other
 'Juan and María see each other'

37.a) Juan y María duermen [cerca el uno del otro]
 J and M sleep near the one of the other

b) Juan y María duermen [el uno cerca del otro]
 J and M sleep the one near of the other
 'Juan and María sleep near each other'

In (38a-c), the quantificational adverb *mucho* 'a lot' cannot appear within the adposition, while it can precede, follow, and surface within a true reciprocal PP, as seen in (39a-c).

¹³See also Jackendoff (1990) for a discussion of the complexities of theta-assignment, as well as a discussion of problematic aspects of the theta-criterion.

38.a) *Juan y María se quieren [el uno] mucho [al otro].
J and M cl love the one a lot the other

b) Juan y María se quieren mucho [el uno al otro].
J and M cl love a lot the one the other

c) Juan y María se quieren [el uno al otro] mucho.
J and M cl love the one the other a lot
'Juan y María love each other a lot'

39.a) Juan y María discuten [el uno] mucho [con el otro].
J and M argue the one a lot with the other

b) Juan y María discuten mucho [el uno con el otro].
J and M argue a lot the one with the other

c) Juan y María discuten [el uno con el otro] mucho.
J and M argue the one with the other a lot
'Juan y María argue with each other a lot'

The same pattern is found with adverbs such as *frecuentemente* 'frequently.' In (40a-c), the adverb fails to surface within the adposition, but in the case of prepositional adjuncts, the adverb can follow *el uno*.

40.a) *Juan y María se ven [el uno] frecuentemente [al otro].
J and M cl see the one frequently the other

b) Juan y María se ven frecuentemente [el uno al otro].
J and M cl see frequently the one the other

c) Juan y María se ven [el uno al otro] frecuentemente.
J and M cl see the one the other frequently
'Juan and María see each other frequently'

41.a) Juan y María caminan [el uno] frecuentemente [con el otro].
J and M walk the one frequently with the other

b) Juan y María caminan frecuentemente [el uno con el otro]
J and M walk frequently the one with the other

c) Juan y María caminan [el uno con el otro] frecuentemente.
J and M walk the one with the other frequently
'Juan and María walk with each other frequently.'

While (41a) is admittedly the least favored of the three possibilities, it contrasts clearly with the unacceptable (40a). These examples show that *a* does not pattern with true prepositions, and I

suggest that this is due to the fact that *el uno al otro* is simply a complex NP. Other researchers have reached similar conclusions regarding the non-prepositional status of *a* in Spanish. For example, Jaeggli (1982) cites Kayne, who argues that the *a* in dative object constructions is not a preposition. Suñer (1888) argues that this *a* is a marker of definiteness and animacy. Of relevance here is the following: if *a* is not taken to be a preposition, it does not assign a theta-role and cannot, under any circumstances, license referential indices.

Let us assume, then, that in contrast to adpositions, the reciprocal *el uno...el otro* in PP adjuncts is referentially indexed, as seen in (42).

42. [[Los dos]₁D₂]₂ dijeron que pro habían prevalecido [el₂ uno sobre el otro]₃
 the two said that pro had prevailed the one over the other
 'The two said that they had prevailed over each other'

Crucially, the presence of a referential index on *el uno* will allow the dependency between the operator and the variable to be satisfied simply by binding, as binding requires only c-command and coindexation. In (42), the D operator adjoined to the matrix subject is coindexed with and c-commands *el uno*. Neither intervening barriers nor Relativized Minimality are relevant to the binding relation. Thus, given the indexation in (42), the availability of broad scope is expected.

Consider finally (43), the narrow scope analogue of (42).

43. *[Los dos]₁ dijeron que [pro]₁D₂]₂ habían prevalecido [el₂ uno sobre el otro]₃
 the two said that pro had prevailed the one over the other
 'The two said that they had prevailed over each other'

Here, *el uno* is bound by the c-commanding, coindexed D₂ of the lower clause. In this case, the result is the narrow, contradictory construal.

7.0 Conclusions

This paper has explored the question of scope construals in embedded reciprocal constructions in Spanish within the context of the related "each-movement" and "each-binding" theories of Heim, Lasnik, and May (1991b). With regard to the Spanish data, two surprising asymmetries emerge. First, clitic reciprocal constructions are shown to permit both broad and narrow construals when embedded, while their clitic doubles or "full" reciprocal counterparts are limited to narrow readings. An explanation for this asymmetry is proposed, based on the argument status of the reciprocal clitic chain, versus the adjunct status of the full *el uno al otro*. Under this analysis, *el uno* is taken to be a variable that must be bound via antecedent government. The clitic chain, in contrast, is taken to be an anaphoric argument subject only to Condition A of the Binding Theory.

I then consider the scope properties of the *el uno...el otro* reciprocal construction in prepositional phrase adjuncts to VP. In these structures, broad construals are permitted, giving rise to a second asymmetry. Concretely, if narrow construals with doubled full reciprocals are a function of the adjunct status of *el uno al otro*, no clear explanation is available for why broad construals are possible from reciprocal PP adjuncts. I argue that this asymmetry motivates the need for a more finely grained notion of adjuncts themselves, and claim that the theory of Relativized Minimality provides the means for making the necessary distinctions. I make use of the notion of referential indexation, claiming that the doubled *el uno al otro* reciprocal is an

appositional adjunct or "adposition" which cannot be referentially indexed. Consequently, the variable *el uno* in these structures can only be bound via antecedent government, a strictly local relationship. This accounts for the availability of only narrow construals. In contrast, I claim that *el uno...el otro* in true PP adjuncts is referentially indexed. Broad scope is thus licensed through the inherently non-local binding relation.

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