

# The syntax of Greek split reciprocals

*Abstract.* We provide the first detailed description and analysis of the syntax of the understudied Greek split reciprocal reconstruction. As in other languages, the reciprocal appears to be bipartite consisting of a quantificational distributor ('the one') and a reciprocator ('the other'). We show that, in Greek, this bipartiteness runs deep: the two parts are syntactically independent, with the reciprocator having the syntax of a Condition A anaphor, and the distributor behaving as a floating quantifier. Once we turn to how these elements establish relations between themselves and their antecedent, we find that Greek reciprocals resist a movement- or Agree-based analysis, since both elements can occur in positions inaccessible to movement/Agree. Given that the reciprocator can occur in embedded subject position, the Greek data also argue against recent attempts to reduce the binding domain to phases, instead supporting a more traditional definition of the binding domain in terms of the smallest XP containing the anaphor and a subject. Finally, we show that the morphosyntactic properties of the bipartite construction can be connected to independent properties of its two component parts, and that these can in turn be related to interpretive aspects of reciprocity.

*Keywords:* reciprocals; binding; anaphora; quantification; locality; Modern Greek

## 1. Introduction

In languages like English, reciprocals such as *each other* look like a single element on the surface in that they form a constituent that cannot be split syntactically. From an interpretive point of view, however, they have been analyzed as consisting of two parts. In particular, since at least Heim et al. (1991), many analyses of reciprocals maintain that reciprocals are bipartite: reciprocity reduces to

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The original data generated by this study are given explicitly in the text.

the combination of a quantificational distributor (e.g., *each*) with a separate, properly anaphoric element. In addition, it is often assumed that the distributor undergoes (covert) movement to a high position, such as to the antecedent to quantify over it.<sup>1</sup> Interestingly, the Modern Greek reciprocal (1) wears this bipartiteness on its sleeve: it consists of what will be shown to be two independent nominals, *o enas* ‘the one’ and *o alos* ‘the other’. Adopting the terminology of Heim et al. (1991), we will refer to the former element as the *distributor* and to the latter as the *reciprocator* (sometimes also called the differentiator). We will translate them jointly as ‘each other’.<sup>2,3</sup>

<sup>1</sup>Heim et al.’s (1991) treatment of English *each other* has been criticized on various grounds, see, e.g., Williams (1991) and Dalrymple et al. (1998). Some of the issues facing this kind of decompositional approach are addressed in, e.g., Beck (2001). The proper analysis of English *each other* is orthogonal to the questions pursued in this paper; both *each other* and the bipartite *each ... the other* construction behave differently than Greek split reciprocals.

<sup>2</sup>Judgments come from the native speaker author and have been confirmed with two more native speakers of Greek. Judgments for the data in section 3 were additionally confirmed by two speakers at a major linguistics conference. As is typical, we use diacritics like ‘\*’ to indicate relative contrasts in acceptability, rather than absolute judgments; we do, however, point out variations in judgments between consultants where they have occurred. We note that, for the vast majority of environments where the split reciprocal appears in our examples, naturally occurring examples can be found on the web.

<sup>3</sup>Reciprocal constructions of this type have been referred to as ‘bipartite reciprocals’ (Stathi & Haas 2008) or ‘scattered reciprocals’ (Kobayashi 2021). We use the term ‘split reciprocal’ to emphasize the independence of the two constituent elements in Greek.

In addition to (1), there are a few more strategies to express reciprocity in the language, each with very different properties (for an overview of the types of reciprocal constructions attested cross-linguistically, see Nordlinger 2023 and references cited there). Firstly, the language has verbal reciprocals, which obligatorily co-occur with the nonactive morphology also born by passives, unaccusatives, and their ilk. With naturally disjoint verbs, this morphology is accompanied by the reciprocal prefix *alilo-* (i); with naturally reciprocal verbs, nonactive morphology appears on its own (ii).

- (i) I            monaçi            alilo- stiriz-    onde.  
the.NOM.PL monk.NOM.PL RECIP support 3PL.NONACT  
‘The monks support each other.’
- (ii) I            monaçi            sinandj- unde            stin            eklisia.  
the.NOM.PL monk.NOM.PL meet    3PL.NONACT in.the.ACC church.ACC  
‘The monks meet in church.’

These verbal reciprocals have very different properties from the construction of interest in this paper. They are obligatorily monoclausal, unlike the split reciprocal, see section 3 below; they are syntactically intransitive and semantically monadic; they also can only denote relations between the agent and the theme, in stark contrast to the split reciprocal, which can denote reciprocity across a range of thematic roles/grammatical functions (see section 2.3). For Greek verbal reflexives and reciprocals, see among many others Rivero (1992), Embick (2004), Paparounas (2023).

In addition, a verbal reciprocal may appear with a singular subject and a comitative PP, as in (iii); see for instance Dimitriadis (2008a,b). This construction is often referred to as discontinuous reciprocal.

- (iii) O            Janis            alilo- stiriz-    ete            / sinandj- ete            #(me ti            Maria).  
the.NOM John.NOM RECIP support 3SG.NONACT meet    3SG.NONACT    with.the.ACC Maria.ACC  
‘John and Mary support each other/meet.’

- (1) I monaçi stirizun o enas ton alo.  
 the.NOM.PL monk.NOM.PL support.3PL the.M.NOM one.M.NOM the.M.ACC other.M.ACC  
 ‘The monks<sub>i</sub> support each other<sub>i</sub>.’

The Greek split reciprocal construction is heavily understudied; it is usually only mentioned in passing in previous literature, e.g., Mackridgē (1985: 89), Lapata (1998), Holton et al. (2012: 564ff). In a typologically oriented paper, Stathi & Haas (2008) list some of the basic surface properties of the construction (viz., case and agreement) and briefly compare it with reciprocals in other languages.<sup>4</sup>

Taking up the task to provide the first detailed syntactic analysis of the construction, we provide strong evidence for its bipartite nature, showing that the distributor and reciprocator are syntactically independent. In addition, we show that the construction as a whole is subject to intricate locality restrictions that parallel those obeyed by anaphors, suggesting that the construction is subject to Condition A of the Binding Theory. Importantly, though, the locality restrictions on both elements clearly argue against establishing their relationship with the antecedent by means of (overt or covert) movement or Agree, since both elements can occur in domains that are inaccessible to movement/Agree (namely, islands). In addition, given that reciprocator can occur in embedded subject position, our data argue against attempts to reduce the binding domain to phasehood but rather speak in favor of a more traditional definition of the binding domain that is characterized by the presence of a (distinct and accessible) subject. Finally, we argue that the different locality restrictions on distributor and reciprocator fall out naturally once the reciprocator is assimilated to a plain anaphor and the distributor to a floating quantifier; this syntactic bipartiteness, and the morphosyntax of the two component parts, lays bare interesting connections to the interpretation of reciprocals.

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Finally, there is a variable-binding-like reciprocal construction that superficially resembles the split reciprocal of interest in this paper; see footnote 12. For a brief comment on semantic differences between the different reciprocal constructions, see footnotes 13 and 23 below.

<sup>4</sup>Glossing abbreviations: 1 = first person, 2 = second person, 3 = third person, ACC = accusative, COMP = complementizer, DAT = dative, F = feminine, FUT = future, GEN = genitive, M = masculine, N = neuter, NEG = negative, NOM = nominative, NONACT = nonactive, PFV = perfective, PL = plural, POSS = possessive, PST = past, PTCP = participle, RECIP = reciprocal, SG = singular.

This paper is organized as follows. In section two, we provide basic information about the construction. In section three, we discuss locality constraints on both reciprocal elements, while in section four we discuss the nature of the distributor. Section five addresses how all elements of the construction fit together, and section six concludes.<sup>5</sup>

We focus throughout on the syntactic properties of the Greek split reciprocal construction, leaving a detailed exploration of the semantic composition for future research. We will, however, briefly touch upon interpretive aspects in section 5 below. For previous work on the semantics of split/scattered reciprocals, see [Arregi \(2001\)](#), [LaTerza \(2014\)](#), and [Kobayashi \(2019, 2020, 2021\)](#).

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<sup>5</sup>A bipartite reciprocal construction which is at least superficially very similar to the one in Greek is found in several other Indo-European languages, including at least Icelandic ([Everaert 1990](#); [Sigurðsson et al. 2022](#)); Italian ([Belletti 1982](#)), see (i) below; Spanish ([Arregi 2001](#)); Brazilian Portuguese ([Kobayashi 2019, 2020, 2021](#)); French ([Kayne 1975](#): 355-369); Romanian, Bulgarian, Polish, Russian, Ukrainian ([LaTerza 2014](#): 119-124); Serbo-Croatian ([Despić 2011](#): section 2.5), and, of course, English, see (ii):

- (i) I miei amici parlano l'uno dell'altro.  
the my friends speak.3PL the.one of.the.other  
'My friends; talk about each other;'

*Italian* ([Belletti 1982](#): 101)

- (ii) The boys were each blaming the other.

Apart from Italian and Brazilian Portuguese the construction is heavily understudied in most of these languages as well. There seem to be some important cross-linguistic parallels, including the lexical elements used ('the one', 'the other', 'each'); their possible phi-feature specification (antecedent always plural, reciprocal parts singular, both agreeing with the antecedent in gender); the presence of a definite article on the reciprocal parts (in languages with articles); case agreement between antecedent and distributor (in Icelandic, Serbo-Croatian and Ukrainian but not in Russian, see [LaTerza 2014](#): 122–124); the pattern in PPs (where the reciprocal elements are preferably split); and restrictions in ditransitives (see footnote 8).

Similar bipartite reciprocal constructions are also found in non-Indo-European languages, often with slightly different lexical elements (such as 'some' or 'second', and/or with repetition of the same element, viz., one – one, some – some). We find such constructions, for instance, in Basque ([Hualde & Ortiz de Urbina 2003](#): 611–612), Arabic and Hebrew ([Landau 2023](#)), Hindi ([LaTerza 2014](#): 122), or in the Dravidian language Telugu ([Messick & Raghotham accepted](#)), which also displays case-copying, just like Basque ([Stathi & Haas 2008](#): 75f.) but unlike Hindi (see [LaTerza 2014](#): 122). [Messick & Raghotham \(accepted\)](#) in addition mention Sanzhi Dargwa (Nakh-Dagestanian) and Lezgian; Mandarin Chinese also has a *one*-based reciprocal construction ([Andreas Hözl, p.c.](#)). As with the bipartite constructions in European languages, with the exception of Hebrew, no detailed information is available on the syntax of the construction in these languages.

Given the limited information about the various languages with split/bipartite reciprocals, we will not attempt to provide a systematic comparison. We will mention certain similarities where appropriate and briefly point out significant differences regarding locality and constituency in footnote 14 below and in the outlook.

## 2. Basic data

In this section, we illustrate the basic properties of the Greek split reciprocal construction, concerning agreement, case, configurational restrictions, possible grammatical functions and constituency.

### 2.1 Agreement and Case

As already mentioned, the Greek split reciprocal is bipartite, consisting of the distributor *o enas* ‘the one’ and the reciprocator *o alos* ‘the other’. (2a), repeated from above, shows that the distributor agrees with the plural antecedent in case (here nominative), while the reciprocator behaves as the ‘real’ argument, bearing the expected case of the structural position where the reciprocal is interpreted (in this case, the accusative typical of direct objects). (2b) is an additional example showing that coordinated singular DPs count as plural insofar as they can antecede the reciprocal unproblematically.

- (2) a. I            monaçi        stirizun    o            enas        ton  
 the.NOM.PL monk.NOM.PL support.3PL the.M.NOM one.M.NOM the.M.ACC  
 alo.  
 other.M.ACC  
 ‘The monks<sub>i</sub> support each other<sub>i</sub>.’
- b. O            Janis        ke i        Maria        stirizun    o            enas  
 the.NOM Janis.NOM and the.NOM Mary.NOM support.3PL the.M.NOM one.M.NOM  
 ton        alo.  
 the.M.ACC other.M.ACC  
 ‘[Janis and Maria]<sub>i</sub> support each other<sub>i</sub>.’

While the antecedent is obligatorily plural and triggers plural agreement on the verb, the reciprocal parts are necessarily singular. Furthermore, the reciprocal parts are always third person, while the plural antecedent can also be first or second person (a *pro* in (3)) and be indexed as such on the verb:

- (3) Iðame        / iðate        o            enas        ton        alo.  
 see.PST.1PL see.PST.2PL the.M.NOM one.M.NOM the.M.ACC other.M.ACC  
 ‘We<sub>i</sub>/y’all<sub>i</sub> saw each other<sub>i</sub>.’

In addition, both reciprocal parts agree with the plural antecedent in gender: compare the masculine inflection in (2) with feminine in (4).

- (4) I / kapçes kaloyries stirizun i mia tin  
 the.NOM.PL some.NOM.PL nun.NOM.PL support.3PL the.F.NOM one.F.NOM the.F.ACC  
 ali.  
 other.F.ACC  
 ‘The/some nuns<sub>i</sub> support each other<sub>i</sub>.’

The two reciprocal parts generally do not mismatch in gender (see [Stathi & Haas 2008: 74–75](#), who also mention marginal exceptions). If the antecedent consists of DPs of different genders, the reciprocal parts will bear the gender that would arise from resolution at the &P-level, e.g., masculine if masculine and feminine are combined, as in (5). The order within &P has no impact on resolution possibilities (see [Adamson & Anagnostopoulou to appear](#) for gender resolution in Greek; interestingly, gender mismatch is systematically possible in Hebrew, see [Landau 2023](#)).

- (5) I Maria ke o Janis katiyorisan { o enas  
 the.NOM John.NOM and the.NOM Mary.NOM accuse.PST.3PL the.M.NOM one.M.NOM  
 ton alo / \*i mia ton alo / \*o  
 the.M.ACC other.M.ACC the.F.NOM one.F.NOM the.M.ACC other.M.ACC the.M.NOM  
 enas tin ali / \*i mia tin ali }.  
 one.M.NOM the.F.ACC other.F.ACC the.F.NOM one.F.NOM the.F.ACC other.F.ACC  
 ‘[Mary and John]<sub>i</sub> accused each other<sub>i</sub>.’

Finally, as shown in (4), the antecedent can also be indefinite, but the distributor and reciprocator remain obligatorily morphosyntactically definite.

## 2.2 *C-command*

The three components of the reciprocal construction (antecedent, distributor, and reciprocator) must be configured in particular ways relative to each other (the same facts hold in Brazilian Portuguese, see [Kobayashi 2020: ex. 26, 31](#)). First, the distributor must c-command the reciprocator,

(6):<sup>6</sup>

- (6) \*I monaçi stirizun o alos ton ena.  
 the.NOM.PL monk.NOM.PL support.3PL the.M.NOM other.M.NOM the.M.ACC one.M.ACC  
 ‘\*The monks support the other each.’

Second, the plural antecedent must c-command both reciprocal elements, (7) (see also Lapata 1998; for cases where the antecedent is embedded within a PP, see (10) below). Consequently, in (7b), only the entire DP but not the possessor can act as the antecedent of the reciprocal.

- (7) a. \*O enas ton alo stirizi tus  
 the.M.NOM one.M.NOM the.M.ACC other.M.ACC support.3SG the.ACC.PL  
 monaxus.  
 monks.ACC.PL  
 ‘\*Each other supports the monks.’
- b. [I skili [ton monaxon]<sub>i</sub>]<sub>j</sub> stirizun o  
 the.NOM.PL dog.NOM.PL the.GEN.PL monk.GEN.PL support.3PL the.M.NOM  
 enas ton alo<sub>j/\*i</sub>.  
 one.M.NOM the.M.ACC other.M.ACC  
 ‘[ [The monks’]<sub>i</sub> dogs]<sub>j</sub> support [each other]<sub>j/\*i</sub>.’

### 2.3 Orientation/Grammatical function

Both the antecedent and the reciprocator can bear various grammatical functions. Thus, the antecedent can also be a non-subject, e.g., a DO in (8):

<sup>6</sup>We point out in this connection that there are examples where Greek *o enas* and *o alos* are used to pick out members of a pair, in the absence of c-command and thus in the absence of reciprocity (i).

- (i) I Maria ke i Ana piyan i mia sto panepistimo ke  
 the.NOM Maria.NOM and the.NOM Anna.NOM go.PST.3PL the.F.NOM one.F.NOM to.the university and  
 i ali sti dulja.  
 the.F.NOM other.F.NOM to.the work  
 ‘One of Mary and Anna went to the university and the other went to work.’ (cf. Kayne 1975: 359)

- (8) Sístisa tis fititries ti mia stin  
 introduce.PST.1SG the.F.ACC.PL student.F.ACC.PL the.F.ACC one.F.ACC to.the.F.ACC  
 ali.  
 other.F.ACC  
 ‘I introduced the students<sub>i</sub> to each other<sub>i</sub>.’

In (8), the distributor agrees in case with the antecedent, thereby bearing accusative. The antecedent, and, consequently, the distributor, can also be a genitive within DP as in (9), where additionally the reciprocator occurs within a PP:

- (9) Iðame tin epiθesi ton stratiyon tu enos  
 see.PST.1PL the.ACC attack.ACC the.GEN.PL general.GEN.PL the.M.GEN one.M.GEN  
 ston alo.  
 to.the.M.ACC other.M.ACC  
 ‘We saw the generals<sub>i</sub>’ attack on each other<sub>i</sub>.’

Antecedents can also occur in PPs as in (10) where, interestingly, the distributor is governed by the same preposition:

- (10) Milisa stus fitites ston ena ja ton  
 speak.PST.1SG to.the.ACC.PL student.ACC.PL to.the.M.ACC one.M.ACC about the.M.ACC  
 alo.  
 other.M.ACC  
 ‘I talked to the students<sub>i</sub> about each other<sub>i</sub>.’

Thus, the antecedent can have various grammatical functions and bear the corresponding cases, all of which the distributor can consequently bear, too.<sup>7,8</sup>

<sup>7</sup>See Sigurðsson et al. (2022: ex. 13, 17, 19a/b) for examples from Icelandic where the antecedent occurs as a (quirky and non-quirky) subject, direct object, and element within a PP, respectively. In Italian, the antecedent can be a subject or a direct object but not an element within a PP (Stanislao Zoppi p.c.).

<sup>8</sup>There is a curious restriction in that the antecedent cannot be an indirect object when the reciprocator is accusative (or nominative, in the case of DAT>NOM experiencers):

- (i) \*Sístisa tus kalezmenus tu enos ton alo.  
 introduce.PST.1SG the.GEN.PL guest.GEN.PL the.M.GEN one.M.GEN the.M.ACC other.M.ACC  
 ‘I introduced the guests<sub>i</sub> to each other<sub>i</sub>.’

This is part of a more general restriction on split reciprocals in ditransitives: in the presence of a (non-prepositional) IO, the reciprocator cannot be the DO – even if bound by the *subject* of a ditransitive verb.



As for the reciprocator, it can occur as a DO bearing accusative as in the introductory examples. Examples (8)–(10) show that it can occur within PPs. (11) shows that the reciprocator can also be an IO and thus bear genitive case:

- (11) Eðiksan o enas tu alu tus  
 show.PST.3PL the.M.NOM one.M.NOM the.MGEN other.M.GEN the.ACC.PL  
 pinakes.  
 painting.ACC.PL  
 ‘They<sub>i</sub> showed each other<sub>i</sub> the paintings.’

As shown in (12), the reciprocator can also occur as a genitive within DP, either functioning as a possessor, (12a) (cf. also ex. (iii) in footnote 8) or as thematic argument of the noun, e.g., agent,

- (ii) \*Ta aȳorja (tis) exun (to ena) sistisi tis  
 the.NOM.PL boy.NOM.PL 3SG.F.GEN have.3PL the.N.NOM one.N.NOM introduce.PFV the.F.GEN  
 ðaskalas (to ena) to alo.  
 teacher.F.GEN the.N.NOM one.NOM the.N.ACC other.ACC  
 ‘The boys<sub>i</sub> have introduced each other<sub>i</sub> to the teacher.’

An IO antecedent is possible, though, with inherent-genitive assigning monotransitives and the reciprocator occurring in a PP:

- (iii) Epiteθika tis Marias ke tu Jani tu enos sto domatio  
 attack.PST.1SG the.GEN Mary.GEN and the.GEN John.GEN the.M.GEN one.M.GEN in.the.ACC room.ACC  
 tu alu.  
 the.M.GEN other.M.GEN  
 ‘I attacked [Mary and John]<sub>i</sub> in each other<sub>i</sub>’s room.’

Interestingly, the restriction with IO-antecedents has been observed in other languages with split/bipartite reciprocals; see Belletti (1982: 117) for Italian and Sigurðsson et al. (2022: 582) for Icelandic (while the latter do not provide any examples, Belletti only provides examples with indirect object antecedents where the reciprocator is within a PP; according to Stanslao Zoppi (p.c.), the restriction extends to ditransitives in that the IO cannot be an antecedent for a DO reciprocal).

The pattern in Greek is difficult to account for. Apart from the fact that a DO-reciprocal is even impossible with a subject antecedent in ditransitives (cf. (ii)), the pattern suggests that a case hierarchy may be at work, viz., that the antecedent must be at least as high on the case hierarchy as the reciprocator (with the hierarchy being NOM > ACC > DAT/GEN > PP). This would account for the asymmetry between (i) and (iii).

Belletti (1982) tries to explain the dative restriction by linking it to the observation that indirect objects are incompatible with floating quantifiers (this is based on the assumption that the distributor behaves like a floating quantifier of the plural antecedent, an analysis we will adopt in section 4 below). This type of explanation is not available for Greek, where indirect objects *are* compatible with floating quantifiers:

- (iv) eðosa ton stratioton tu kaθenos me perifania ðio metalia  
 give.PST.1SG the.GEN.PL soldier.GEN.PL the.GEN each.GEN with pride two medal.ACC.PL  
 ‘I proudly gave the soldiers two medals each.’

or theme as in (12b) (see Lapata 1998: ex. (4)). We will come back to the variable positions of the distributor in sections 3 and 4.

- (12) a. I monaçi thavmazun (o enas) [ta  
 the.NOM.PL monk.NOM.PL admire.3PL the.M.NOM one.M.NOM the.ACC.PL  
 rasa (o enas) tu alu]  
 stole.ACC.PL the.M.NOM one.M.NOM the.M.GEN other.M.GEN  
 ‘The monks<sub>i</sub> admire each other<sub>i</sub>’s stoles.’
- b. I stratiji perimenun (o enas) [tin  
 the.NOM.PL general.NOM.PL await.3PL the.M.NOM one.M.NOM the.ACC  
 katastrofi (o enas) tu alu].  
 destruction.ACC the.M.NOM one.M.NOM the.M.GEN other.M.GEN  
 ‘The generals<sub>i</sub> await each other<sub>i</sub>’s destruction.’

As we will see in (15a) below, the reciprocator can also be nominative if it occurs as the subject of an embedded clause.<sup>9</sup>

The reciprocal construction also occurs in small clauses. In (13a), the antecedent is the matrix subject and the reciprocator the small clause subject, while in (13b) the antecedent is the small clause subject and the reciprocator occurs inside the complement of the small clause predicate:

- (13) a. I kaloyries teorun i mia tin  
 the.NOM.PL nun.NOM.PL consider.3PL the.F.NOM one.F.NOM the.F.ACC  
 ali eksipni / \*eksipnes.  
 other.F.ACC smart.F.ACC smart.F.ACC.PL  
 ‘The nuns<sub>i</sub> consider each other<sub>i</sub> smart.’
- b. I monaçi teorun tis kaloyries  
 the.NOM.PL monk.NOM.PL consider.3PL the.ACC.PL nun.ACC.PL  
 ðimomenes ti mia me tin ali.  
 anger.PTCP.F.ACC.PL the.F.ACC one.F.ACC with the.F.ACC other.F.ACC  
 ‘The monks consider the nuns<sub>i</sub> angry at each other<sub>i</sub>.’

<sup>9</sup>See Sigurðsson et al. (2022: ex. 1, 4a, 13) for examples from Icelandic where the reciprocator occurs as a DO, IO and element within a PP, respectively; see also Kobayashi (2020: ex. 17) for examples from Brazilian Portuguese where the reciprocator occurs as a DO and within DPs and PPs. In Italian, the reciprocator can be an IO and occur within DPs and PPs (Belletti 1982: ex. 1, 11). According to Belletti (1982: 103f.) the Italian reciprocator cannot occur as a DO even with monotransitives, but we suspect this may be an adjacency issue; according to Stanislao Zoppi (p.c.), such examples improve if some other constituent occurs between distributor and reciprocator.

Besides small clauses, we also find the split reciprocal in ECM clauses; see (18) below.

#### 2.4 Constituency

There is strong evidence suggesting that the two reciprocal parts do not form a constituent (*pace* Holton et al. 2012: 585).

First, as shown in examples (8)–(10) and (12), they can be split by prepositions or parts of a DP (see also Stathi & Haas 2008: 77). In fact, in some cases, the two parts *must* be split; this is the case, for instance, with the PP in examples (8), (9), (10) and (13b). If the antecedent and the reciprocator occur in different clauses, the distributor and the reciprocator must be split by the element introducing the subordinate clause (e.g., the *wh*-operator or complementizer) – see the examples in (15a), (16a), (23), (24), (25), and (36a) as well as the discussion in sections 3 and 4 below. In the case of cross-clausal relationships, the obligatoriness of splitting is presumably due to the fact that, as we argue below, the reciprocator and the distributor are subject to different kinds of locality constraints.

In addition, the two parts never behave like a constituent. For instance, they cannot be moved as a unit, as shown by (14a), which is based on (1), and by (14b), based on (8):

- (14) a. \*[O            enas            ton            alo]            stirizun    i  
           the.M.NOM one.M.NOM the.M.ACC other.M.ACC support.3PL the.NOM.PL  
           monaçi.  
           monk.NOM.PL  
           Intended: ‘It is each other that the monks support.’
- b. ?\*[ton            ena            ston            alo]            sistisa            tus  
           the.M.ACC one.M.ACC to.the.M.ACC other.M.ACC introduced.1SG the.ACC.PL  
           fitites.  
           students.ACC.PL  
           Intended: ‘It was to each other that I introduced the students.’

Together with the island data discussed in the next section, these observations strongly suggest that distributor and reciprocator cannot form a constituent at any point of the derivation.

### 3. Locality Constraints

In this section we focus on locality constraints in the split reciprocal construction. We first argue that the sensitivity of the construction to the presence of a subject suggests that the construction contains an anaphoric element that is subject to the Condition A of the Binding Theory; we identify this element with the reciprocator. Secondly, we show that the relationship between the plural antecedent and the two parts of the split reciprocal is not established by means of movement or Agree, based on data from islands. Thirdly, we argue that the binding domain cannot be identified with the phase.

#### 3.1 *The construction is subject to the Binding Theory: The relevance of subjects*

Our argument in favor of subjecting the Greek split reciprocal construction to Condition A of the Binding Theory is based on its sensitivity to the presence of a subject. This sensitivity can be demonstrated with reference to a set of striking facts in the clausal domain.

Consider firstly the fact that the relationship between antecedent and reciprocator can cross a clause boundary, but it cannot cross an embedded subject. This fact gives rise to a subject-object asymmetry: while the reciprocator can be an embedded subject and thus bear nominative (15a), it cannot occur as an embedded non-subject, e.g., as an embedded object, (15b):

- (15) a. I            monaçi            pistevun    o            enas            [oti    o  
 the.NOM.PL monk.NOM.PL believe.3PL the.M.NOM one.M.NOM COMP the.M.NOM  
 alos            sevete            ton            iyumeno].  
 other.M.NOM respect.3SG the.ACC abbot.ACC  
 ‘The monks<sub>i</sub> think that each other<sub>j</sub> respects the abbot.’
- b. \*I            monaçi            pistevun    o            enas            [oti    o  
 the.NOM.PL monk.NOM.PL believe.3PL the.M.NOM one.M.NOM COMP the.NOM  
 iyumenos sevete            ton            alo].  
 abbot.NOM respect.3SG the.M.ACC other.M.ACC  
 ‘The monks<sub>i</sub> think that the abbot respects each other<sub>i</sub>.’

The same contrast obtains if the reciprocator occurs as a genitive possessor/argument within a DP in the subordinate clause. While it can occur within embedded subjects, (16a), it cannot occur

within embedded objects if the antecedent is in the matrix clause, (16b):

- (16) a. I            monaçi            pistevun    o            enas        [oti  
the.NOM.PL monk.NOM.PL believe.3PL the.M.NOM one.M.NOM COMP  
[ta            rasa            tu            alu]        ine    omorfa].  
the.NOM.PL stole.NOM.PL the.M.GEN other.M.GEN be.3PL beautiful.NOM.PL  
‘The monks<sub>i</sub> believe that each other<sub>i</sub>’s stoles are beautiful.’
- b. ?\*I            monaçi            pistevun    o            enas        [oti  
the.NOM.PL monk.NOM.PL believe.3PL the.M.NOM one.M.NOM COMP  
i            kaloyries    eklepsan    ta            rasa            tu  
the.NOM.PL nun.NOM.PL steal.PST.3PL the.ACC.PL stole.ACC.PL the.M.GEN  
alu].  
other.M.GEN  
‘The monks<sub>i</sub> believe that the nuns stole each other<sub>i</sub>’s stoles.’

The influence of a subject can be seen in a second domain, namely, small clauses. (13a) showed that the reciprocator can be a small clause subject when the antecedent is the matrix subject. (13b) showed that the reciprocator can also be a non-subject within the small clause if the antecedent is the subject of the small clause. (17) complements this observation: in (17a), as in (13b), the reciprocator is bound by the small clause subject; importantly, it cannot be bound by the matrix subject across the small clause subject (17b):

- (17) a. I            monaçi            ðeorun        tis            kaloyries  
the.NOM.PL monk.NOM.PL consider.3PL the.ACC.PL nun.ACC.PL  
ðimomenes            ti            mia            me    tin            ali.  
anger.PTCP.F.ACC.PL the.F.ACC one.F.ACC with the.F.ACC other.F.ACC  
‘The monks<sub>i</sub> consider the nuns<sub>j</sub> angry at each other<sub>j</sub>.’
- b. \*I            monaçi            ðeorun        o            enas        tis  
the.NOM.PL monk.NOM.PL consider.3PL the.M.NOM one.M.NOM the.ACC.PL  
kaloyries    ðimomenes            me    ton            alo.  
nun.ACC.PL anger.PTCP.F.ACC.PL with the.M.ACC other.M.ACC  
‘The monks<sub>i</sub> consider the nuns<sub>j</sub> angry at each other<sub>i</sub>.’

The same pattern is found in ECM constructions: the reciprocator can be the ECM subject if the antecedent is the matrix subject as in (18a). The reciprocator can also occur as the object of the

ECM clause, if the antecedent is the ECM subject, (18b). Crucially, however, the reciprocator cannot be the object of the ECM clause if the antecedent is the matrix subject, (18c).<sup>10</sup>

- (18) a. I monaçi iðan (o enas) apo makria  
 the.NOM.PL monk.NOM.PL see.PST.3PL the.M.NOM one.M.NOM from afar  
 (o enas) ton alo na klevi ta  
 the.M.NOM one.M.NOM the.M.ACC other.M.ACC COMP steal.3SG the.ACC.PL  
 ðiskopotira.  
 chalice.ACC.PL  
 ‘The monks<sub>i</sub> saw [each other<sub>i</sub> steal the chalices] from afar.’
- b. I monaçi iðan apo makria tis kaloyries  
 the.NOM.PL monk.NOM.PL see.PST.3PL from afar the.ACC.PL nun.ACC.PL  
 ti mia na zoğrafizi tin ali.  
 the.F.ACC one.F.ACC COMP paint.3SG the.F.ACC other.F.ACC  
 ‘The monks saw [the nuns<sub>i</sub> paint each other<sub>i</sub>] from afar.’
- c. \*I monaçi iðan (o enas) apo makria  
 the.NOM.PL monk.NOM.PL see.PST.3PL the.M.NOM one.M.NOM from afar  
 (o enas) tis kaloyries (o enas) na  
 the.M.NOM one.M.NOM the.ACC.PL nun.ACC.PL the.M.NOM one.M.NOM COMP  
 zoğrafizun ton alo.  
 paint.3PL the.M.ACC other.M.ACC  
 ‘The monks<sub>j</sub> saw [the nuns paint each other<sub>j</sub>] from afar.’

(18c) again shows the relevance of an intervening subject.

Importantly, the restrictions documented in this section cannot be reduced to standard A-

<sup>10</sup>The data also provide evidence that the accusative-bearing DP indeed functions as a subject at some level of representation, viz., that it is generated in the embedded clause. This is an important result in light of the controversy about Greek ECM, which is sometimes reanalyzed in terms of Control (see [Kotzoglou 2017](#) for recent discussion and references). The pattern in (18) converges with the results in [Alexiadou & Anagnostopoulou \(2021: 78\)](#), who show that perception verbs can take an ECM clause whose negatively quantified accusative subject is licensed by negation in the ECM clause. If the accusative DP were base-generated in the matrix clause, it should pattern with objects, which, as shown in (19) below, however, do not intervene between a reciprocator below it and the subject. Given that the accusative DP in (18) follows a matrix adverbial, it likely occupies a position in the embedded clause. This observation, along with the fact that the entire ECM clause can be fronted including the ECM-subject (i), independently rules out a Control analysis of the examples in (18).

- (i) ?Tis kaloyries ti mia na zoğrafizi tin ali, i  
 the.ACC.PL nun.ACC.PL the.F.ACC one.F.ACC COMP paint.3SG the.F.ACC other.F.ACC the.NOM.PL  
 monaçi ðen tis iðan.  
 monk.NOM.PL NEG 3PL.F.ACC see.PST.3PL  
 ‘As for the nuns painting each other, the monks didn’t see them.’

intervention given that a plural subject can be related to a reciprocator within a PP across a direct object, see (19):

- (19) I            fitites            sistisan            to            Joryo            o  
 the.NOM.PL student.NOM.PL introduce.PST.3SG the.ACC George.ACC the.M.NOM  
 enas            ston            alo.  
 one.M.NOM to.the.M.ACC other.M.ACC  
 ‘The students<sub>i</sub> introduced George to each other<sub>i</sub>.’

Rather, the patterns discussed here are very much reminiscent of the constraints familiar from Binding Theory, where ‘subjects’ (in the sense of the highest specifier of a given projection) seem to play a privileged role in delimiting the portion of the clause within which binding must be established.<sup>11</sup>

Note that our data suggest that it is the reciprocator that is subject to these constraints and thus, distributes like an anaphor subject to Condition A of the Binding Theory. Hence, it is the plural antecedent that binds the reciprocator. How the distributor fits in and how the locality constraints between antecedent and distributor can be understood will be addressed in sections 4 and 5.<sup>12</sup>

<sup>11</sup>Another place in the grammar that would allow us to demonstrate the relevance of subjects for binding comes from nominals, as in the following classic example from Chomsky (1981: 213), where the judgment is taken from the original:

- (i) They<sub>i</sub> heard (\*my) stories about each other<sub>i</sub>.

(i) yields the following expectation: in principle, we expect that a reciprocal embedded within a noun phrase should not be able to be bound by a nominal external to that DP in the presence of a possessor/‘subject’ as in (ii):

- (ii) I            stratiji            perimenun (o            enas)            tin            epiθesi            mu  
 the.NOM.PL general.NOM.PL await.3PL    the.M.NOM one.M.NOM the.ACC attack.ACC 1SG.GEN  
 ston            alo.  
 on.the.M.ACC other.M.ACC  
 ‘The generals<sub>i</sub> await my attack on each other<sub>i</sub>.’

We have unfortunately not been able to establish clear contrasts with the Greek split reciprocal construction in such configurations. While binding by the DP-external antecedent in the presence of a possessor is less acceptable than in the absence of a possessor, the speaker variation we have encountered within and across speakers suggests that it is not categorically ruled out. This empirical result in fact seems to be similar to the situation in English, see Bruening (2006) for discussion and references. We therefore set such cases aside.

<sup>12</sup>There exists a construction superficially similar to that of interest in this paper, where the distributor *o enas* occurs in an A-position and triggers third person singular agreement on the verb, as in (i). Much like its English counterpart, this construction has very different locality properties from (1); notably, as (i) shows, it can cross an intervening subject

3.2 *Evidence against movement/Agree*

We will now discuss further locality constraints in the split reciprocal construction and assess their consequences for how the link between the different elements is established.

We begin with the reciprocator, which, given the effect of subjects, we are treating as being subject to Condition A of the Binding Theory. Much recent literature on binding explores the idea that antecedent and anaphor are linked via a binding-independent syntactic mechanism capable of accounting both for the sharing of phi-features and the locality constraints on binding. Movement and Agree have both been proposed as the relevant mechanisms in the literature.

On one type of approach, anaphors do not have independent theoretical status, but rather are spell-outs of the lower copy of their moving antecedent (Hornstein 2001, Drummond et al. 2011). In another type of movement approach, the antecedent forms a big DP together with the anaphor and strands it during the derivation (Kayne 2002). On both types of approaches, Condition A should reduce to A-movement locality. A variant of the movement approach assumes that it is (some component of) the local reflexive that (covertly) moves to a higher position by means of either head movement or A-movement; see, e.g., Lebeaux (1983: 726), Chomsky (1986: 175), Hestvik (1995), Reuland (2011), Ahn (2015).

More recently, much literature attempts to reduce binding to an Agree relationship. Many different implementations have been proposed, with one parameter that differs between approaches concerning whether there is a direct (upward) Agree dependency between antecedent and anaphor, (compare the data in section 3.1), thus being reminiscent less of local anaphora and more of variable binding.

- (i) Se afto to monastiri, o enas monaxos pistevi oti o  
 in this.ACC the.ACC monastery.ACC the.M.NOM one.M.NOM monk.NOM believe.3SG COMP the.NOM  
 iyumenos protimai ton alo.  
 abbot.NOM prefer.3SG the.M.ACC other.M.ACC  
 ‘In this monastery, each monk believes that the abbot prefers the other.’

In fact, this construction seems to not respect syntactic locality more generally. See Jackendoff (1990: 435) for data and references on its English counterpart.

This usage (as well as usages of *o alos* without *c*-command by the distributor as in fn. 6) is thus distinct from the usage of *the other* as an anaphor subject to Condition A. This situation is reminiscent of the many other cases where anaphoric elements are ambiguous between Condition A-obeying and other (e.g., referential) uses, as with, for example, English possessive pronouns.



or whether the two are linked by separate relationships with a mediating head. Prominent Agree-based approaches include [Heinat \(2009\)](#), [Hicks \(2009\)](#), [Kratzer \(2009\)](#), [Antonenko \(2011\)](#), [Bader \(2011\)](#), [Reuland \(2011\)](#), [Wurmbrand \(2017\)](#), [Murphy & Meyase \(2022\)](#), [Paparounas & Akkuş \(to appear\)](#). Some approaches also combine Agree with movement of the reflexive; see, e.g., [Rooryck & Wyngaerd \(2011\)](#).

Turning to the distributor, in [Heim et al. \(1991\)](#), the relationship between the two involves covert movement of the distributor to the position of the antecedent (see also [Belletti 1982](#) for covert movement in the Italian split reciprocal). One can also imagine an overt movement analysis, where the two are generated together and the distributor is stranded by movement of the antecedent; the latter analysis may be the more straightforward means to ensure agreement in gender and case. In their analysis of Icelandic reciprocals, [Sigurðsson et al. \(2022\)](#) claim that the two movements (covert and overt) co-occur.<sup>13</sup>

We show below that movement- or Agree-based accounts do not seem promising for our data. The conclusion is the same both for the relationship of the antecedent to the distributor, and the

<sup>13</sup> Part of the motivation for LF movement comes from scope ambiguities as in (i) (cf. [Heim et al. 1991](#) and references therein):

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

In one interpretation (the narrow reading), both John and Mary said that John likes Mary and Mary likes John. In another interpretation (the wide scope reading), John said that he likes Mary and Mary said that she likes John (but it is not necessarily the case that either of them said that the other person likes them). The distributed reading is taken to involve LF movement of the distributor across the matrix predicate. Interestingly, the Greek split reciprocal construction shows the same ambiguity; the example in (ii) is grammatical on both narrow and wide scope readings of the distributor (see also Brazilian Portuguese in [Kobayashi 2020](#)).

- (ii) O Janis ke i Maria ipan oti aresun o enas  
 the.NOM John.NOM and the.NOM Mary.NOM say.PST.3PL COMP please.3PL the.M.NOM one.M.NOM  
 ston alo.  
 to.the.M.ACC other.M.ACC  
 ‘John and Mary said that they like each other.’

Note that, unlike the split/bipartite reciprocal, the verbal reciprocals mentioned in footnote 3 do not license the scope ambiguity (see [Paparounas 2023](#): ch.3). There are further interpretive differences between the two constructions: the verbal reciprocals are obligatorily symmetric and monoeventive/simultaneous, while the split reciprocal also allows asymmetric and nonsimultaneous construals ([Dimitriadis 2008a,b](#)). Additionally, the verbal reciprocal obligatorily signifies strong reciprocity, whereas the split reciprocal also allows weak interpretations (see [Dalrymple et al. 1998](#)). See also fn. 23 below for more discussion of interpretive issues.

relationship between the antecedent and the anaphoric reciprocator: neither relationship seems to obey the same constraints as either movement or *bona fide* instances of Agree in the language.

We will also see that the locality constraints differ for distributor and reciprocator, being stricter for the former. We will address this asymmetry in section 4.

### 3.2.1 *Islands*

Various pieces of data show that the reciprocator and, to some extent, the distributor, can occur in domains that are opaque to movement within the language. In all examples of this type in this section, we enclose the relevant domains in square brackets.

The first pair of examples shows that both elements can occur in coordination, either as one of the conjuncts, (20a), or embedded within a conjunct, (20b). Note that the use of a collective verb, which requires syntactic plurality, rules out a clausal-coordination-plus-ellipsis parse; given that ‘gather the principal’ is ungrammatical in isolation, there cannot be deletion of ‘gather’ in the second conjunct. Rather, we must be dealing with DP coordination.

- (20) a. I            maθites            mazepsan            o            enas            ton  
 the.NOM.PL student.NOM.PL gather.PST.3PL the.M.NOM one.M.NOM the.M.ACC  
 alo            ke ton            ðiefθindi            stin            taksi.  
 other.M.ACC and the.ACC principal.ACC in.the.ACC classroom.ACC  
 ‘The students<sub>i</sub> gathered each other<sub>i</sub> and the principal in the classroom.’
- b. I            maθites            mazepsan            [ton            kaθijiti            o  
 the.NOM.PL student.NOM.PL gather.PST.3PL the.ACC professor.ACC the.M.NOM  
 enas            tu            alu]            ke ton            ðiefθindi            stin  
 one.M.NOM the.M.GEN other.M.GEN and the.ACC principal.ACC in.the.ACC  
 taksi.  
 classroom.ACC  
 ‘The students<sub>i</sub> gathered each other<sub>i</sub>’s professor and the principal in the classroom.’

Under a movement analysis, there would be asymmetric extraction of/from a conjunct, in violation of the Coordinate Structure Constraint (Ross 1967).

We have already seen several examples involving the reciprocal inside PPs, which are islands for extraction quite generally in Greek (see, e.g., Merchant 2000, 2001, for P-stranding in *wh-*

movement and sluicing). The following pair shows that the reciprocator can occur even in adjunct PPs. The distributor is, however, more restricted in that it cannot occur within all PPs; thus, the PP-internal position of the distributor is degraded in (21) (but see (22) below).

- (21) a. I monaçi iðan ta fiðja (o  
the.NOM.PL monk.NOM.PL see.PST.3PL the.ACC.PL snake.ACC.PL the.M.NOM  
enas) [ðipla (?o enas) ston alo].  
one.M.NOM next the.M.NOM one.M.NOM to.the.M.ACC other.M.ACC  
‘The monks<sub>i</sub> saw the snakes next to each other<sub>j</sub>.’
- b. I monaçi zun kala o enas [eksetias  
the.NOM.PL monk.NOM.PL live.3PL well the.M.NOM one.M.NOM because  
(?o enas) tu alu].  
the.M.NOM one.M.NOM the.M.GEN other.M.GEN  
‘The monks<sub>i</sub> live well because of each other<sub>j</sub>.’

While the distributor could occur only marginally within PP in the previous examples, it can do so perfectly easily once it is a genitive inside a DP that in turn is embedded within a PP, (22a), even if the PP is an adjunct, (22b). One of our consultants finds the lower instance of *o enas* less acceptable in (22b).

- (22) a. I fitites milisan (o enas) [ston  
the.NOM.PL student.NOM.PL talk.PST.3PL the.M.NOM one.M.NOM to.the.ACC  
kaθijiti (o enas) tu alu].  
professor.ACC the.M.NOM one.M.NOM the.M.GEN other.M.GEN  
‘The students<sub>i</sub> talked to each other<sub>j</sub>’s professor.’
- b. I monaçi zun kala (o enas) [eksetias  
the.NOM.PL monk.NOM.PL live.3PL well the.M.NOM one.M.NOM because  
tis kalosinis (o enas) tu alu].  
the.GEN kindness.GEN the.M.NOM one.M.NOM the.M.GEN other.M.GEN  
‘The monks<sub>i</sub> live well because of each other<sub>j</sub>’s kindness.’

Furthermore, the reciprocator (but not the distributor) can occur inside classical islands, including wh-islands, (23), and undoubtedly strong islands like clausal adjuncts, (24) and even relative clauses, (25). In all cases, the reciprocator can be either the subject or a subconstituent of the

subject:

- (23) a. Ta koritsça rotisan to ena [ti  
 the.NOM.PL girl.NOM.PL ask.PST.3PL the.F.NOM one.F.NOM what.ACC  
 efaje to alo].  
 eat.PST.3SG the.F.NOM other.F.NOM  
 ‘The girls<sub>i</sub> asked what each other<sub>i</sub> ate.’
- b. Ta koritsça rotisan to ena [ti  
 the.NOM.PL girl.NOM.PL ask.PST.3PL the.F.NOM one.F.NOM what.ACC  
 efaje o pateras tu alu].  
 eat.PST.3SG the.NOM father.NOM the.F.GEN other.F.GEN  
 ‘The girls<sub>i</sub> asked what each other<sub>i</sub>’s father ate.’
- (24) a. ?Ta ayorja klene to ena [epiði efije  
 the.NOM.PL boy.NOM.PL cry.3PL the.M.NOM one.M.NOM because leave.PST.3SG  
 to alo].  
 the.M.NOM other.M.NOM  
 ‘The boys<sub>i</sub> are crying because each other<sub>i</sub> left.’
- b. ?Ta ayorja klene to ena [epiði efije  
 the.NOM.PL boy.NOM.PL cry.3PL the.M.NOM one.M.NOM because leave.PST.3SG  
 o pateras tu alu].  
 the.NOM father.NOM the.M.GEN other.M.GEN  
 ‘The boys<sub>i</sub> are crying because each other<sub>i</sub>’s father left.’
- (25) a. I monaçi θa fane o enas [to  
 the.NOM.PL monk.NOM.PL FUT eat.3PL the.M.NOM one.M.NOM the.ACC  
 fajito pu eçi ftiaksi o alos].  
 food.ACC that have.3SG make.PFV.3SG the.M.NOM other.M.NOM  
 ‘The monks<sub>i</sub> will eat the food that each other<sub>i</sub> has made.’
- b. I monaçi θa fane o enas [to fajito  
 the.NOM.PL monk.NOM.PL FUT eat.3PL the.M.NOM one.M.NOM the.ACC food.ACC  
 pu eçi ftiaksi i mitera tu alu].  
 that have.3SG make.PFV.3SG the.NOM mother.NOM the.M.GEN other.M.GEN  
 ‘The monks<sub>i</sub> will eat the food that each other<sub>i</sub>’s mother has made.’

An anaphoric element inside a strong island may initially seem unusual and one may therefore be tempted to treat such cases as instances of logophoric binding, which might explain the apparent insensitivity to strict locality. Importantly, however, there is solid evidence against treating the reciprocator as a logophor here (cf. also Kobayashi 2020: ex. 33 on Brazilian Portuguese). Examining

the island cases further, we find the same subject-object asymmetry as with complement clauses: while the reciprocator can occur as (part of) an embedded subject of a relative clause as in (25), it cannot occur as embedded object of a relative clause, (26a), or as a part thereof, (26b), if the binder is in the matrix clause:

- (26) a. \*I monaçi çeretisan o enas [tin  
the.NOM.PL monk.NOM.PL greet.PST.3PL the.M.NOM one.M.NOM the.ACC  
kaloyria pu ayapai ton alo].  
nun.ACC that love.3SG the.M.ACC other.M.ACC  
‘The monks<sub>i</sub> greeted the nun that loves [each other]<sub>i</sub>.’
- b. \*I monaçi çeretisan o enas [tin  
the.NOM.PL monk.NOM.PL greet.PST.3PL the.M.NOM one.M.NOM the.ACC  
kaloyria pu ayapai tin mitera tu alu].  
nun.ACC that love.3SG the.ACC mother.ACC the.M.GEN other.M.GEN  
‘The monks<sub>i</sub> greeted the nun that loves [each other]<sub>i</sub>’s mother.’

Thus, the reciprocator inside relative clauses is also subject to a binding domain that crucially refers to the presence of a subject (and the same subject-object asymmetry holds for the other island types).

More evidence against logophoric binding of the reciprocator in relative clauses comes from the following pair with an inanimate antecedent that displays the same subject/object asymmetry:

- (27) a. Afta ta poðilata jimnastikis fortizonde  
these.NOM.PL the.NOM.PL bicycle.NOM.PL exercise.GEN charge.NONACT.3PL  
to ena apo [tin enerjia pu parayi to  
the.N.NOM one.N.NOM from the.ACC energy.ACC that produce.3SG the.N.NOM  
alo / parayun i troçi tu alu].  
other.N.NOM produce.3PL the.N.NOM.PL wheel.NOM.PL the.N.GEN other.N.GEN  
‘These exercise bicycles charge from the energy that each other/each other’s wheels  
produce.’
- b. \*Afta ta poðilata jimnastikis fortizonde to  
these.NOM the.NOM bicycle.NOM.PL exercise.GEN charge.NONACT.3PL the.N.NOM  
ena apo [tin enerjia pu ðinun i ðiaðromi  
one.N.NOM from the.ACC energy.ACC that give.3PL the.NOM.PL treadmill.NOM.PL  
tu alu / stus troçus tu alu].  
the.N.GEN other.N.GEN to.the.ACC.PL wheel.ACC.PL the.N.GEN other.N.GEN

‘These exercise bicycles<sub>i</sub> charge from the energy that the treadmills give each other<sub>i</sub>/each other<sub>i</sub>’s wheels.’

One can also construct examples with inanimate antecedents where the reciprocator is located inside an adjunct PP:

- (28) I           planites       ine   skotini       simera o       enas  
 the.NOM.PL planet.NOM.PL be.3PL dark.NOM.PL today the.M.NOM one.M.NOM  
 [eksetias tu       đoriforu    tu       alu].  
 because the.GEN satellite.GEN the.M.GEN other.M.GEN  
 ‘The planets<sub>i</sub> are dark today because of each other<sub>i</sub>’s satellites.’

Further evidence against logophoric binding comes from the impossibility to bind without c-command, (7), obtaining even in the presence of a discourse referent/empathy locus:

- (29) [I           kaimeni     i           monađi]<sub>i</sub>!   [I           fili  
 the.NOM.PL poor.NOM.PL the.NOM.PL monk.NOM.PL the.NOM.PL friend.NOM.PL  
 tus]<sub>j</sub>   đen ađapun o           enas       ton       alo<sub>j/\*i</sub>.  
 3PL.POSS NEG love.3PL the.M.NOM one.M.NOM the.M.ACC other.M.ACC  
 ‘Poor monks<sub>i</sub>! [Their<sub>i</sub> friends]<sub>j</sub> don’t love each other<sub>j/\*i</sub>.’

In addition, there is no long-distance binding, see (15) and (16), (25) vs. (26), (27), and (30), a translation of a typical English example (where the intervening NP is inanimate):

- (30) \*O       Janis     ke i       Maria   ipan       o       enas     oti  
 the.NOM John.NOM and the.NOM Mary.NOM say.PST.3SG the.M.NOM one.M.NOM COMP  
 i       efimeriđa     dimosiefse   fotografies   tu       alu.  
 the.NOM newspaper.NOM publish.PST.3SG photograph.ACC.PL the.M.GEN other.M.GEN  
 ‘John and Mary<sub>i</sub> said that the newspaper published pictures of each other<sub>i</sub>.’

Finally, split antecedents are not possible, as shown in (31):

- (31) \*To       ađori     eđikse       to       koritsi   to       ena     sto  
 the.NOM boy.NOM show.PST.3SG the.ACC girl.ACC the.N.NOM one.N.NOM to.the.N.ACC  
 alo       ston kaθrefti.  
 other.N.ACC to.the mirror

‘The boy<sub>*i*</sub> showed the girl<sub>*j*</sub> to each other<sub>*i+j*</sub> in the mirror.’

Returning to locality, we can conclude that the reciprocator (and to some extent also the distributor) can occur inside opaque domains, including uncontroversially strong islands, which renders a movement account highly unlikely.<sup>14</sup>

There are yet more facts that argue against a movement relationship. First, the fact that the reciprocator can be an embedded subject rules out both A-movement-based and head-movement-based accounts of binding. A-movement is ruled out given that cross-clausal A-movement (like raising) is restricted to so-called subjunctive clauses in Greek (see [Alexiadou & Anagnostopoulou 2002](#)), while head-movement is generally thought to be clause-bound. Second, the fact that the reciprocator can occur as a subconstituent of DP also rules out implementations in terms of A-movement or head-movement given that both movement types are blocked from applying to this domain, in Greek and beyond.<sup>15</sup> Third, movement analyses for both distributor and reciprocator also fail for the cases where the antecedent is within a PP, recall ex. (10), as this would require movement to a non-c-commanding position. Fourth, a movement analysis is severely complicated by the mismatch in phi-features (number and, possibly, person) between antecedent and both reciprocal parts. At first sight, the agreement mismatches between antecedent and distributor may be less of an issue if a stranding analysis based on a partitive structure is adopted, possibly with a

<sup>14</sup>We note that the exact nature of locality constraints on the reciprocal is a possible point of cross-linguistic variation. For instance, the reciprocator of the Brazilian Portuguese reciprocal largely overlaps in its distribution with its Greek counterpart, the reciprocator occurring within *wh*- and adjunct islands in both languages. These commonalities seem to exist alongside important differences, however; the Brazilian Portuguese reciprocator can occur as the object of a relative clause ([Kobayashi 2019](#): ex. (15), [Kobayashi 2020](#): ex. 25a), contrasting with the Greek facts (26). Conversely, in Italian, the construction is subject to locality constraints that seem stricter than in Greek. For instance, no finite clause boundary can intervene ([Belletti 1982](#): 125, ex. 46; Stanislas Zoppi (p.c.) points out that the examples in Belletti remain ungrammatical if the distributor is in the main clause). Even more stringent locality restrictions can be found in Hebrew; see the discussion at the end of the paper.

<sup>15</sup>As pointed out to us by an anonymous reviewer, the reciprocator can be embedded quite deeply within DP, casting further doubt on the availability of an analysis based on movement (or Agree, see below):

- (i) I            stratiji            perimenun o            enas            ta            nea            tis  
 the.NOM.PL general.NOM.PL await.3PL the.M.NOM one.M.NOM the.ACC.PL news.ACC.PL the.GEN  
 katastrofis            tis            polis            tu            alu.  
 destruction.GEN the.GEN city.GEN the.M.GEN other.M.GEN  
 ‘The generals<sub>*i*</sub> await the news about the destruction of each other<sub>*i*</sub>’s city.’

silent preposition, cf. *each (of) ...*. However, while such a structure could take care of the number-person mismatches, it arguably predicts the wrong case on the antecedent (genitive) and should lead to singular agreement on the predicate, contrary to fact. A final argument only affects the approach treating anaphors as spell-outs of lower copies: not only does the reciprocator mismatch the antecedent in number (and potentially in person if the antecedent is first or second person, alongside definiteness if the antecedent is non-definite), it also has inherent interpretive content. It is wholly unclear how an element with such properties could ever arise from spelling out a lower copy of the antecedent. <sup>16</sup>

### 3.2.2 *More evidence against stranding of the distributor*

We have already seen some evidence that argues against a movement dependency between antecedent and distributor (either covert movement of the distributor or stranding by movement of the antecedent). The following examples explicitly argue against a stranding analysis, and, under certain assumptions, against covert movement as well. In both of the following examples, the distributor is related to the subject but occurs below the base position of the subject. In (32a), repeated from above, it occurs within a PP complement; in (32b), also repeated from above, it occurs below

<sup>16</sup>While the arguments against a movement analysis involving the reciprocator seem uncontroversial, one may be more sceptical about the arguments relating to the distributor, especially if it is assumed that it undergoes covert movement to its antecedent. To some extent, this depends on how this movement is conceived of. Both **Belletti (1982: 116)** and **Heim et al. (1991: 66)** analyze it as an association rule (adjoining it to its antecedent) distinct from QR. Since it is a special rule taking place at LF, it is not quite clear what its (locality) properties would be. This in itself may render movement of this type a suboptimal solution. If this instance of covert movement were conceived of as Quantifier Raising, however, things may be different given that its locality profile may slightly deviate from that of overt movement. The PP examples discussed in this section may be a case in point: given that PPs are often permeable to QR (not only prepositional datives but potentially also adjunct PPs in inverse linking contexts, cf. *Someone from every city hates it*), one cannot a priori rule out the same possibility for *o enas*. Interestingly, **Tanaka (2020)** presents experimental evidence against QR from PP-adjuncts, suggesting that our data with *o enas* inside adjunct PPs are relevant after all. Irrespective of the situation with PPs, QR will not be sufficient to account for *o enas* inside coordination, recall ex. (20b), since QR is well-known to be subject to the coordinate structure constraint: **Fox (2000: 51f.)** shows that while a universally quantified object DP can undergo QR across a QP in subject position in a simple sentence, (ia) it cannot do so if it is within a VP that is coordinated with another VP, (ib), as this would require asymmetric extraction from the first conjunct.

- |     |    |   |   |
|-----|----|---|---|
| (i) | a. | A student likes every professor.                    | $\exists > \forall, \forall > \exists$  |
|     | b. | A student likes every professor and hates the dean. | $\exists > \forall, *\forall > \exists$ |

We therefore conclude that any covert movement analysis affecting the distributor will be problematic.



a direct object. In both configurations, the base position of the subject in Spec,vP, ensured by the postverbal subjects in (32), is separated from the distributor by other constituents.

- (32) a. Milisan i fitites ston kaθijiti o  
 talk.PST.3PL the.NOM.PL student.NOM.PL to.the.ACC professor.ACC the.M.NOM  
 enas tu alu.  
 one.M.NOM the.M.GEN other.M.GEN  
 ‘The students<sub>i</sub> talked to each other<sub>i</sub>’s professor.’
- b. Sistisan i fititries ti Maria i  
 introduce.PST.3SG the.F.NOM.PL student.F.NOM.PL the.ACC Mary.ACC the.F.NOM  
 mia stin ali.  
 one.F.NOM to.the.F.ACC other.F.ACC  
 ‘The students<sub>i</sub> introduced Mary to each other<sub>i</sub>.’

### 3.2.3 *Against Agree*

The data from subsection 3.2.1 equally argue against establishing the relationship between antecedent and distributor/reciprocator by means of Agree, assuming Agree to be island-bounded.<sup>17</sup>

In addition, A-Agree in the language can normally not target constituents embedded within PPs and DPs. Furthermore, while Modern Greek allows cross-clausal agreement with embedded subjects in complements of raising predicates, as with overt movement, this is restricted to subjunctive clauses (Alexiadou & Anagnostopoulou 2002). Also, the fact that both reciprocal parts do not agree with the antecedent in number (and possibly person and definiteness) is not straightforward on an Agree analysis. Finally, we do not generally find intervention effects/minimality effects in binding; this is arguably an argument problematizing Agree-based approaches to binding more generally (see, e.g., Charnavel & Sportiche 2016; Bruening 2021). It is usually possible to relate an anaphor to an antecedent across an intervening DP, as long as the target of binding is within the same local domain. For instance, in (33), repeated from above, a reciprocator within PP is related to a subject antecedent across a direct object.

<sup>17</sup>One possible exception is coordination, where agreement with the first/closest conjunct of a DP coordination is possible in many languages, including Modern Greek, see, e.g., Paparounas & Salzmänn (2024). However, one of our coordination examples, (20b), involves both elements being embedded within the first DP conjunct, a configuration in which Agree would normally not be able to access the goal/anaphor (*modulo* the possibility of relativizing the binding probe in the appropriate way, see, e.g., Paparounas & Akkuş to appear).

- (33) I            fitites            sistisan            ti            Maria            o  
 the.NOM.PL student.NOM.PL introduce.PST.3SG the.ACC Mary.ACC the.M.NOM  
 enas            ston            alo.  
 one.M.NOM to.the.M.ACC other.M.ACC  
 ‘The students<sub>i</sub> introduced Mary to each other<sub>i</sub>.’

There of course exist effects that could be subsumed under the label ‘intervention’ in binding, but these are always triggered by subjects (in the relevant sense), not by any c-commanding DP as would be expected under A-Agree.

We thus conclude that an Agree analysis is not promising to establish the relationship between antecedent and distributor/reciprocator (for related arguments, see, e.g., [Charnavel & Sportiche 2016: 65–71](#) and [Bruening 2021: 431ff.](#)). See also [Paparounas & Akkuş \(to appear\)](#) for a possible reconciliation of arguments for and against Agree, in the form of an empirical argument that only some cases of local binding have the diagnosable profile of an Agree dependency.<sup>18</sup>

### 3.3 *The binding domain*

Before concluding this section, we briefly return to the binding domain we find in Greek reciprocals, and consider whether this domain seems co-extensive with the kinds of domains provided by the theory of phases as recently argued in, e.g., [Charnavel & Sportiche \(2016: 71–80\)](#). On this type of proposal, an anaphor must be bound within a spell-out domain, which for our purposes we can equate with the finite TP (abstracting away from certain departures from standard assumptions required by the specific proposal in [Charnavel & Sportiche 2016](#)).

All that matters in the present context is that the reciprocator can occur as the (possessor of

<sup>18</sup>Yet another argument against Agree in the split reciprocal construction arises from the observation that the reciprocal parts can show agreement in natural gender with the antecedent as in (i), where the reciprocal occurs with feminine rather than grammatical neuter gender (which would be an option as well):

- (i) Ta            koritsça            ayapun i            mia            tin            ali.  
 the.N.NOM.PL girl.N.NOM.PL love.3PL the.F.NOM one.F.NOM the.F.ACC other.F.ACC  
 ‘The girls<sub>i</sub> love each other<sub>i</sub>.’ <https://tinyurl.com/2p82u3ja>

Note that ‘semantic’ gender agreement is not possible in Greek subject-predicate constructions as in ‘The girl is smart’, where, presumably, Agree is involved. This asymmetry follows if Agree can only target grammatical gender features in Greek, while binding can also target the natural gender features of a DP, like other anaphoric processes in the language.

the) subject of a finite complement/embedded interrogative/adjunct/relative clause – recall examples (15a), (16a), (23), (24), (25), and (27a). Given that there is a finite CP boundary between antecedent and reciprocator, the two are not contained in the same spell-out domain (they are separated by the phasal C-head that introduces the complement/adjunct/relative clause).

It thus seems that a reduction of the binding domain to phasehood does not seem promising for our reciprocal data. Rather, the facts seem compatible with a more traditional definition closer to Chomsky (1981) (see also Bruening 2021) such that an anaphor must be bound within the smallest XP containing it and a distinct and accessible subject (where ‘subject’ must be understood as a DP in Spec,vP/TP/PredP). The restriction to a distinct and accessible subject is intended to cover two separate cases: requiring a distinct subject ensures that the binding domain of an anaphor in the embedded subject position/as a small clause subject/ECM-subject is extended to the matrix clause (since the anaphor is not distinct from itself). Requiring an accessible subject ensures that anaphors contained within an embedded subject cannot be bound by the containing subject (traditionally a violation of the *i*-within-*i*-filter) but rather need an antecedent in the matrix TP. Anaphors that are in the same clause as their antecedent (TP or small clause), e.g., anaphors in direct or indirect object position, within DP or PP, can be bound under *c*-command.

We of course expect any definition of the binding domain, including the more traditional one seemingly favored by the Greek reciprocal data, to ultimately follow from independent theoretical devices, even if the specific phase-based implementation examined here proves not promising. Alongside this desideratum, we note here a few further factors worthy of being taken into account in investigations of the limits of the distribution of anaphors, as they arise with respect to the Greek reciprocal. One of them concerns the cross-linguistic applicability of the traditional definition mentioned above; the other concerns distributional differences between reflexives and reciprocals.

Firstly, we have shown that the Greek reciprocal can be an embedded subject; this much is of course far from unheard of cross-linguistically (see e.g. Haddad 2007 for one recent discussion). But anaphor binding is often more constrained than this, and we do find languages that do not tolerate plain anaphors (contained) in embedded subject position (see e.g. Charnavel & Sportiche 2016

for recent focussed discussion). One could conclude from this that binding domains can simply differ cross-linguistically. Alternatively, and this is probably the more interesting option, one could hold on to the more inclusive definition defended above and relate more constrained distributions in other languages to independent factors, such as the presence/absence of agreement accounting for the impossibility of embedded subject anaphors in some languages (see e.g. [Woolford 1999](#)).<sup>19</sup>

Secondly, consider possible differences between reflexives and reciprocals. We have seen that the reciprocator can be an embedded subject, but it does not seem to be generally true that reflexives can occur in embedded subject position in Greek.<sup>20</sup>

Distributional asymmetries between reflexives and reciprocals are by no means unheard of. The very same asymmetry regarding occurrence in embedded subject position has, in fact, been observed for English in [Lebeaux \(1983\)](#). Examples like *We didn't know what each other wanted* are well attested, see, e.g., [Gast & Zimmermann \(2007\)](#); [Bruening \(2006\)](#) argues that such reciprocals are not exempt and thus must be covered by the Binding Theory. The literature has generally attempted to relate such distributional asymmetries to independent properties of the elements involved. Regarding the embedded subject position, LF A-movement of reflexives was postulated, which would lead to an ECP violation. The scopal nature of reciprocals (and concomitant QR of part thereof, recall [Heim et al. 1991](#)) in turn has been taken to be responsible for the (more or less robust) absence of non-local binding of reciprocals, see [Everaert \(2008\)](#).<sup>21</sup>

<sup>19</sup>That Greek, a language with subject-verb agreement, does seemingly tolerate agreeing subject reflexives (e.g. reflexives in DAT-NOM constructions) is attributed in [Woolford \(1999: 272ff\)](#) to the fact that the head of the Greek reflexive is the clitic possessor, not the 'self' noun (see [Iatridou 1988](#)). Note in this connection that the reciprocator can also trigger agreement other than third-person (the latter being indistinguishable from a possible default). With a feminine antecedent, embedded subject *o alos* can trigger feminine agreement on a predicative adjective:

- (i) I            kalogries    pistevun    i            mia            oti i            ali            ine  
 the.NOM.PL nun.NOM.PL believe.3PL the.F.NOM one.F.NOM that the.F.NOM other.F.NOM be.3SG  
 eksipni        / \*eksipnos.  
 clever.F.NOM    clever.M.NOM  
 'The nuns<sub>i</sub> think that each other<sub>i</sub> are clever.'

<sup>20</sup>Such examples are sometimes found in the literature; see, e.g., [Woolford \(1999: 273\)](#), who cites an example from [Rivero \(1987\)](#) that the native speaker co-author and our consultants find degraded. It is possible to construct similar examples, but all the acceptable ones seem to involve non-anaphoric uses of the 'reflexive', which also has a reified usage meaning 'one's Self/inner nature'; see [Angelopoulos & Sportiche \(to appear\)](#).

<sup>21</sup>As pointed out to us by a NELS reviewer, LF movement could also account for the fact that, at least in English,

Apart from these asymmetries, reflexives and reciprocals in Greek pattern the same. They are both sensitive to intervening subjects in small clauses and ECM constructions (Anagnostopoulou & Everaert 1999) and both can occur in PPs (Angelopoulos & Sportiche to appear); reflexives cannot occur as possessors within DP, but this seems to be an independent fact arising from competition with pronominal possessors (Cardinaletti & Starke 1993). We therefore see no reason to treat reflexives and reciprocals as elements of wholly distinct kinds. Rather, the most parsimonious solution would subject both to Condition A of the Binding Theory and relate the distributional asymmetries to independent properties.

Given space constraints, we will leave further exploration of the reflexive-reciprocal asymmetry and more general questions about cross- and intra-linguistic variation in binding domains for future research.

#### 4. The distributor as a floating quantifier

Two observations suggest that the distributor is a floating quantifier (one that either carries distributivity itself, or stands in a dependency with an abstract distributive element, as discussed in footnote 25). Firstly, it is a quantificational scope-taking element; secondly, its distribution, including its locality restrictions, mirror those of the *bona fide* floating distributive quantifier *kaθ-enas* ‘each-one’, which is transparently morphologically related to the reciprocal’s distributor.<sup>22</sup>

Note firstly that, like the *bona fide* quantifier, the distributor *o enas* is interpretively quantificational, as shown by its interaction with other scope-taking elements in the clause (recall also the variable binding-like data in fn. 12). We illustrate in (34) (adapted from Kobayashi 2019: ex. (11),

---

reciprocals in subject position seem to be most acceptable in embedded questions as in the example above and rather degraded in declaratives (cf. ??*We didn't think that each other would leave early*). In declaratives, LF-movement of *each* to the matrix Spec,vP would be blocked by Scope Economy (Fox 2000), as it would not give rise to new scope options. In embedded questions, however, movement to matrix Spec,vP would be licensed as the reciprocal can take scope over the wh-operator (cf. Fox 2000: 64; *One girl knows what every boy bought for Mary*). Subsequent LF-movement to a position above the matrix subject would then be possible, thereby licensing the reciprocal interpretation.

<sup>22</sup>Kobayashi (2020: ex. 34-36) also proposes a floating quantifier analysis of *the one* for Brazilian Portuguese, but suggests an analysis in terms of stranding via movement. Given the evidence against a movement relationship between antecedent and distributor presented in the previous section, what seems to instead be required in Greek is an adverbial analysis of floating quantification, see section 5.2 below for discussion. In her analysis of the split reciprocal construction in Italian, Belletti (1982: 114ff., ex. (20)-(34)) also relates the distributor to a floating quantifier but compares it with the floating quantifier *tutti* ‘all’ (which is more restricted than Greek *kaθenas*, viz. cannot occur within DPs or PPs); in her approach, the two associate via LF movement of the distributor.

see also Kobayashi 2020: ex. 45 and Kobayashi 2021: 737, ex. (7)).

In (34a), the distributivity contributed by *o enas* can optionally scope above the numeral *two*, giving rise to an ambiguity; (34b) clarifies that the position of *o enas* modulates this ambiguity, with higher-merged *o enas* not being able to scope below the numeral.<sup>23</sup>

- (34) a. O Janis ke o Kostas tha dosun duo dora  
 the.NOM John.NOM and the.NOM Kostas.NOM FUT give.3PL two present.ACC.PL  
 o enas ston alo.  
 the.M.NOM one.M.NOM to.the.M.ACC other.M.ACC  
 ‘Janis and Kostas<sub>i</sub> will give two presents to each other<sub>j</sub>.’  
 ✓2>Dist (total of 2 gifts being given)  
 ✓Dist>2(total of 4 gifts being given)
- b. O Janis ke o Kostas tha dosun o  
 the.NOM John.NOM and the.NOM Kostas.NOM FUT give.3PL the.M.NOM  
 enas duo dora ston alo.  
 one.M.NOM two present.ACC.PL to.the.M.ACC other.M.ACC  
 ‘Janis and Kostas<sub>i</sub> will give two presents to each other<sub>j</sub>.’  
 ✗2>Dist (total of 2 gifts being given)  
 ✓Dist>2(total of 4 gifts being given)

Alongside their shared quantificational nature, there are numerous distributional parallels between the distributor and the *bona fide* floating quantifier.

To begin, we note that *kaθenas*, which usually occurs with a definite article, also requires a c-commanding antecedent with which it agrees in case and gender (but not number, *kaθenas*

<sup>23</sup>Given that the Greek split reciprocal allows interpretations other than just strong reciprocity, *o enas* is best treated as a weakly distributive element (just like its Brazilian Portuguese counterpart; see Kobayashi 2020).

This distinguishes *o enas* from *o kaθenas*, which is strongly distributive; together with its presuppositional nature, *o kaθenas* is thus a close analogue of English *each* (see Giannakidou 2012: 309-317). *o kaθenas* can, in principle, be itself combined with *o alos*, yielding strong reciprocity. Tellingly, *o kaθenas* cannot occur in contexts of weaker reciprocity (see Dalrymple et al. 1998):

- (i) Ta vivlia ine stivaɣmena to (#kaθ-)ena pano sto  
 the.NOM.PL book.NOM.PL be.3PL pile.PTCP.PL the.N.NOM each-one.N.NOM over to.the.N.NOM  
 alo.  
 other.N.NOM  
 ‘The books<sub>j</sub> are stacked on top of each other<sub>j</sub>.’

being necessarily singular). (35a) illustrates obligatory case/gender agreement. (35b) shows that *kaθenas* can case/gender-match and distribute over a c-commanding nominal (here *the friends of the monks*), but not a DP embedded within that nominal (i.e., just *the monks*).<sup>24</sup>

- (35) a. I            monaçi        ipçan            { o            kaθenas    / \*ton  
 the.NOM.PL monk.NOM.PL drink.PST.3PL the.M.NOM each.M.NOM the.M.ACC  
 kaθena        / \*tu            kaθenos    / \*i            kaθemia } ðio  
 each.M.ACC the.M.GEN each.M.GEN the.F.NOM each.F.NOM two  
 potirja        krasi.  
 glass.ACC.PL wine.ACC  
 ‘The monks each drank two glasses of wine.’
- b. I            fili            ton            monaxon    ipçan            { o  
 the.NOM.PL friend.NOM.PL the.GEN.PL monk.GEN.PL drink.PST.3PL the.M.NOM  
 kaθenas        / \*tu            kaθenos    } ðio potirja        krasi.  
 each.M.NOM the.M.GEN each.M.GEN two glass.ACC.PL wine.ACC  
 ‘The monk’s friends each drank two glasses of wine.’

The distributional parallels extend much further than the basic configurational facts illustrated in (35). Firstly, the distributor *o enas* must occur in the same finite clause as the plural antecedent (while the reciprocator need not; cf. also Kobayashi 2020: ex. 32 on Brazilian Portuguese). The same is true of *kaθenas*:

- (36) a. I            monaçi            ipan            (o            enas)        [oti  
 the.NOM.PL monk.M.NOM.PL say.PST.3PL the.M.NOM one.M.NOM COMP  
 (\*o            enas)        ta            ikonismata        tu            alu  
 the.NOM one.M.NOM the.NOM.PL portable.icon.NOM.PL the.M.GEN other.M.GEN  
 eksafanistikan].  
 disappear.PST.3PL  
 ‘The monks<sub>i</sub> said that each other<sub>i</sub>’s portable icons disappeared.’
- b. I            monaçi            ipan            (o            kaθenas)    [oti  
 the.NOM.PL monk.NOM.PL say.PST.3PL the.M.NOM each.M.NOM COMP  
 (\*o            kaθenas)    ðio ikonismata        eksafanistikan].  
 the.M.NOM each.M.NOM two portable.icon.NOM.PL disappear.PST.3PL

<sup>24</sup>Note that like English *each*, Greek *kaθ-enas* can occur in what is usually called an adverbial position or right-attached to a DP, viz., so-called binominal ‘each’. The relevant comparison for our purposes is the former use; our examples are constructed in such a way that a binominal *each* interpretation is ruled out (*kathenas* is either unconnected to an XP or follows definite XPs, which are not compatible with binominal *each*).

‘The monks each said that two portable icons disappeared.’

Second, both can occur right before or within DPs:

- (37) a. I monaçi θavmazun (o enas) ta  
 the.NOM.PL monk.NOM.PL admire.3PL the.M.NOM one.M.NOM the.ACC.PL  
 rasa (o enas) tu alu.  
 stole.ACC.PL the.M.NOM one.M.NOM the.M.GEN other.M.GEN  
 ‘The monks<sub>i</sub> admire each other<sub>j</sub>’s stoles.’
- b. I monaçi frondizun (o kaθenas) tin  
 the.NOM.PL monk.NOM.PL take.care.3PL the.M.NOM each.M.NOM the.ACC  
 avli (o kaθenas) mias eklisias.  
 yard.ACC the.M.NOM each.M.NOM one.GEN church.GEN  
 ‘The monks each take care of the courtyard of one church.’

Third, both can occur immediately before or within (certain) PPs:

- (38) a. I monaçi iðan ta fiðja (o  
 the.NOM.PL monk.NOM.PL see.PST.3PL the.ACC.PL snake.ACC.PL the.M.NOM  
 enas) [ðipla (?o enas) ston alo].  
 one.M.NOM next the.M.NOM one.M.NOM to.the.M.ACC other.M.ACC  
 ‘The monks<sub>i</sub> saw the snakes next to each other<sub>j</sub>.’
- b. I monaçi iðan ta fiðja (o  
 the.NOM.PL monk.NOM.PL see.PST.3PL the.ACC.PL snake.ACC.PL the.M.NOM  
 kaθenas) [ðipla (?o kaθenas) se mia petra].  
 each.M.NOM next the.M.NOM each.M.NOM to one.ACC stone.ACC  
 ‘The monks each saw the snakes next to a stone.’

Recall from above that the distributor can only occur in some PPs but not in others. While we have no answer as to why different PPs behave differently, the distribution of *kaθenos* seems to match that of the distributor very closely.

Finally, neither *o enas* nor *kathenas* can occur next to the antecedent:

- (39) a. \*I monaçi o enas ayapane ton  
 the.NOM.PL monk.NOM.PL the.M.NOM one.M.NOM love.3PL the.M.ACC  
 alo.  
 other.M.ACC



‘The monks<sub>i</sub> love each other<sub>i</sub>.’

- b. \*I            monaçi        o            kaθenas    ipçan        dio  
 the.NOM.PL monk.NOM.PL the.M.NOM each.M.NOM drink.PST.3PL two  
 potiria        kراسi.  
 glass.ACC.PL wine.ACC  
 ‘The monks each drank two glasses of wine.’

Given these significant parallels, we conclude that the distribution of the distributor can be understood by treating it as a floating universal/distributive quantifier.

## 5. Putting the parts together

The analysis we have developed so far accounts for the distribution of the two reciprocal parts by treating the distributor as a floating quantifier and the reciprocator as an element subject to Condition A. A few issues remain to be addressed once we try to understand how the three parts fit together.

Firstly, from a purely syntactic point of view, nothing forces the simultaneous presence of both reciprocal parts. Thus, one may ask what rules out sentences with either only *o enas* or *o alos* present. Another issue concerns the morphosyntactic properties of the three elements, including the partial mismatch in  $\phi$ -features (and possibly definiteness) between the plural antecedent and the reciprocal parts. Furthermore, the locality properties discussed above have consequences for the analysis of the floating quantifier in that a stranding analysis is ruled out. Finally, one may ask whether the locality effects could follow if the binder of the reciprocator were in fact the distributor, as proposed in [Belletti \(1982\)](#).

We address each of these points in turn in the following three subsections.

### 5.1 Understanding bipartiteness and the morphosyntactic properties

Answers to the question about the simultaneous presence of both reciprocal parts will likely relate to a large extent to the semantics of reciprocals. While we do not aim at providing an explicit compositional semantics of the construction, we believe that attributing semantic import to both constituent parts of the reciprocal will go a long way towards explaining why both parts must co-

occur: in the absence of either distribution or differentiation, there will simply be no way to derive a reciprocal interpretation (*modulo* the case of verbal reciprocals, where reciprocity independently seems to be derived by a single element, see footnote 3).<sup>25</sup>

With respect to the morphosyntactic properties of the reciprocal parts, we believe that two aspects are crucial. First, the assimilation of the reciprocal's constituent parts to independent elements, namely floating quantifiers and anaphors, can insightfully account for certain morphosyntactic properties of these parts. For instance, that the distributor is obligatorily morphosyntactically definite and third-singular cannot be an accident if, as we have argued, it is a floating quantifier, since the *bona fide* floating quantifier of the language is also obligatorily definite and third-singular. The obligatory sharing of gender between the floating quantifier and the nominal it distributes over is equally shared between the *bona fide* quantifier and the distributor of the reciprocal (see below for a possible technical implementation of gender agreement).

Second, we believe that certain morphosyntactic properties of the reciprocal's parts can be connected to aspects of the interpretation of these elements. Such considerations likely apply to the reciprocator; here, on approaches where the reciprocator is assigned the interpretation of a definite description (Beck 2001, Kobayashi 2020) its morphosyntactic appearance as a definite is expected. Once again, though, the availability of this type of approach will depend on the specific properties of the semantic analysis; there exist approaches, for instance, where the reciprocator is not interpretively definite. More generally, a cross-linguistic view clarifies that any direct connection between

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<sup>25</sup>That the reciprocal involves quantification/distributivity is made evident by (34) above, where the scope of distributivity interacts with other scope-taking elements in the sentence. Note further that the association of *o enas* with distributivity is supported additionally by the variable binding-like construction mentioned in footnote 12, where the same element is again crucially involved in deriving reciprocal interpretations. That being said, we leave the exact nature of the connection between *o enas* and distributivity for future work: for instance, it may well be that, instead of this element effecting distributivity itself, it stands in a dependency with an abstract distributive operator as proposed in Kobayashi (2020) (who in fact analyzes 'the one' as a numeral). At any rate, the bipartiteness follows straightforwardly under a decompositional approach to reciprocals as in work originating in Heim et al. (1991); a polyadic quantifier approach to the semantics of reciprocity (e.g., Dalrymple et al. 1998) is also compatible with the bipartite syntax of the construction, as long as at least some semantic import is afforded to *the other* (see, e.g., Kobayashi 2019, 2020, 2021). See Kobayashi (2020: section 6) for detailed discussion of the pros and cons of the two types of approaches.

We believe that different possible interpretive approaches of this kind will leave our core syntactic account unchanged; what seems crucial in deriving the reciprocal interpretation is c-command, witness ex. (i) of footnote 6, where the lack of c-command between distributor and reciprocator leads to a non-reciprocal reading.

the definiteness of the reciprocal parts and the semantic analysis must be drawn with caution. We find split reciprocals in languages without overt articles; there are languages where reciprocals contain an indefinite article as in English *one another*; and the Greek definite determiner itself is sometimes understood not to be the bearer of the iota operator, given that it occurs with proper names and in determiner doubling (Lekakou & Szendrői 2012). See also Kobayashi (2020: section 5.1) and Kobayashi (2021: 736, ex. (4)) for the claim that singular number is interpreted on the reciprocator in Brazilian Portuguese.

What this leaves, then, is the sharing of gender features between reciprocator and antecedent. This phenomenon follows straightforwardly, we believe, once we take the reciprocator to be an anaphoric element, as we have done above. This type of gender matching seems to be a general property of co-reference broadly construed, encompassing phenomena such as local binding, donkey anaphora, and cross-sentential anaphora. In much of the semantic literature on *other*, notably Heim et al. (1991), this intuition has been implemented by positing a null proform in the structure of the differentiator, which will be subject to general constraints of coreference with discourse antecedents. Note that this is an NP/nP proform, which is why it only agrees in gender with the antecedent (other features being projected outside of NP/nP). Matching of gender features can also be achieved by means of NP-ellipsis, as proposed in Kobayashi (2020). Independent evidence for the presence of an NP restrictor can be seen in the fact that *pluralia tantum* nouns such as *resta* ‘(small) change’ (Alexiadou 2019: 11) are not possible antecedents for the split reciprocal. On accounts positing a low locus for number (e.g., Kramer 2016), the plural feature of a *pluralia tantum* nominal could be located on *n* rather than Num. This treatment would be the first step towards an account of the impossibility of such nominals as antecedents: an *nP*-proform bearing a plural feature would occur as the complement of a singular number head, a configuration that could be made to lead to a feature clash.

A similar approach to gender matching suggests itself for the distributor. To see why, consider first what analysis of floating quantification is required by the Greek data.

### 5.2 *An adverbial analysis of the floating quantifier*

In section 3 above, we provided evidence against movement of the distributor to the antecedent; we also argued against an analysis whereby the distributor is stranded by movement of the antecedent. Such conclusions commit us to an adverbial analysis of the distributor/floating quantifier (see, e.g., Fitzpatrick 2006), one where this element can be adjoined not only to VP/vP, but, crucially, also to NP/DP/PP. The same conclusion applies to the *bona fide* quantifier *o kathenas*, which can also occur below the base position of its antecedent (recall examples (37b), (38b)).

The Greek facts reveal certain important questions for a concrete implementation of an adverbial analysis to address. For instance, the proposal in Fitzpatrick (2006) seems to crucially rely on the quantifier semantically binding the trace left by movement of the antecedent. Given that, in our data, cf., e.g., ex. (32), (37)–(38), the quantifier can originate below the base position of the antecedent, a solution of this type is not applicable. In fact, to the best of our knowledge, stranding data of this type have not been reported for other languages and thus are of great importance for the debate; the same can be said of those cases where the quantifier must be analyzed as being adjoined to some projection of NP/DP/PP.

We note in this connection that the challenges posed by the Greek reciprocal and quantifier float data bear similarities to those presented by binomial *each* in various languages (including Modern Greek), where the quantifier also occurs below the base-position of the NP it agrees with and quantifies over and where an LF movement analysis is similarly counterexemplified by the fact that the quantifier can occur within islands. See Zimmermann (2002) for comprehensive discussion.

One of the challenges for an adverbial analysis concerns capturing the agreement facts. The standard strategy is to posit a null proform after the quantifier that is co-indexed with the antecedent, i.e. [DP *each pro*]; an obvious alternative is NP ellipsis. For the Greek reciprocal, either approach would straightforwardly account for agreement in gender. However, things are different with case agreement since proforms/elided NPs need not necessarily match their antecedent in case. Neither strategy will thus be sufficient to establish case agreement with the antecedent.

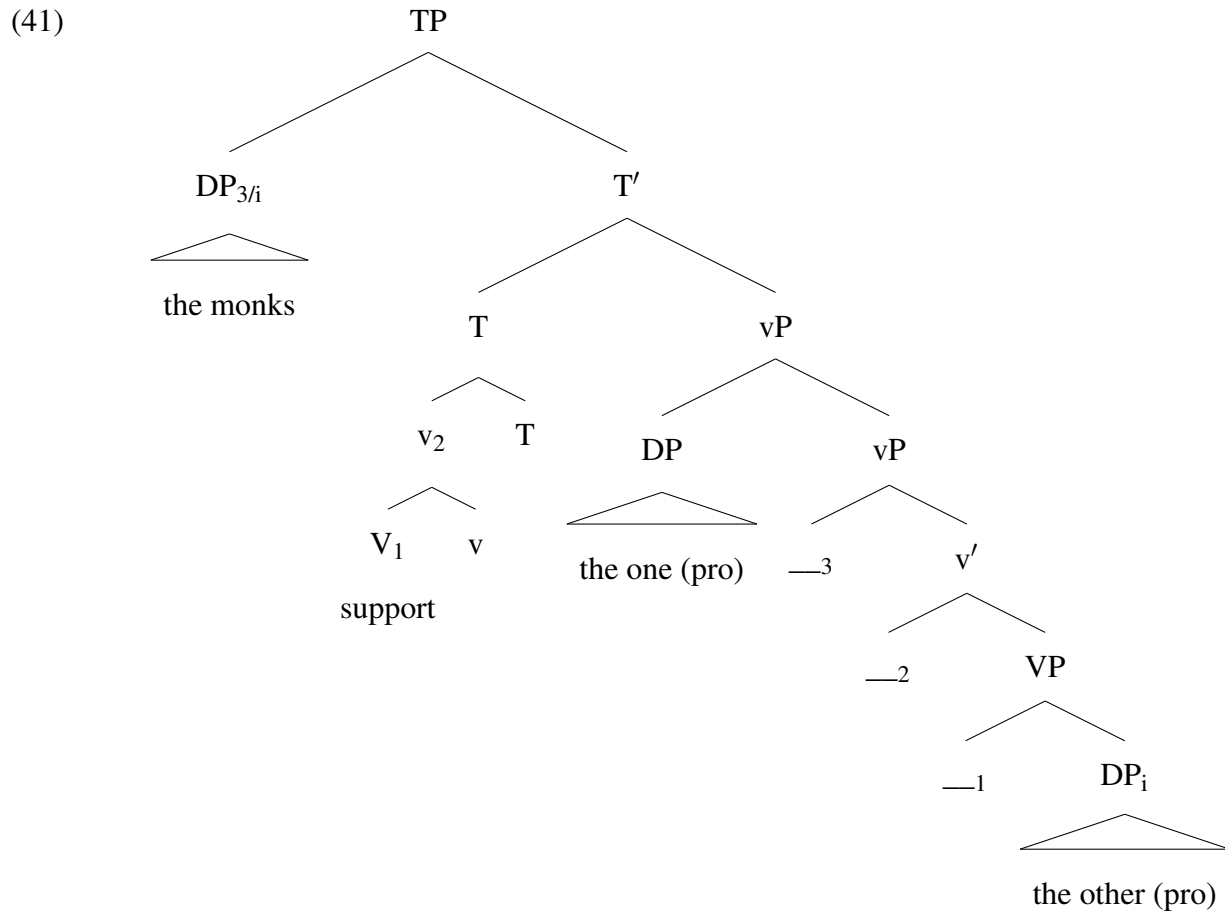
It is worth noting that there are other configurations where case agreement obtains without

there being an obvious syntactic link between antecedent and agreeing element; we note especially depictives in this connection. It can be shown that depictives, like the distributor and *o kathenas*, can occur in positions that are clearly below the base position of their antecedent. In (40), for instance, the subject-oriented depictive occurs after the base position of the IO, which in turn follows the postverbal subject in its base position in Spec,vP. Given that the depictive precedes the DO, an analysis in terms of right-adjunction of the depictive to vP, which would put it in the vicinity of the subject antecedent, is not available either:

- (40) Eðikse o Janis tis Marias protos to vivlio.  
 show.PST.3SG the.NOM John.NOM the.GEN Mary.GEN first.M.NOM the.ACC book.ACC  
 ‘John was the first to show Mary the book.’

Thus, whatever ensures case-agreement in (40) can be thought to ensure case agreement in the reciprocal construction and with *o kathenas* as well. We emphasize that this much lays bare certain instances of case agreement as a broader problem, but a proper analysis remains to be given.

A simplified tree structure (with translated terminals) for an example like (1) is given in (41):



### 5.3 Identifying the binder

We have assumed that in the Greek reciprocal construction it is the plural DP that functions as the antecedent of the reciprocator. One could imagine, however, as proposed in [Belletti \(1982\)](#) for the Italian reciprocal construction, that it is the distributor that binds the reciprocator and that the locality restrictions on the reciprocator arise indirectly via the locality restrictions on the distributor. We find this alternative proposal implausible for two reasons. Firstly, quantifier-variable binding is known to be subject only to a c-command condition; but we have shown that the anaphoric reciprocator in Greek is also subject to Condition A locality, which is thus not plausibly reducible to the demands of quantifier-variable binding alone, and requires additional stipulations. For instance, in [Belletti \(1982: 109f.\)](#), the additional presence of Condition A locality does follow by stipulation, namely, simply by stating that distributor and reciprocator form a chain which is subject to Condition A. Secondly, the adverbial analysis of floating quantification required by our data entails that

the quantifier/distributor is adjoined and thus occupies an A' position; the overall configuration is thus far from a canonical A-binding structure.

By treating the plural DP as the antecedent and the reciprocator as a Condition A-obeying element, the locality restrictions not only follow straightforwardly but also correspond closely to the distribution of other anaphors both in Greek and elsewhere (*modulo* the occurrence in embedded subject position).

This general argument aside, we have admittedly not managed to tease apart the two options in more specific environments. In principle, if the distributor is the binder, it should make a difference whether it occurs above or below an intervening subject. However, this expectation is not borne out as shown in (42) on the basis of an ECM example, repeated from above:

- (42) \*I monaçi iðan (o enas) tis  
the.NOM.PL monk.NOM.PL see.PST.3PL the.M.NOM one.M.NOM the.ACC.PL  
kaloyries (o enas) na zoğrafizun ton alo.  
nun.ACC.PL the.M.ACC one.M.ACC COMP paint.3PL the.M.ACC other.M.ACC  
‘The monks<sub>j</sub> saw the nuns paint each other<sub>j</sub>.’

One may be tempted to interpret (42) as evidence against the distributor functioning as the binder (given that no subject intervenes when the distributor occurs in the low position after the ECM subject). However, corresponding examples based on *o kathenas* are equally ungrammatical:

- (43) ðio proponites iðan (o kaθenas) tis  
two coach.NOM.PL see.PST.3PL the.M.NOM each.M.NOM the.F.ACC.PL  
aθlitries (?\*o kaθenas) na pernun metalia.  
athlete.F.ACC.PL the.M.NOM each.M.NOM COMP take.3PL medal.ACC.PL  
‘Two coaches each saw the athletes win medals.’

Thus, (42) is inconclusive as it could be ungrammatical because the distributor simply cannot float in the lower position.

In summary, the three parts of the reciprocal construction fit together as follows. First, the bipartiteness of the Greek split reciprocal construction can be related to the semantic interpretation

of the construction. Second, the morphosyntactic properties of the reciprocal parts can partially be motivated under different semantic accounts of reciprocals (viz., number and possibly definiteness of the reciprocator); the remaining properties can be related to the general treatment of such elements in the language (viz., number and definiteness of the distributor, agreement in gender on both elements and case on the distributor). Third, the locality properties of the construction entail an adverbial analysis of the floating quantifier/the distributor, which in turn shows that it cannot be the antecedent of the reciprocator; rather, the plural antecedent must be.

## 6. Conclusions and outlook

In this paper we have investigated the syntax of the understudied split reciprocal construction in Modern Greek, whereby the distributor ‘the one’ and the reciprocator ‘the other’ are independent constituents. Our main focus has been on the intricate locality properties of the two elements. We have argued that the distributional pattern of the reciprocator, especially its sensitivity to the presence of a structural subject, suggest that it is subject to Condition A of the Binding Theory. As for the distributor, which requires a more local relationship with the antecedent, we have proposed that it should be analyzed as a floating distributive quantifier since it shows not only quantificational force, but also a distribution that perfectly mirrors that of the *bona fide* floating quantifier of the language, viz., *o kath-enas* ‘the each-one’. We have shown that the distributional properties of the two reciprocal elements, viz., the fact that they can occur inside islands, strongly argue against establishing the relationship with the antecedent by means of Agree or movement (contrary to much of the recent literature on binding and floating quantifiers). Moreover, the size of the binding domain, especially the possibility of the reciprocator to occur in embedded subject position, speaks against reducing the binding domain to phasehood, instead supporting more traditional definitions of the binding domain as the smallest XP containing the anaphor and a distinct and accessible subject. Finally, we have sketched how the bipartite syntax of the Greek split reciprocal may relate to independent properties of the component parts and common proposals on the interpretation of reciprocals.



Future research will have to show whether an analysis along these lines can be extended to split/bipartite reciprocals in other languages. While the construction seems to have relatively similar properties in Italian and Brazilian Portuguese, there is also reason to believe that the surface similarity can sometimes be deceiving. As shown in Landau (2023), the Hebrew split reciprocal construction differs in crucial ways from its Greek counterpart: the relationship between antecedent, distributor and reciprocal is much more local (though arguably not subject to Condition A, the reciprocal being logophoric), with the distributor and the reciprocator in fact being part of the same constituent. Such substantial cross-linguistic differences are not surprising given the diachronic pathway sketched in Landau (2023: section 6.4): there, a split construction of the Greek type is hypothesized to gradually develop into a univerted reciprocal pronoun like English *each other* or German *einander*. The Hebrew split reciprocal would be somewhere in between. Colloquial Hebrew and Icelandic (Sigurðsson et al. 2021) have variants of their split reciprocal construction that have progressed even further in that the reciprocal parts are no longer split by prepositions (and in Icelandic the distributor no longer case-agrees with the antecedent but either bears the same case as the reciprocator or occurs in default nominative case). For an instantiation of this diachronic pathway in the history of English, see Gast & Zimmermann (2007).

What remains fascinating about split reciprocals is that despite their sometimes substantially different locality and constituency properties, they seem to be semantically very similar in that they can express the same kinds of reciprocity. Though we have been focused here on their syntax in one particular language, we hope to have shown that split reciprocals pose interesting puzzles at the syntax-semantics interface, and can also be informative as to the typology of reciprocity more broadly.

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