

Reconstructing Clitic Doubling

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Abstract This paper presents new evidence based on a systematic investigation of reconstruction properties of Greek clitic doubled objects that bears on existing analyses of Clitic Doubling. It is shown that the data support (i) that clitic doubled objects enter the derivation as arguments, not adjuncts (*pace* Philippaki-Warburton et al. 2004) and (ii) that they must undergo XP/ X_{max} movement, by contrast to plain non clitic doubled objects, into the middle field between vP and TP. The findings in this paper support the view that clitic doubling should generally be treated as A-scrambling of definite objects in the Germanic languages, Japanese or Hindi i.e. as XP/ X_{max} movement (cf. Sportiche 1996, Harizanov 2014 i.a.) and not as X^0 / X_{min} movement (cf. Alexiadou & Anagnostopoulou 1997, Preminger to appear i.a.) or feature movement (cf. Anagnostopoulou 2003; 2004, Marchis & Alexiadou 2013).

Keywords:

Clitic Doubling, clitics, scrambling, Greek

1 Introduction

This paper explores and provides concrete answers about the position where Greek CD-ed objects enter the derivation, the kind of syntactic movement they undergo and the height of the syntactic positions that are involved in this movement dependency. This is certainly not the first attempt in the literature. Several previous analyses have undertaken this task without reaching consensus though. Thus, one can find analyses in which the CD-ed XPs enter the derivation as arguments (Sportiche 1996, Anagnostopoulou 2003, Harizanov 2014, Baker & Kramer 2016 i.a.) or as adjuncts (Philippaki-Warburton et al. 2004). This is one point in which the possible analyses of CD diverge. Another point has to do with the kind of movement that CD-ed objects undergo. For instance, CD-ed objects have been argued to undergo XP/ X_{max} movement from the argument position into the middle field, like scrambling in the Germanic languages (cf. Sportiche 1996, Uriagereka 1995, Harizanov 2014), or to stay in-situ and the doubling clitic to be a spell out of feature movement (cf. Anagnostopoulou 2003, Marchis & Alexiadou 2013), plain head movement

(cf. Alexiadou & Anagnostopoulou 1997) or long head movement (cf. Rezac 2008, Roberts 2010, Preminger to appear).

This paper resolves the conflicts that arise in these previous analyses by looking at interpretive properties, specifically, reconstruction properties, which as I discuss, bear directly on the proper analysis of Greek CD, and rule out several types of analyses which have been pursued in the literature. Concretely, I show using a set of well-established reconstruction diagnostics that CD-ed direct objects of Greek can only be interpreted in two positions, below the indirect object and in the middle field. The middle field position is situated above vP but lower than the position where dative clitics are interpreted, and it is an A-position, not an adjunct one, as CD-ed objects can bind from there into lower syntactic positions. Based on this evidence, I argue that the position below the indirect object is the argument position and that this is where CD-ed objects enter the derivation before they undergo XP/ X_{max} movement into the middle field. Furthermore, I show that feature or long head movement analyses have to be precluded because they cannot account in a principled way for the fact that CD-ed objects can have interpretive properties different from these of undoubled objects.

Showing that arguments in Greek can move as XPs into the middle field has a number of theoretical consequences. First, it corroborates the conclusions in Sportiche (1996) and subsequent analyses that CD is the correlate of scrambling of Hindi or Japanese, and as a result of this, that scrambling of the type found in these languages is a lot more pervasive. Second, the paper further concludes from this first conclusion that scrambling can only be realized as XP/ X_{max} movement cross-linguistically, and that it cannot be parameterized e.g. as X^0/X_{min} movement, like it is argued in Alexiadou & Anagnostopoulou (1997). Also, given that XP/ X_{max} movement is preferred in a syntactic configuration which has been argued to be compatible with feature or long head movement, I conclude that XP movement is the preferred mode of syntactic remerge, as has independently been argued in Koopman & Szabolcsi (2000) and Cinque (2005; 2010). Lastly, I present as a side note new data showing that the XP/ X_{max} movement of doubled objects is not blocked when lower arguments e.g. themes, are targeted by movement operations e.g. passivization.

The paper proceeds with an overview of previous literature on CD, showing the conflicts that arise and the lack of clear conclusions as to whether Greek doubled objects are adjuncts or arguments. Section 2 presents reconstruction diagnostics that are used in the following sections. Section 3 shows that CD-ed objects enter the derivation as arguments, and they undergo an A-movement step, which can only be XP/ X_{max} targeting a position between vP and the position in which dative clitics are interpreted. Section 4 discusses that different approaches to CD which do not integrate an XP/ X_{max} movement step cannot account for the interpretive properties

of CD-ed objects. Section 5 discusses a side note regarding the position in which CD-ed objects can be spelled out and whether they count as interveners for various interactions involving lower arguments. Section 6 discusses residual issues and section 7 concludes.

1.1 CD-ed objects: Adjuncts or Arguments

This section presents the current state of affairs about analysis of Greek CD in the literature, and shows that the empirical data discussed in this literature are compatible with different assumptions about the kind of position i.e. argument or adjunct, that CD-ed objects can occupy.

To start with, previous literature on CD has concluded that the doubled objects of Greek are arguments considering syntactic positions where adjuncts are excluded and testing whether CD-ed objects can occur in them. The syntactic positions that were tested are the subject positions of control, ECM or small clause constructions, and it was observed that CD-ed objects can occur in them (cf. (1)). Based on this observation, it was concluded that Greek CD-ed objects do not have to be adjuncts (cf. Schneider-Zioga 1994, Sportiche 1996, Anagnostopoulou 1999).

- (1) a. I Maria ton ekane ton Jani na
 the Maria.NOM 3S.M.ACC made.3S the John.S.M.ACC na
 chari.
 be happy.3S
 ‘Maria made John be happy.’
- b. I Maria ton perimeni ton Petro na
 the Maria.NOM 3S.M.ACC expect.3S the Peter.S.M.ACC na
 paraponethi.
 complain.3S
 ‘Petros expects Maria to complain.’
- c. O Petros tin theori tin Maria eksipni.
 the Peter.NOM 3S.F.ACC consider.3S the Maria.S.F.ACC smart
 ‘Peter considers Maria smart.’

However, most recently, Philippaki-Warburton et al. (2004) argue that the constructions in (1) are compatible with an analysis of CD in which doubled objects are adjuncts. In their analysis, the CD-ed object in (1a) externally merges as adjunct to the matrix VP and controls PRO that merges as the subject of the *na*-clause. Philippaki-Warburton et al. also claim that (1b) can be analyzed along similar lines as object control. Small clauses with subjects that surface as CD-ed objects are not discussed, but they could be analyzed as object control with the doubled object merging as adjunct to the matrix predicate and controlling PRO that presum-

ably merges in the subject position of the small clause. While this is not the view that will be adopted in this paper the data in (1) are compatible with the alternative presented in Philippaki-Warbuton et al. (2004) challenging the conclusions of Schneider-Zioga (1994), Sportiche (1996) and Anagnostopoulou (1999).

Anagnostopoulou (2003) argues that Greek CD-ed objects can occur in argument positions on the basis of a distributional difference in doubling of Greek and Romance languages. She shows CD-ed objects can surface before postverbal focused subjects (cf. (2)) that can bear main sentence stress like in plain VOS orders.

- (2) To efaĝhe to paĝhoto O JANIS.
 3.S.N.ACC ate.3S the ice-cream.S.N.ACC the John.NOM
 ‘John ate the ice-cream.’

On the other hand, she claims that this surface order is never attested in Romance languages e.g. Peninsular Spanish and Catalan, which independently allow an object to be preceded by a doubling clitic. Anagnostopoulou (2003) argues that the CD-ed object in (2) occupies an argument position, which is also the position that undoubled objects occupy when they surface in the VOS order. In particular, the assumption that Anagnostopoulou (2003) adopts from previous literature for this order is that it is derived via leftward A-movement of the object above the subject. She concludes that Peninsular Spanish and Catalan do not allow the surface order in (2) because these languages have only clitic right dislocation. Clitic right dislocated objects have distinct distributional properties because they do not occupy argument positions like CD-ed objects.

Revithiadou & Spyropoulos (2009) present results from an intonation study showing that in VOS order, the object always forms a distinct prosodic unit from the verb if it is doubled by a preceding clitic. On the other hand, if the object is not doubled by a clitic it can form a prosodic unit with the verb. This finding suggests that $CL_i\text{-}VO_iS$ order should not be treated on a par with the plain VOS one (*pace* Anagnostopoulou 2003). Furthermore, Krapova & Cinque (2008: 29b) present data showing that the order in (2) is allowed in Italian, as illustrated in (3).

- (3) Non l' ha mangiata, la torta, neanche GIANNI.
 not 3.S.F.ACC has.3S eat.PART the cake.S.F.ACC not even Gianni
 ‘Not even Gianni ate the cake.’

As Krapova & Cinque (2008) point out, this finding poses a problem for the claim e.g. in Anagnostopoulou (2003), that doubling of languages like Italian or other Romance languages e.g. Catalan or Peninsular Spanish, should be treated as a

distinct syntactic phenomenon.^{1,2} Now, since the CD vs. right dislocation distinction of Anagnostopoulou (2003) is weakened in light of the new facts from Italian and the intonation study of Revithiadou & Spyropoulos (2009), (2) cannot show conclusively whether the CD-ed object is an argument, therefore, the adjunct status of CD-ed objects (Philippaki-Warburton et al. 2004) is a possible alternative, which cannot be ruled out. This view holds that the doubled object in (2) is a left adjunct above Spec vP where the post-verbal subject is hosted. Again, the view of Philippaki-Warburton et al. (2004) will not be adopted here but it cannot be rejected on the basis of (2).

Finally, consider (4a) and (4b) which illustrate that possessor extraction is possible out of undoubled definites (cf. Horrocks & Stavrou 1987). Philippaki-Warburton et al. (2004) and Revithiadou & Spyropoulos (2009) argue that CD-ed objects block possessor extraction (cf. (5)) and claim also that this is not expected in an analysis where the CD-ed object is in an argument position, like undoubled objects.

- (4) a. Odhighisa to aftokinito tu Jorghu.
drove.1S the car.S.N.ACC the George.GEN
'I drove George's car.'
- b. Pjanu odhighises to aftokinito?
whose.GEN drove.2S the car.S.N.ACC
'Whose car did you drive?'
- (5) a. *Tu Jorghu to odhighisa to aftokinito.
the George.GEN 3S.N.ACC drove.1S the car.S.N.ACC
'George's car I drove.'
- b. *Pjanu to odhighises to aftokinito?
whose.GEN 3S.N.ACC drove.2S the car.S.N.ACC
'Whose car did you drive?'

Note, however, that (4b) does not form real minimal pairs with (5a) and (5b). CD-ed objects are necessarily familiar/ anaphoric while undoubled objects can never be (cf. Warburton 1975, Anagnostopoulou 1994; 2007 i.a.). Being familiar definites, CD-ed objects might have richer internal structure which in turn might interact with

¹ Note that the doubled object of (3) is separated with commas while the doubled object of Greek in (2) is not. This should not be taken to illustrate any potential intonational differences between the two. Greek doubled objects form distinct prosodic units (cf. Revithiadou & Spyropoulos 2009) like the doubled objects of other Romance languages e.g. Portuguese or Spanish do (cf. Vallduví 1993, Zubizarreta 1998). This new finding suggests that right dislocation of Greek and Romance should be identified and analyzed as one structure, as has been proposed in Krapova & Cinque (2008).

² Note also that in a number of recent works including Krapova & Cinque (2008) it is claimed that in Romance, doubled objects with preceding clitics enter the derivation as arguments (cf. Cecchetto 1999 and Cardinaletti 2002 for Italian and Villalba 1998 for Catalan).

transparency for extraction. Under such an analysis, CD-ed objects are expected to behave as islands, as in (5), regardless of the position they occupy, adjunct or argument. This conclusion suggests that there are more than one possible analyses of the restrictions shown in (5) and they cannot support neither that CD-ed XPs are adjuncts nor that they are arguments.

To conclude, the discussion so far must have shown that question regarding the position in which doubled objects enter the derivation in Greek has not yet been sorted out. The following sections aims to bring further clarity in this discussion. This is achieved by using new evidence which is derived from a systematic investigation of the reconstruction properties of Greek doubled objects.

2 Background on Reconstruction

This section summarizes the assumptions that will be adopted regarding reconstruction. These assumptions were also adopted in [Angelopoulos & Sportiche \(2018\)](#), who explore the reconstruction properties of Clitic Left Dislocated Objects in Greek and French. Given this, the current study should also be taken to complete a systematic study of the reconstruction properties of doubled elements in different doubling constructions of Greek. Concretely, I adopt the following assumptions:

- (6)
 - a. Reconstruction is a property of movement dependencies only (except possibly for some pseudo-cleft constructions, cf. [Sharvit 1999](#)).
 - b. Movement is modeled as copying (the copy theory of traces) or multidominance. Reconstruction arises when a trace is interpreted at LF: in other words, with low-XP the trace of high-XP, reconstruction of high-XP = interpret low-XP.
 - c. Reconstructability (=displaced, lower interpretation) thus provides an independent diagnostic for movement. Reconstructability can be taken as evidence for the presence of low-XP as trace of high-XP.
 - d. **Total** reconstruction refers to the situation in which only a low trace is interpreted at LF: total reconstruction = delete high-XP & interpret low-XP.

Let us now consider a few examples. For instance, (7) illustrates reconstruction effects with A-bar movement (cf. [Sportiche 2017: 9a, 10a](#)). Here, a pronoun within the *wh*-moved phrase can be interpreted as a variable bound by the quantifier phrase (QP) which does not outscope it. The pronoun can be interpreted as a bound variable only if it is interpreted within the scope of the quantifier i.e. if it is c-commanded. Thus, the moved constituent, has to undergo reconstruction in this

particular case, as shown in (8). The fact that reconstruction is possible suggests that there has to be a contentful copy in the argument position of the verb.

- (7) a. No politician_i ignores [many of his_i collaborators].
 b. [Which of his_i collaborators] does no politician_i ignore?
 (8) [~~Which of his_i collaborators~~] does no politician_i ignore [which of his_i collaborators]?

A-bar movement *obligatorily* leaves a contentful copy. This fact is exemplified with sentences like (9) where Condition C blocks a coreferential relation between the proper name and the subject pronoun.

- (9) *Which picture of John_i does he_i like?

Condition C effects like the one in (9) shows that A-bar movement is the only derivational option from below the position of the triggering pronoun. If there was no movement involved in (9), we should not observe any Condition C violation. In addition, if A-bar movement did not leave a contentful copy, it would be totally unclear why Condition C ensues.

Furthermore, like A-bar moved constituents, A-moved constituents can undergo total reconstruction for purposes of pronominal binding, as shown in (10) (cf. Sportiche (2017: ex. 55a)). This shows that A-movement can leave a contentful copy.

- (10) Pictures of his_i child seemed to everyone_i to be good.

Next, I consider cases in which Condition C is bled. These are cases in which a proper name (or definite description) is contained in an adjunct or a relative clause combining with a moved constituent, as in (11).

- (11) Which picture that Picasso_i likes a lot did he_i sell?

These effects have been accounted for by late merging the relative clause (cf. Lebeaux 1991 i.a.). I will be referring to these effects in terms of Late Merge, however, the reference to this term is only used for descriptive purposes i.e. to describe the reconstruction effects accounted for by Late Merge.³

The effects accounted for by Late Merge can be used to detect the syntactic height of movement, as in Cecchetto (1999). For instance, (11) shows that *which picture* has undergone movement to a position higher than the pronoun. The *wh*-phrase can be interpreted at LF in this position which allows the relative clause to

³ See Sportiche (2016) for a discussion of the serious problems of Late Merge accounts and an alternative.

undergo Late Merge. Condition C does not ensue after Late Merge has taken place because the proper name is not in the c-command domain of the pronoun.

3 Reconstruction in CD

Here I will lay out the key facts from a nearly exhaustive investigation of the reconstruction properties that CD-ed direct objects exhibit in Greek in order to determine if CD-ed objects enter the derivation as arguments or adjuncts and if they undergo movement, what kind of movement they undergo and to which syntactic positions. I show that CD-ed objects enter the derivation as arguments and that they do not move higher than the subject or the dative clitic. Moreover, I present data showing that CD-ed objects move to a vP peripheral position and that this movement has to be XP/ X_{max} movement.

3.1 CD-ed objects are arguments

In this section I show that CD-ed objects enter the derivation as arguments. To start with, consider (12a) which shows that a plain undoubled direct object hosting a pronoun can be interpreted in the argument position where the pronoun is bound by an indirect object QP that scopes below negation.⁴ (12b) shows that pronominal binding into the direct object is still possible if it is CD-ed. This new finding shows that CD-ed objects can be interpreted in the argument position exactly like undoubled arguments. In Section 3.4, I show that CD-ed objects undergo obligatorily an A-movement step into the middle field. Given this, I argue that the bound interpretation in (12b) becomes possible under total reconstruction of the CD-ed direct object from the middle field into a position below the indirect object QP, which is the argument position occupied by the undoubled object in (12a).^{5,6}

- (12) a. Dhen echume epistrepsi se kamia kiria; to phedi
 not have.1PL returned to any lady.ACC the kid.S.N.ACC
 tis;
 her.GEN
 ‘We have not returned her kid to any lady.’

⁴ See Giannakidou (2000) for discussion of the negative quantifier *kanenas* of Greek which depending on whether it is read emphatically or not can have scope above or below negation.

⁵ The discussion above shows that the binding patterns in Bulgarian which in Harizanov (2014) have been taken to show that A-moved elements cannot totally reconstruct for pronominal binding need to be reconsidered.

⁶ This position can be in the complement position of the verb or a case position where direct object move to get Case.

- b. Dhen to echume epistrepsi se kamia kiria_i to
 not 3S.N.ACC have.1PL returned to any lady.ACC the
 phedi tis_i.
 kid.S.N.ACC her.GEN
 ‘We have not returned her kid to any lady.’

3.2 CD-ed XPs do not move higher than the subject

This section examines whether CD-ed objects can be interpreted higher than the subject. Thus, I compare only for the purposes of this section the interpretive properties CD-ed objects with these of C(litic) L(eft) D(islocat)ed ones.⁷ CLLD-ed objects are used as a benchmark case, as they surface in the left periphery above the subject, and as shown in (13), can be interpreted in the left periphery.

- (13) [Tis fotografies pu o Janis_k evgale s-to Parisi]
 the photos.PL.N.ACC that the John.NOM took.3S in-the Paris.ACC
*pro*_k tis ksechase (sto sirtari tu).
 he.NOM 3PL.N.ACC forgot.3S in-the drawer.ACC his.GEN
 ‘He forgot (in his drawer) the photos that John took in Paris.’

In (13), the CLLD-ed object is combined with a relative clause that contains a proper name i.e. *pu o Janis evgale sto Parisi*, and the proper name is shown to be able to co-refer with the silent subject of *ksechase*. This shows that the CLLD-ed object can be interpreted in the left periphery, allowing the relative clause to undergo late merge with it, which in turn is responsible for bleeding Condition C, as the proper name ends up being interpreted outside the c-command domain of the silent subject pronoun in (13).

Now, if CD-ed objects can occur in the left periphery either in the specifier of a TopicP or as adjuncts to a left peripheral projection, like CLLD-ed objects, they should be able to bleed Condition C when they combine with a relative clause. If they do not bleed Condition C, this will in turn suggest that they do not move higher than the subject or that they cannot adjoin to any projection higher than the subject. However, the later would be totally unexpected if CD-ed are adjuncts, as adjuncts are allowed to freely adjoin at different levels. Importantly, if a CD-ed object combines with a relative clause containing a proper name, co-reference between the proper name and the silent subject is blocked, as shown in (14),⁸.

⁷ See Angelopoulos & Sportiche (2018) for a detailed examination of the interpretive properties of CLLD-ed objects in Greek and French.

⁸ This judgment was confirmed in a short informal survey conducted with fifteen native speakers of Modern Greek. Concretely, it was found that all speakers including the author have very strong judgments blocking co-reference between the proper name and the pronoun in (14). It is important

- (14) **pro*_k tis ksechase [tis fotografies pu o Janis_k
 he.NOM 3PL.N.ACC forgot.3S the photos.PL.N.ACC that the John.NOM
 evgale s-to Parisi].
 took.3S. in-the Paris.ACC
 ‘He forgot the photos that John took in Paris.’

Similar facts have first been reported for Italian in [Cecchetto \(1999\)](#), [Cardinaletti \(2002\)](#) and for Dutch in [Koopman \(2007: 171\)](#). I take these facts to provide evidence that CD-ed objects are not adjuncts in Greek, and that if they undergo any movement step, this movement step must be targeting a position below TP.

3.3 CD-ed objects do not move higher than dative clitics

In this section I examine the interaction with respect to Condition C between CD-ed direct objects and dative clitics in order to determine the relative height of movement of the first with respect to the latter. In previous literature, Condition C has been argued to rule out coreference between a dative clitic and a definite description hosted within an undoubled direct object (cf. (15a)). This literature also reports that if the direct object is CD-ed, Condition C is obviated, as in (15b) (cf. [Alexiadou & Anagnostopoulou 1997: 10a-b](#)), and based on this, it is argued that the doubled object undergoes (some kind) of A-movement across the dative clitic.⁹

- (15) a. *O Janis tis_i epestrepse to vivlio tis
 the John.NOM 3S.F.DAT returned.3S the book.S.N.ACC the
 Marias_i simiomeno.
 Maria.GEN noted
 ‘John returned Mary’s book to her noted.’
- b. O Janis tis_i to epestrepse to vivlio
 the John.NOM 3S.F.DAT 3.S.N.ACC returned3.S the book.S.N.ACC
 tis Marias_i simiomeno.
 the Maria.GEN noted
 ‘John returned Mary’s book to her noted.’

that while there was no variation in the judgment for (14), 4/15 speakers though did not have clear judgments about (13). An anonymous reviewer disagrees with the judgment in (14). It is unclear at this point what to make of this difference in judgment. I have so far not accounted speaker variation, and am not aware of cross-linguistic disputes in this area (see [Cecchetto 1999](#) for Italian, or [Koopman 2007](#) for Dutch). Perhaps the distance separating the pronoun and the name plays a role. The fact that Condition C is alleviated with distance is not new in the literature (cf. [Adger et al. 2016 i.a.](#))

⁹ In [Alexiadou & Anagnostopoulou \(1997\)](#) this movement step is realized as head movement.

I argue that there are confounds in the minimal pair in (15), and as a result of this, it is not clear whether CD-ed objects move higher than the dative clitic. Let me clarify, first, that genitive and dative are morphologically syncretic in Greek. Thus, (15b) in the absence of the two clitics is ambiguous between (16a) and (16b).

- (16) a. O Janis epestrepse [to vivlio tis Marias]
 the John.NOM returned.3S the book.S.N.ACC the Maria.GEN
 simiomeno.
 with notes
 ‘John returned Maria’s book with notes.’
- b. O Janis epestrepse [to vivlio] [tis Marias]
 the John.NOM returned.3S the book.S.N.ACC the Maria.DAT
 simiomeno.
 with notes
 ‘John returned the book to Maria with notes.’

In (16a), *tis Marias* functions as possessor forming one constituent with the direct object *to vivlio*. *Simiomeno* is a secondary predicate taking *to vivlio tis Marias* as subject. In (16b), *tis Marias* is a single constituent functioning as a dative indirect object. *Simiomeno* is a secondary predicate like in (16a), but it is extraposed from the position after *to vivlio*.¹⁰ Now, if the two clitics are present, they can enter dependencies with different arguments. For instance, the accusative clitic *to* can associate with *to vivlio tis Marias*, which forms a single constituent, as in (17a). Or, alternatively, the accusative clitic associates with the direct object *to vivlio* and *tis Marias* functions as a dative argument associating with the dative clitic *tis* (cf. (17b)).

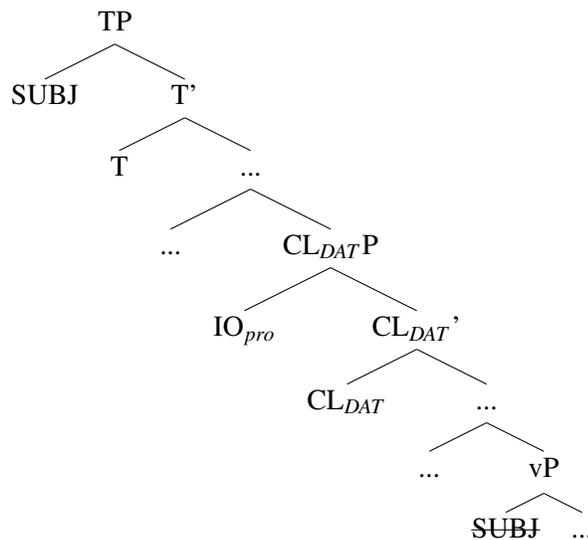
- (17) a. O Janis tis to_i epestrepse [to vivlio
 the John.NOM 3S.F.DAT 3S.N.ACC returned.3.S the book.S.N.ACC
 tis Marias]_i simiomeno.
 the Maria.GEN with notes
- b. O Janis tis_j to_i epestrepse [to vivlio]_i
 the John.NOM 3S.F.DAT 3S.N.ACC returned.3.S the book.S.N.ACC
 [tis Marias]_j simiomeno.
 the Maria.DAT with notes

¹⁰ The fact that secondary predicates can extrapose is shown below where *simiomeno* follows the PP indirect object.

- (i) I Maria epestrepse to vivlio s-tin Elena simiomeno.
 the Maria.NOM returned.3S the book to-the Elena with notes
 ‘Maria returned the book to Elena with notes.’

Notably, Condition C between *tis Marias* and *tis* is not expected to arise in (17b) because the two associate via CD. Anagnostopoulou (1994: 127-128) who also observes this structural ambiguity notes that (17b) needs to be suppressed in order to diagnose clearly if Condition C is bled in (17a) or not. Yet, Alexiadou & Anagnostopoulou (1997) treat (15b) as one unambiguous string and conclude without further discussion that CD bleeds Condition C.¹¹ However, given the confound in these examples, and the contradictory statements, this conclusion is not supported by these data. In fact, I show that Condition C is not expected to be bled in CD of direct objects, and, therefore, that the conclusion that Alexiadou & Anagnostopoulou (1997) report is a result of the confound discussed in Anagnostopoulou (1994). Let us assume that dative clitics are interpreted in Spec $CL_{DAT}P$ and that this position is lower than the subject position, as in Sportiche (1996).

(18)



Let us also take (19a) as a benchmark case showing that the dative clitic c-commands the undoubled direct object.

- (19) a. *I Maria tu_i epestrepse [tis fotografies pu o
 the Maria.NOM 3S.M.DAT returned.3S the photos.PL.F.ACC that the
 Janis_i evgale sto chionodhromiko].
 John.NOM took.3S in-the ski resort.ACC
 ‘Maria returned to him the photos that John took in the ski resort.’

¹¹ Anagnostopoulou (1994) had concluded that CD does not bleed Condition C. This conclusion is not taken into consideration in Alexiadou & Anagnostopoulou (1997).

- b. *I Maria tu_i tis_j epestrepse [tis
 the Maria.NOM 3S.M.DAT 3PL.F.ACC returned.3S the
 fotografies pu o Janis_i evgale sto
 photos.PL.F.ACC that the John.NOM. took.3S in-the
 chionodhromiko]_j.
 ski resort.ACC
 ‘Maria returned to him the photos that John took in the ski resort.’

In (19a), coreference between the clitic and the proper name in *pu o Janis evgale sto chionodromiko* is blocked due to Condition C. Now, if there is a copy of the CD-ed direct object higher than Spec CL_{DATP} in (18),¹² late merge of the relative clause with this higher copy should bleed the Condition C effect seen in (19a), as the proper name would not be in the c-command domain of the dative clitic. (19b) shows that co-reference between the dative clitic and the proper name in the relative clause is blocked after CD suggesting that there is no higher copy of *tis fotografies* higher than Spec CL_{DATP}, which would allow late merge of the relative clause. I conclude based on this that CD-ed direct objects do not move higher than Spec CL_{DATP} in (18). The discussion in the next sections shows that CD-ed objects undergo A-movement, and that this movement targets a low vP peripheral specifier.

3.4 CD-ed objects obviate WCO

It has been known for a long time in several languages such as Lebanese Arabic (cf. Aoun 1981) or Greek (cf. Agouraki 1992, Alexiadou & Anagnostopoulou 1997; 2000, Anagnostopoulou 2003) that CD can obviate WCO effects. This effect is illustrated in the following examples, where a pronoun embedded within a subject cannot be bound by an undoubled quantifier in the direct object position, (20a), while if the quantifier is doubled by a clitic, the bound interpretation becomes possible, (20b).

- (20) a. *I mitera tu_i dhen sinodhepse to kathe phedi_i.
 the mother.NOM his.GEN not escorted.3S the every kid.S.N.ACC
 ‘His mother did not escort every kid.’
- b. I mitera tu_i dhen to sinodhepse to kathe
 the mother.NOM his.GEN not 3S.N.ACC escorted.3S the every
 phedi_i.
 kid.S.N.ACC

¹² The exact height of the CL_{DATP} does not really matter. It could be higher than T, as in Angelopoulos & Sportiche (2018) or below T, as in Sportiche (1996). In both approaches these clitic positions are lower than the subject.

‘His mother did not escort every kid.’ (Anagnostopoulou 2003: 293)

In what follows, I present an account for these facts assuming that the CD-ed object undergoes XP/ X_{max} movement to a vP peripheral specifier. I argue that this movement step is an A-movement step from the argument position. I also propose that this movement step should be analyzed as A-scrambling of definite objects in Hindi or Japanese, which, as discussed, also obviate WCO. Subsequently, I discuss that competing approaches that do not take CD-ed object to undergo XP/ X_{max} movement from the argument position fall short in accounting for the absence of WCO in CD and the correlation with Hindi or Japanese A-scrambling.

3.4.1 CD as XP/ X_{max} movement

In this section, I argue that the absence of WCO in CD can only be accounted for in analyses of CD that integrate one XP movement step in the syntactic derivation underlying CD. These analyses have been proposed in different versions in Sportiche (1996) in Uriagereka (1995), or more recently in Harizanov (2014). These analyses share as assumption that doubled XPs undergo movement, like scrambling, but they make different assumptions regarding the relation between the clitic and the associate XP. In Sportiche (1996), clitics are heads situated above vP/VP but (for non-subjects) below TP that attract an agreeing XP. In Uriagereka (1995), the clitic and the doubled XP enter the derivation together in a BIG DP configuration, and they are separated by subsequent movements of the clitic and the XP (see also Kayne 1972, Torrego 1992, Belletti 1999, Nevins 2011, Papangeli 2000 for different versions of BIG DP analyses). In Harizanov (2014), doubled DPs undergo movement embedded within a KP to a vP specifier. Post-syntactic operations turn the higher KP occurrence into a clitic.¹³ The differences between the approaches of Sportiche (1996) and Uriagereka (1995) are subtle and often inconsequential (see discussion in Angelopoulos & Sportiche 2018). I adopt the analysis of Sportiche (1996) for ease, and I argue that doubled XPs undergo one short A-movement step to a middle field position above vP.¹⁴ This position is lower than the subject or Spec $CL_{DAT}P$ and CD-ed direct objects can bind from this A-position into Spec vP

¹³ Regarding the assumption in Harizanov (2014) that post-syntactic operations can turn a KP into a clitic, I would like to refer the reader to Kayne (2018) and Koopman (2017) who present arguments against post-syntactic operations and argue that “order” can only be determined in the syntax.

¹⁴ If the $CL_{ACC}P$ is lower than the $CL_{DAT}P$, CD-ed direct objects probably move to $CL_{ACC}P$ after movement to XP in (21).

where subjects can undergo reconstruction, as shown in the LF representation in (21), obviating WCO effects (cf. (20b)).¹⁵

(21) $[_{XP} \textit{to kathe phedi}][_{X'} X [_{VP} [_{DP} \textit{i mitera tu}] [_{v'} v [_{VP} V] [_{DP} \textit{to kathe phedi}]]]]]$

3.4.2 CD as A-scrambling

This section argues that the A-movement step that CD-ed objects undergo into the middle field should be analyzed as A-scrambling of the Germanic languages, Hindi, Japanese. Hindi or Japanese scrambling has been shown to obviate WCO effects with a subject (Mahajan 1990, Miyagawa 2009 i.a.). In these languages, WCO is assumed to be obviated due to XP/ X_{max} movement of the scrambled object. Furthermore, the consensus is that this movement step has to be A-movement. There are different approaches discussing the properties of this A-movement step, why it has to take place, or more specifically, whether it has to take place e.g. for case, or not. These approaches often reach conflicting conclusions.¹⁶ Understanding the properties of A-scrambling is important, however, it is not immediately relevant to the purposes of the current paper. This paper argues that by treating CD of Greek as A-scrambling of e.g. Japanese or Hindi, it is possible to have a unified account of WCO in different languages on the basis of well-established reconstruction diagnostics. The next sections aim to show that neither the correlation with A-scrambling of other languages nor the WCO effects can be captured by analyses in which CD-ed objects are not assumed to undergo XP/ X_{max} movement.

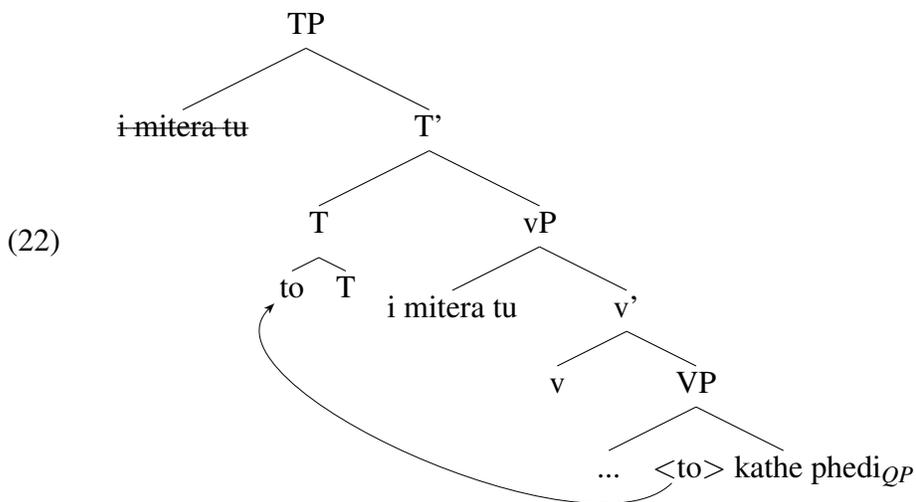
¹⁵ The fact that there can be a copy of the subject in Spec-vP undermines the proposal of Alexiadou & Anagnostopoulou (1998), who argue that preverbal subjects are base generated in a left peripheral topic position.

¹⁶ For instance, Broekhuis & Corver (2016: 215) (2016: 1615) argue that there is a low A-position in Dutch that serves as landing site for scrambled objects that express old-information. They also propose that this position also serves as a case position that scrambled objects have to move to for case. On the other hand, Miyagawa (2009: 115-116) argues that A-scrambling in Japanese is not related to case and claims that the traditional A/A-bar and the interpretive effects that go with it are due to different properties that movement acquires if it happens within a single transfer domain or across different ones (see also Van Urk 2015 and Safir 2018 for different accounts of the A/A-bar distinction).

4 Different approaches to CD

4.1 CD as Feature movement

In previous literature, it was argued that CD can obviate WCO assuming the assumption that CD-ed doubled DPs forms an A-chain with the clitic. The clitic which is the head of the chain is assumed to move to T via feature movement, and it is argued to bind from this position into Spec vP where the subject can undergo reconstruction, as shown in the LF representation below (cf. Anagnostopoulou 2003; 2004, Marchis & Alexiadou 2013 i.a.).



I argue that the real challenge the feature movement account faces is that it relies on the rather doubtful assumption that features can act as binders. Feature movement was first motivated in Chomsky (1995) to account for the agreement facts in the existential constructions of English and Italian shown in (23) and (24).

(23) There *arrives/ arrive three girls.

(24) **pro** * arriva/ arrivano tre ragazze.
 pro arrive.3S/ arrive.3P three girls

Here, Chomsky (1995) argues that features of the associate undergo covert movement into T where they check the ϕ -features of the verb. As Chomsky (1995) supports, these features can bind and license PRO in cases like (25a). Chomsky further observes that by contrast to PRO reflexive binding cannot be licensed in existential constructions (cf. (25b)).

- (25) a. There arrived three men (last night) without identifying themselves.
 b. *There seem to each other [*t* to have been many linguists given good job offers.]

Cardinaletti (1997: 525) points out other instances from previous literature where binding and control are subject to distinct licensing requirements (cf. Rizzi 1986) and concludes that ‘both agreement and control are triggered by simple feature movement, whereas binding requires that the antecedent be the whole category (not just some features).’ Similarly, Lasnik (1999: 183) shows that pronominal binding is not allowed in expletive constructions (cf. (26)) and concludes like Cardinaletti (2008) that feature movement cannot license binding.

- (26) a. Some defendant_{*i*} seems to his_{*i*} lawyer to have been at the scene.
 b. *There seems to his_{*i*} lawyer to have been some defendant_{*i*} at the scene.

Based on the conclusions of Cardinaletti (1997) and Lasnik (1999), I reject the feature movement analysis of CD, as there is no independent motivation independent of CD for feature movement playing a role in binding.

4.2 CD as Long Head movement

Having pointed out the issues with respect to binding that the feature movement accounts face, I discuss next the most closely related analyses presented more recently in Rezac (2008), Roberts (2010), and Preminger (to appear). These works take CD-ed objects to be arguments, as in Anagnostopoulou (2003), but they modify the assumption that feature movement takes place. The alternative they propose is long head movement of the D-head of the doubled object into T or other lower heads. These approaches do not explore WCO in CD. As I discuss next, they cannot account for it in a principled manner. Under these analyses the doubled XP stays in-situ, therefore, WCO must be obviated in CD because the doubling clitic is interpreted into some higher domain. The issue that arises in this analysis is that Greek clitics do not have interpretive import and cannot enter into binding dependencies. This fact has been shown in previous work on the basis of examples like (27).

- (27) O Jorghos_{*i*} ton aghapai [ton eafto tu]_{*i*}.
 the George 3S.M.ACC loves.3S the self.S.M.ACC his.GEN
 ‘George loves himself.’

In (27), the accusative clitic doubles an anaphor bound by the subject (cf. Iatridou 1986). If clitics had interpretive import and could enter referential/binding dependencies, they should have the index of the anaphor which is the element that the clitic associates with in (27). Nevertheless, if this was true, the clitic should give

rise to a Principle B violation because it would be locally bound by the subject (cf. (28)).

- (28) *O Jorghos_i ton_i agaphai.
 the George 3.S.M.ACC loves.3S
 ‘George loves him.’

Angelopoulos & Sportiche (2018) argue that accusative clitics do not give rise to Principle B violations in (27) because they are agreement markers, not D-elements,¹⁷ and do not carry interpretive i.e. referential, import.¹⁸ Under their analysis, which I adopt, only the element that the clitic associates with does. In (27), this element is the anaphor, and in plain cliticization, this element is a silent pronoun (cf. (29)).

- (29) O Jorghos ton_i aghapai **pro**_i.

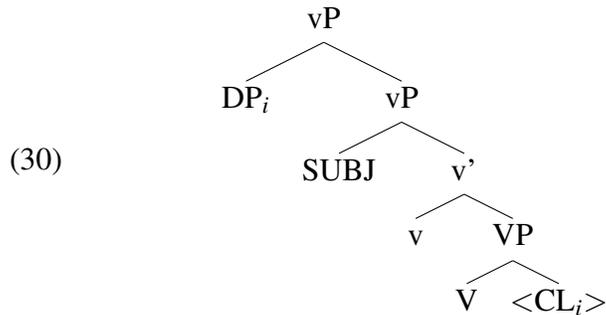
Since the clitic is an agreement marker and lacks reference, it should not be able to bind or change anything with respect to WCO, therefore, the analysis Rezac (2008), Roberts (2010), and Preminger (to appear) predicts that the CD-ed and plain objects should be interpreted in situ and that they should not differ in terms of interpretive properties. However, this prediction is wrong since, as we saw, CD-ed objects can obviate WCO effects.

4.3 CD-ed objects as adjuncts

Under the account in Philippaki-Warburton et al. (2004), the doubled DP is base generated as adjunct e.g. to vP in (30), and the clitic first merges as an argument of the verb and undergoes X_{min}/X_{max} movement to some higher projection. Here, the doubled DP cannot bind because it is not in an A-position. Moreover, the clitic cannot bind or be interpreted, because accusative clitics, as we discussed, are agreement markers lacking referential import. The issues that arises here is that, like in previous analyses, the fact that WCO is obviated in CD cannot be explained.

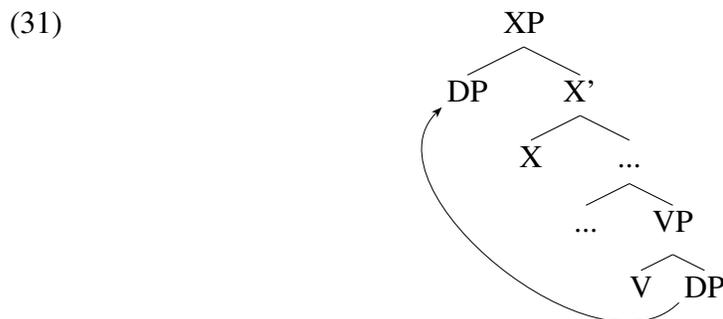
¹⁷ Or, if they are D-elements, they have to be expletive determiners.

¹⁸ I refer the reader to Angelopoulos & Sportiche (2018) for discussion of other cases showing that accusative clitics in Greek and French do not have interpretive import.



4.4 Discussion

In previous sections I argued that CD-ed DPs undergo XP movement to a vP peripheral specifier. Let us now assume that this movement has to take place in order to satisfy the needs of a probe e.g. the needs of the head X in (31).



In previous analyses we saw that the movement dependency illustrated in (31) was taken to be realized as feature movement or long head movement. Here I discuss why this was assumed to be so. For instance, [Alexiadou & Anagnostopoulou \(1997\)](#) argue that CD is the correlate of XP argument scrambling of Germanic languages, and that it is realized as X^0/X_{min} in Greek due to a different parameter setting. On the hand, [Preminger \(to appear\)](#) argues that long head movement has to take place blocking XP/X_{max} movement of the CD-ed DP due a condition he proposes (cf. (32)), which renders head movement the preferred mode of syntactic remerge.

(32) MINIMAL REMERGE: If X^0/X_{min} is movable, move only X^0/X_{min} .

Having eliminated feature and long head movement as possible analyses of CD, we are in a position to re-evaluate their conclusions. So, I argue that scrambling can only be realized as XP/X_{max} movement cross-linguistically, and there cannot be any X^0/X_{min} variant of it. Furthermore, since XP/X_{max} movement is preferred over X^0/X_{min} in configurations such as the one in (31), (32) cannot hold. Indeed, this is the conclusion also reached in [Koopman & Szabolcsi \(2000\)](#), [Mahajan \(2003\)](#), [Cinque](#)

(2005; 2010) who conclude that XP/X_{max} movement is systematically preferred in different syntactic operations such as in verbal clustering formation or in the possible surface order formations of demonstratives, numerals, adjectives and nouns cross-linguistically.

Before closing this section, let me note that the analysis that I defend here argues that doubled objects must undergo at least one XP movement step in CD. However, this should not be taken to mean that an additional XP movement step i.e. in a middle field Topic position, should be precluded or, similarly, that X^0/X_{min} movement is not involved at all in CD. For instance, in Sportiche's (1996) analysis of CD, after XP movement of the doubled object to Spec CliticP, the head of the CliticP undergoes X^0/X_{min} movement to T. So, under this analysis of CD, head movement is involved. I remain agnostic as to whether this head movement step should really be integrated into the analysis of CD given the more recent update of Sportiche's theory in Angelopoulos & Sportiche (2018), who argue on the basis of locality and other considerations that preverbal clitics are base generated above T, and never undergo head incorporation into any head.

5 Spell-out and Intervention

CD had been discussed in previous works with respect to a number of other issues. More recently, particular attention has been devoted to the fact that CD-ed objects do not count as interveners for movement operations involving lower arguments. In Greek, this fact can be seen in the following example where passivization of the lower theme argument is possible if the highest dative argument is CD-ed (cf. Anagnostopoulou 2003: 194).

- (33) To vivlio *(tis) epistrafike tis Marias.
 the book.NOM 3S.F.DAT returned.3SG the Maria.DAT
 'The book was returned to Maria.'

Given our analysis of CD, one question that arises is whether XP/X_{max} movement of the doubled object in the middle field is compatible with theme passivization. In order to address this question, I examine if CD-ed objects can be spelled out in the middle field in active sentences or in passive sentences where the theme undergoes passivization.

To start with, it is quite clear that CD-ed objects can be spelled out in the middle field. For instance, consider the sentence in (34) from Philippaki-Warburton et al. (2004: fn.10). In (34), there is a low manner adverb, a post-verbal subject and the doubled object can either precede or follow both of them. If the post-verbal subject here is in situ i.e. in Spec vP (cf. Alexiadou 1999, Georgiagitis 1999 i.a.)

and CD-ed objects undergo obligatory movement to the middle field, like I propose here, (34) potentially shows that the doubled object can be spelled out low where it enters the derivation or high in the position where it undergoes movement to.

- (34) Tin efaghe (tin turta) lemargha o Janis (tin
 3S.F.ACC ate.3S the cake.S.F.ACC greedily the John.NOM the
 turta).
 cake.S.F.ACC
 ‘George ate the cake greedily.’

(35) shows a case where the theme undergoes passivization, the dative object is CD-ed and the agent is expressed as a *by*-phrase. Assuming that the *by*-phrase is in spec vP as the post-verbal subject in (34) (cf. Angelopoulos et al. 2018), (35) shows that regardless of theme passivization, the CD-ed dative object i.e. *tis Irinis* is allowed to undergo spell out in the middle field higher than the *by*-phrase (cf. (35b)) or lower after the *by*-phrase (cf. (35a)).

- (35) a. Ta vivlia dhen *(tis) dothikan apo to phedi tis tis
 the book.ACC not 3S.F.DAT given.3P by the kid her.GEN the
 Irinis.
 Irinis.S.F.DAT
 ‘The books were not given to Irini by her kid.’
- b. Ta vivlia dhen *(tis) dothikan tis Irinis apo to
 the book.ACC not 3S.F.DAT given.3P the Irini.S.F.DAT by the
 phedi tis.
 kid her.GEN
 ‘The books were not given to Irini by her kid.’

To summarize, the presence of an XP/ X_{max} copy of the CD-ed object in the middle field does not block theme passivization. This new finding suggests that future analyses of passivization, especially those in which themes undergo movement into Spec TP directly (cf. Alexiadou et al. 2015), will have to examine how intervention is obviated in cases like (35b) where there are multiple interveners.

6 Residual Issues

Alexiadou & Anagnostopoulou (1997: 6a-b) argue that the direct object can bind into the PP indirect object as in (36a), but PPs cannot be CD-ed in Greek, so they construct examples with CD of dative indirect objects in (36b) where the co-varying interpretation is not available. They conclude comparing (36a) to (36b) that CD-ed XPs cannot undergo total reconstruction, which contradicts the conclusions of

Section 3.1. Nonetheless, the two sentences in (36) do not form a minimal pair, and most crucially, pronominal binding is not expected to be possible in (36b) as bare direct object QPs can never bind into dative indirect objects in Greek, (37) (cf. Anagnostopoulou 2003).

- (36) a. O Janis sistise kathe jineka_i s-ton melodiko
 the John.NOM introduced.3S every woman.ACC to-the future
 adra tis_i.
 husband.ACC her.GEN
 ‘John introduced every woman to her future husband.’
- b. *O Janis tu sistise kathe jineka_i tu
 the John.NOM 3S.M.DAT introduced.3S every woman.ACC the
 melodiku adra tis_i.
 future husband.S.M.DAT her.GEN
 ‘John introduced every woman to her future husband.’
- (37) a. *O Janis sistise tu melodiku adra tis_j
 the John.NOM introduced.3S the future husband.DAT her.GEN
 kathe jineka_j.
 every woman.ACC
 ‘John introduced every woman to her future husband.’
- b. *O Janis sistise kathe jineka_j tu melodiku
 the John.NOM introduced.3S every woman.ACC the future
 adra tis_j.
 husband.DAT her.GEN
 ‘John introduced every woman to her future husband.’

Note that CD of quantifiers requires merger of an additional determiner, as shown in (38a).¹⁹ Interestingly, most speakers find that if there is a preceding D, pronominal binding is possible from the direct object QP, (38b). In other words, (38b) forms a minimal pair with (37a). Given this, CD of the QP in (37b) is not expected to unveil any new pattern bearing on the assumption that A-movement is involved in CD.

- (38) a. O Janis *(tin) sistise tin kathe
 the John.NOM 3S.F.ACC introduced.3S the every
 jineka_j tu melodiku adra tis_j.
 woman.S.F.ACC the future husband.DAT her.GEN
 ‘John introduced every woman to her future husband.’

¹⁹ See Baker & Kramer (2016) more recently for discussion of the quantifiers which can be preceded by determiners in Greek CD.

- b. O Janis sistise tin kathe jineka_j tu
 the John.NOM introduced.3S the every woman.S.F.ACC the
 melodiku adra tis_j.
 future husband.DAT her.GEN
 ‘John introduced every woman to her future husband.’

7 Conclusion

In this paper, I argued that CD-ed objects in Greek enter the derivation as arguments and undergo XP/ X_{max} movement into a middle position, like A-scrambling, which is lower than Spec TP and the position where dative clitics are interpreted. I also discussed that there is a lot more in showing that Greek CD involves an XP/ X_{max} movement step. First, it provides good evidence that argument scrambling of the type we observe in the Germanic languages, Hindi or Japanese is a pervasive, as was originally proposed in Sportiche (1996), and that it cannot be parameterized as X^0/ X_{min} movement. Second, it provides strong support from Greek that the preferred mode in movement at least of arguments is XP movement (*pace* Preminger to appear).

Abbreviations

The following glosses are used in this paper: S = singular; PL = plural; 1 = First person; 2 = Second person; 3 = Third person; F = feminine, M = masculine, N = neutrum, NOM = Nominative, ACC = Accusative, GEN = genitive, DAT = Dative; CL = clitic. An example marked with ‘*’ or ‘#’ means that the example is unacceptable for grammatical or semantic/pragmatic reasons, respectively.

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