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A'-dependencies in Greek:

A movement approach to resumption

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Abstract:

The present thesis focuses on gap and resumptive A'-dependencies in Greek and its main goal is to investigate the syntactic representation and the syntax-semantics mapping that gives rise to clitic-resumption in A'-dependencies. The main claim of the present thesis is that resumptive dependencies are derived by movement and that resumptive clitics mark copies ('traces') that are interpreted as variables of type e (*ReMIV* – Resumption Marks Individual Variables). This proposal captures both the distribution of resumptive clitics in A'-dependencies and the syntactic/semantic behavior of resumptive and non-resumptive dependencies. Regarding the distribution of resumption in Greek A'-dependencies, it is shown that resumptive clitics are obligatory in some contexts (e.g., CLLD), excluded in others (e.g., Topicalization), while in some contexts they are optional (e.g., which-questions). In line with ReMIV, it is proposed that obligatory clitic-resumption indicates that movement chains that are headed by individual-denoting phrases (e.g., CLLD) always leave behind a copy/variable of type e, which triggers clitic-resumption. On the other hand, movement chains that are headed by property-denoting phrases (e.g., Topicalization) cannot map onto individual traces, thus clitics are excluded. Last, clitic-resumption in wh-questions is optional, because wh-questions can be either interpreted through λ-abstraction over individual variables (resumptive wh-questions) or through some other semantic strategy (abstraction over choice functions, total reconstruction) which gives rise to gap wh-questions. Moreover, resumptive dependencies (e.g., CLLD, resumptive wh-questions) do not show all the standard properties of A'-movement chains. For example, they are restricted to wide-scope readings and they are insensitive to WCO-effects. According to the movement analysis of resumptive dependencies proposed here, these properties stem from the individual-type of copies/traces in resumptive dependencies. Finally, the thesis proposes that resumptive clitics enter the derivation as definite determiners. Building on the assumption that copies turn into individual variables through a *trace conversion rule*, (Fox 2002), it is proposed that resumptive clitics realize the indexed determiner introduced by this rule. This line of analysis captures both the correlation between resumptive clitics and individual variables in the trace position (as predicted by ReMIV) and the morphological resemblance between clitics and definite articles in Greek.

Περίληψη:

Η παρούσα μελέτη εστιάζει στις ανακλητικές και μη-ανακλητικές Α'-εξαρτήσεις της Ελληνικής με κύριο στόχο τη διερεύνηση της συντακτικής αναπαράστασης και της αντιστοίχισης μεταξύ σύνταξης-σημασιολογίας στις οποίες εδράζεται το φαινόμενο της ανάκλησης μέσω κλιτικών στοιχείων. Στην παρούσα μελέτη υποστηρίζεται ότι οι ανακλητικές εξαρτήσεις παράγονται μέσω συντακτικής μετακίνησης και ότι τα ανακλητικά κλιτικά στοιχεία αποτελούν δείκτες αντιγράφων/ιχνών μετακίνησης που ερμηνεύονται ως ατομικές μεταβλητές, σημασιολογικού τύπου *e* (εφεξής ΑΔΑΜ, Ανάκληση ως Δείκτης Ατομικών Μεταβλητών). Στόχος είναι η επεξήγηση τόσο της κατανομής των ανακλητικών στοιχείων στις Α'-εξαρτήσεις, όσο και της σημασιο-συντακτικής συμπεριφοράς των ανακλητικών και μη-ανακλητικών εξαρτήσεων. Αναφορικά με την κατανομή της ανάκλησης στις Α'-εξαρτήσεις της Ελληνικής, τα ανακλητικά στοιχεία είναι υποχρεωτικά σε κάποια περιβάλλοντα (π.χ., Αριστερή μετατόπιση με κλιτικό 'Clitic Left Dislocation – CLLD'), σε κάποια περιβάλλοντα αποκλείονται (π.χ., Θεματοποίηση 'Topicalization'), ενώ σε άλλα περιβάλλοντα είναι προαιρετικά (π.χ., ερωτήσεις μερικής άγνοιας 'wh-questions'). Σύμφωνα με την αρχή ΑΔΑΜ, οι περιπτώσεις υποχρεωτικής ανάκλησης καταδεικνύουν ότι οι αλυσίδες μετακίνησης με μετακινημένα στοιχεία τύπου *e* (π.χ. CLLD) συνδέονται πάντα με ατομικές μεταβλητές (για την ακρίβεια, αντίγραφα τύπου *e*) στη θέση ίχνους, οι οποίες και προκαλούν την ανάκληση. Από την άλλη, οι αλυσίδες μετακίνησης όπου τα μετακινημένα στοιχεία δηλώνουν ιδιότητες (τύπου <e,t>) (π.χ. Θεματοποίηση) αποκλείουν ατομικές μεταβλητές στη θέση του ίχνους, συνεπώς αποκλείονται και τα ανακλητικά στοιχεία. Τέλος η ανάκληση στις wh-ερωτήσεις είναι προαιρετική, διότι αυτές οι συντακτικές δομές μπορούν να ερμηνευθούν είτε μέσω λ-αφαίρεσης με ατομικές μεταβλητές (ανακλητικές wh-ερωτήσεις), είτε μέσω κάποιας άλλης σημασιολογικής διεργασίας (λ-αφαίρεση με συνάρτηση επιλογής 'choice function', ολική ανασύνθεση 'total reconstruction'), από την οποία προκύπτουν μη-ανακλητικές wh-ερωτήσεις. Επιπλέον, πρέπει να σημειωθεί ότι οι ανακλητικές εξαρτήσεις (π.χ., CLLD, ανακλητικές wh-εξαρτήσεις), δεν επιδεικνύουν όλες τις ιδιότητες των αλυσίδων Α'-μετακίνησης. Για παράδειγμα, οι ανακλητικές εξαρτήσεις περιορίζονται σε ερμηνείες ευρείας εμβέλειας (wide scope) και δεν επηρεάζονται από φαινόμενα

ασθενούς διάσχισης (Weak Crossover effects). Σύμφωνα με την ανάλυση μετακίνησης που προτείνεται στην παρούσα μελέτη, αυτές οι ιδιότητες πηγάζουν από τον ατομικό σημασιολογικό τύπο (individual semantic type) του ίχνους στις ανακλητικές εξαρτήσεις. Τέλος, στη παρούσα μελέτη ισχυρίζομαι ότι τα ανακλητικά κλιτικά στοιχεία εισέρχονται στη συντακτική παραγωγή ως οριστικοί προσδιοριστές (definite determiners). Δεδομένου ότι τα αντίγραφα μετατρέπονται σε ατομικές μεταβλητές μέσω ενός κανόνα μετατροπής ιχνών ('trace conversion rule', Fox 2002), προτείνεται ότι τα ανακλητικά κλιτικά στοιχεία πραγματώνουν τον προσδιοριστή που απαιτείται για την μετατροπή του ίχνους. Αυτή η ανάλυση εξηγεί τόσο τη συσχέτιση μεταξύ ανακλητικών στοιχείων και ατομικών μεταβλητών σε θέση ίχνους (όπως προβλέπει η αρχή ΑΔΑΜ), όσο και τη μορφολογική ομοιότητα μεταξύ των κλιτικών στοιχείων και των οριστικών άρθρων στην Ελληνική.

Glossary:

1	=	1st person
2	=	2nd person
3	=	3rd person
ACC	=	accusative
AUG	=	augmentative
CL	=	clitic
CT	=	contrastive topic
DAT	=	dative
DIM	=	diminutive
DO	=	direct object
ERG	=	ergative
FOC	=	focus
FUT	=	future
GEN	=	genitive
IMP	=	imperative
IND-O	=	indirect object
NEG	=	negation
NOM	=	nominative
OP	=	operator
PL	=	plural
PRES	=	present
PROG	=	progressive
SG	=	singular
SUBJ	=	subjunctive
TOP	=	topic
*	=	ungrammatical
?*	=	slightly ungrammatical
?	=	almost grammatical
#	=	infelicitous

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Chapter 1: Introduction

1.1. Goal and objectives

The main goal of this thesis is to explore the syntactic representation and the syntax-semantics mapping that give rise to *resumptive A'-dependencies* in Greek. Resumption in Greek is realized through a clitic which agrees in case and φ-features with the dislocated phrase.

(1)   [XP]$_{[case:α, φ:β]}$ . . . clitic$_{[case:α, φ:β]}$ . . .

Resumptive dependencies are compared to their non-resumptive counterparts, called *gap A'-dependencies*, for ease of reference. The gap ($\__1$) indicates the base position of the moved phrase.

(2)   [XP]$_1$ . . . . . . $\__1$

The thesis focuses on the syntactic and semantic properties of these dependencies, arguing that *resumptive clitics* mark 'movement traces' (lower copies after internal merge) which are interpreted as variables of semantic type *e*. (3) introduces the acronym *ReMIV* (for *Resumption Marks Individual Variables*) for this generalization.

(3)   Resumption Marks Individual Variables (*ReMIV*):
        Traces of A'-movement are interpreted as individual-type variables *iff* they are associated with a resumptive clitic.
        (A'-traces are interpreted as variables of type *e* ↔ A'-traces are associated with a resumptive clitic)

    In this thesis I argue that resumptive A'-dependencies in Greek (e.g., Clitic Left Dislocation, resumptive wh-questions) are derived by movement. Moreover, in line with ReMIV in (3), I propose that resumptive dependencies involve an individual variable

(i.e., of type *e*) in their trace position. In other words, these chains necessarily give rise to λ-abstraction over variables of type *e*, as in (4).

(4) $[XP]_{[case:\alpha, \varphi:\beta]} \lambda x_e \ldots clitic_{[case:\alpha, \varphi:\beta]} \ldots x_e$

My aim is to show explicitly how (3) accounts for (i) the distribution of resumptive clitics in A'-dependencies, and (ii) the syntactic/semantic properties of resumptive A'-dependencies.

Crucially, ReMIV implies that gap A'-dependencies in Greek never trigger abstraction over individual variables. To this end, I examine two kinds of gap A'-dependencies, *Topicalization* and *gap wh-extraction*, showing that they exclude individual variables in their trace position.

1.2. Background on Resumption and some terminology

According to the more standard view, the phenomenon of resumption concerns (resumptive) pronouns in A-positions which are obligatorily bound by phrases in an A'-position, their *A'-antecedents*. In (5), the resumptive pronoun (*they*, in bold) occupies the position where we would expect to find the trace of *who* (i.e., a gap) (Ross 1967/1986: 260). In the following, I coindex the resumptive pronoun with the antecedent of the relative clause, rather than with the wh-operator, for ease of illustration.

(5) All the students₁ who the papers which **they₁** submitted were lousy, I'm not going to allow to register next term.

Note that if the resumptive pronoun *they* is omitted, (5) is ruled out as an (complex NP) island violation. This suggests that resumptive pronouns are used as a last resort device when a violation of an island or some other grammatical constraint is about to occur (see Ross 1967/1986; Chomsky 1977; Shlonsky 1992). This view is supported by the fact that in English, resumptive pronouns are excluded in sentences where no island boundary intervenes:

(6) I saw the student₁ who Mary loves *him₁/_₁.

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Nevertheless, more crosslinguistic research revealed that the pattern of resumption in English is not universal. In many languages (e.g., Hebrew, Irish) resumptive pronouns arise in contexts where no grammatical constraint is violated. In Hebrew relative clauses, resumptive pronouns can be freely replaced by gaps (Borer 1984b: 220).

(7) raʔiti   ʔet   ha-yeled$_1$ she-/ʔasher rina   ʔohevet ʔoto$_1$.
     saw-1SG   ACC   the-boy   that   Rina   loves   him
     'I saw the boy that Rina loves.'

(8) raʔiti   ʔet   ha-yeled$_1$ she-/ʔasher rina   ʔohevet _$_1$.
     saw-1SG   ACC   the-boy   that   Rina   loves
     'I saw the boy that Rina loves.'

The insertion of resumptive items in these cases comes with certain semantic effects (*specificity*), which I discuss below (Doron 1982).

So far, we have seen that some languages, like English, allow resumptive pronouns only in sentences which are otherwise ungrammatical, while in other languages resumption is not related to the violation of a locality constraint. This however does not mean that resumptive pronouns cannot be used as a saving device in the languages of the second type. Indeed, it has been shown that in languages with productive resumption, like Hebrew, a resumptive pronoun may obviate island effects (Borer 1984b: 226):[1]

(9) *raʔiti   ʔet   ha-yeled$_1$ she-/ʔasher david makir   ʔet
      saw-1SG   ACC   the-boy   that   David knows-3SG   ACC
      ha-ʔisha   she-/ʔasher ʔohevet _$_1$.
      the-woman   that   loves-3SG
      'I saw the boy that David knows the woman that loves.'

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[1] Alexopoulou & Keller (2007), based on experimental data, argue that resumptive pronouns do not remedy island violations in Greek.

(10) raʔiti   ʔet   ha-yeled$_1$ she-/ʔasher david makir   ʔet
      saw-1SG ACC   the-boy   that   David knows-3SG   ACC

      ha-ʔisha   she-/ʔasher ʔohevet   oto$_1$.
      the-woman   that   loves-3SG   him

      'I saw the boy that David knows the woman that loves him.'

Focusing on the Hebrew data given above, we can see that within the same language there are two types of resumption. I use the terms *grammatical* and *intrusive* resumption as below (cf. Sell 1984):

(11)   The two types of resumption:
    a. Intrusive resumption functions as a saving device in contexts which block extraction.
    b. Grammatical resumption is a grammatical device for the formation of A'-dependencies.

As an example of intrusive resumption, I gave sentence (10) with a relative clause dependency across an island boundary. But this is not the only context where the presence of a resumptive pronoun is associated with a violation of a syntactic restriction. In Welsh, as in many other languages with no preposition-stranding, the extraction of a prepositional object is disallowed (12a). These sentences become grammatical with a resumptive pronoun doubling the dislocated prepositional object, as in (12b) (Rouveret 2011: 7).

(12) a. *y   dyn$_1$ y   siaradasoch chwi ag   _$_1$
       the   man   that   talked-2SG   you   with
       'The man that you spoke with.'

    b. y   dyn$_1$ y   siaradasoch chwi ag   ef$_1$
       the   man   that   talked-2SG   you   with him
       'The man that you spoke with (him).'

Intrusive resumption is also found in Greek *pu*-restrictive relatives (i.e., *that*-relatives) and free relatives (Alexiadou & Anangnostopoulou 2001; Alexopoulou 2006; Daskalaki

& Mavrogiorgos 2013). (13) and (14) (from Alexopoulou 2006: 16b, 16a) are restrictive relative clauses with the relative complementizer *pu* (that). As (13a) shows, movement of the possessor DP requires a resumptive possessive pronoun ('his') in the extraction site (13b).

(13) a. *O   fititis   pu   dhanistika   to   aftokinito _1 ine   o   Janis.
          the student   that   borrowed-1SG   the   car   is-3SG the John

  b. O   fititis   pu   dhanistika   to   aftokinito **tu1** ine   o   Janis.
       the student   that   borrowed-1SG   the   car   his is-3SG the John
      'The student whose car I borrowed is Yanis.'

Similarly, indirect object extraction requires a resumptive pronoun. In these cases, the resumptive item takes the form of a clitic which attaches to the main verb (proclisis).[2]

(14) a. *To pedhi1 pu   dhanises lefta   _1 ine   o   jos   mu.
          the kid   that   lent-2SG   money   is-3SG the   son   my

  b. To pedhi1 pu   **tu1**   dhanises lefta   ine   o   jos   mu.
       the kid   that   it.DAT   lent-2SG   money   is-3SG the   son   my
      'The kid you lent money to is my son.'

In general, extraction of oblique and NP/PP-internal arguments (in relative clauses) gives rise to intrusive resumption, not only in Greek, but in many other languages as well (see McCloskey 1990 for Irish; Shlonsky 1992 for Hebrew; Suñer 1998 for Spanish; Malkawi 2009 for Jordanian Arabic; Krapova 2009 for Bulgarian).

The present study focuses on Greek grammatical resumption, as defined above, hence intrusive resumption will be left aside.[3] The preceding discussion highlighted a contrast between the two types of resumption, which should not be overlooked. In intrusive resumption, resumptive dependencies are the only option because their gap

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[2] cf. Anagnostopoulou (2003) for obligatory Clitic Doubling of dative DPs in ditransitive constructions.

[3] Moreover, here I am not concerned with a unified theory for grammatical and intrusive resumption. Therefore, I do not examine whether the proposed analysis extends to intrusive resumption or not.

counterparts are illicit (see (12)-(14)). In grammatical resumption on the other hand, a resumptive item may be replaced by a gap. The free alternation between gaps and pronouns is known to give rise to interpretive variation in A'-dependencies.[4] More specifically, it has been noted that the presence of a resumptive item restricts the possible interpretations that would arise with a gap dependency (Doron 1982; Sharvit 1999; Bianchi 2011). To illustrate, (15) (from Doron 1982, cited in Sharvit 1999: 593) shows that the extracted phrase in Hebrew gap relatives receives either a specific (*de re*: the existence of a woman is presupposed) or a non-specific interpretation (*de dicto*: the existence of a woman is not presupposed) (see 15a). Nevertheless, as Doron (1982) observes, the insertion of the resumptive pronoun in (15b) blocks the non-specific reading.

(15)   a. Dan   yimca et   ha-iSa$_1$ Se hu mexapes $\_1$.
            Dan   will find-3SG the-woman OP he look-for-3SG

      b. Dan   yimca et   ha-iSa$_1$ Se hu mexapes   **ota$_1$**.
         Dan   will find-3SG the-woman OP he look-for-3SG her
        'Dan will find the woman he is looking for.'

The contrast between (15a) and (15b) supports the wide-spread view that grammatical resumption is associated with several 'specificity effects' such as specific/wide-scope interpretation, individual readings (excluding multiple/pair-list readings) (see Bianchi 2011 for an overview).[5] This aspect of resumption is central to the present study, thus a detailed presentation is given in the following chapters. Below, I present the two main syntactic approaches to grammatical resumption (henceforth, resumption).

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[4] On the other hand, it has been observed that intrusive resumptive pronouns behave more like gaps, showing a number of properties that grammatical resumptive pronouns do not e.g., they show weak crossover effects (Koopman 1983; Engdahl 1985), they allow narrow scope readings (Suñer 1998; Bianchi 2004; Sichel 2014).

[5] Alexopoulou (2006: section 3.3) notes that the crosslinguistic observation that specificity effects are not imposed by intrusive resumption (see previous footnote) applies to Greek resumptive relative clauses as well.

1.3. Syntactic Approaches to resumption

Resumptive dependencies involve a resumptive item in an A-position which is obligatorily bound by some phrase in an A'-position, the A'-antecedent. Roughly, there are two ways to approach the syntactic derivation of such a dependency. First, we can assume that the resumptive item is a pronominal variable (hence resumptive pronoun) bound by an A'-antecedent which is base-generated in A'-position (base-generation approach). Alternatively, we can assume that the A'-antecedent is merged in an A-position and moving up, leaves behind a resumptive item in the trace position (movement approach). Under this approach, the resumptive item is associated with the A'-antecedent through a movement chain. Below we will see how these two approaches have been articulated in the literature.

1.3.1. Base-generation accounts

Earlier base-generation accounts propose a clear-cut distinction between resumptive and gap dependencies: gap dependencies are derived by movement, while resumptive dependencies resort to base-generation of the antecedent in an A'-position (McCloskey 1990; Shlonsky 1992). As McCloskey (1990, 2002) notes, Irish provides morphological evidence for this distinction, since gap and resumptive dependencies involve different complementizers (McCloskey 2002: ex9a-b).[6] Gap-dependencies require the C-head *aL*, while CPs with resumptive pronouns are introduced by the complementizer *aN*:[7]

(16) a. an ghirseach$_1$ a   ghoid   na   síogaí _$_1$

      the girl   *aL*   stole-3SG the   fairies

    b. an ghirseach$_1$ a-r   ghoid   na   síogaí í$_1$

      the girl   *aN*-PAST stole-3SG the   fairies her

      'The girl that the fairies stole away.'

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[6] See Shlonsky (1992) for an analysis of resumption in Hebrew as a last-resort strategy, that is based on the properties of the complementizer.

[7] *aL* and *aN* are abbreviations used to denote the Lenition mutation and the Nasalization mutation on the verb that follows C, respectively.

It should be noted that long-distance gap-dependencies in Irish, require the complementizer *aL* in every intermediate spec,CP position (McCloskey 1990, 2002) (see 17). This fits well with the locality-driven assumption that long-distance movement chains proceed successive cyclically (McCloskey 2002: ex5).

(17)   an t-ainm$_1$ a   hinnseadh   dhúin a   bhín   _$_1$ ar   an   áin.
      the name   *aL* was-told   to-us *aL*   was   on   the   place
      'The name that we were told was on the table.'

On the other hand, no such requirement holds for *aN*-dependencies. The intermediate clause in (18) is introduced by the complementizer *go* for binding-free clauses, supporting the view that resumptive dependencies are not derived by movement (McCloskey 2002: ex15).

(18)   fir   ar   shíl   Aturnae   an Stait   go   rabh   said$_1$ dileas do'n
      men   *aN*   thought   Attorney   the State   that   were   they   loyal to-the
      King
      Ri.
      'Men that the Attorney General thought that were loyal to the king.'

Further evidence in favor of the base-generation analysis of resumptive dependencies comes from several diagnostics which are sensitive to movement. For instance, resumptive dependencies, in contrast to their gap-counterparts, are insensitive to weak crossover (see McCloskey 1990 (Irish); Cinque 1990 (Italian); Dobrovie-Sorin 1990 (Romanian); Shlonsky 1992 (Hebrew); Finer 1997 (Selayarese); Krapova 2009 (Bulgarian)). I return to this diagnostic below. As a result, the syntactic behavior of resumptive dependencies suggests that these constructions do not involve movement. Rather, it is argued that the A'-antecedent is base-generated in an A'-position binding a pronoun in an A-position as schematically illustrated below:

(19)   Resumptive dependencies: [$_{CP}$ XP$_1$ [$_{TP}$ . . . pronoun$_1$ . . .]]

Given (19), resumptive pronouns are defined as pronouns in an A-position which are obligatorily bound by local A'-antecedents.[8] This definition sets resumptive pronouns apart from *referential (free) pronouns* (20) and other *bound pronouns* (21), as in these cases *coreference* and *binding*, respectively, are only optional.

(20)   I am so happy that Sally$_1$ visited Mary$_2$ yesterday. She$_{1/2/3}$ has been feeling so lonely lately.

(21)   Everyone$_1$ believes that Mary loves him$_{1/2}$.

In more recent base-generation approaches, resumptive pronouns are related to their A'-antecedents through an AGREE chain (Rouveret 2002, 2008; Adger & Ramchand 2005). In Adger & Ramchand (2005) for instance, resumptive pronouns bear an unvalued feature [id:], which marks semantic variables, while the complementizer in a resumptive dependency bears the features [Λ] which triggers λ-abstraction and the valued feature [id:dep] (*dep* for dependent). In Adger & Ramchand, AGREE serves the valuation of unvalued features (Chomsky 2001), hence the resumptive pronoun can only receive the dep-value through AGREE with C.

(22)   a. [$_{CP}$ XP [$_{C'}$ C$_{[Λ, ID:dep]}$ [$_{TP}$ . . . **pro$_{[ID:]}$** . . .]]]   →
       $\underbrace{\qquad\qquad\qquad\qquad}_{\text{AGREE}}$

       b. [$_{CP}$ XP [$_{C'}$ C$_{[Λ, ID:dep]}$ [$_{TP}$ . . . **pro$_{[ID:dep]}$** . . .]]]

(22b) is interpreted as a semantic-binding dependency between the C-head (λ-binder) and the resumptive pronoun (variable) at the foot of the chain. In addition, the AGREE chain between the resumptive pronoun and C derives the locality effects found in resumptive dependencies in languages like Welsh (Rouveret 2002) and Scottish Gaelic (Adger & Ramchand 2005). For resumptive dependencies with no locality effects (as in Irish), the resumptive-pronoun binding dependency is not mediated by AGREE.

An additional innovation in recent base-generation approaches pertains to the content of resumptive pronouns. So far, we have been assuming that resumptive pronouns are

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[8] Put this way, resumptive pronouns are syntactic variables in Government & Binding terms (see McCloskey 1990; Shlonsky 1992; Postal 1993; Safir 1996).

interpreted as plain pronominal variables without further lexical content. However, this does not suffice when it comes to reconstruction effects in resumptive dependencies. (23) illustrates a resumptive relative in Welsh, where the pronoun *ei* (his) in the displaced resumed phrase gets bound by the QP *pob awdur* (each author) in a lower position (Rouveret 2008: 182).

(23) Mae gan Siôn [farn   ar   ei$_2$ lyfr]$_1$ y   mae   [pob   awdur]$_2$
     is   with Siôn opinion about his book   C   is   each   author

     yn ei$_1$ pharchu.
     PROG it respect
     'Siôn has an opinion about his book that each author respects.'

To get the c-commanding relation needed for pronominal binding we need to assume that the resumed phrase 'reconstructs' into the position occupied by the resumptive pronoun. As we will see below, reconstruction effects are widely used as evidence for a movement derivation, by which moved phrases leave full copies in the base position (Chomsky 1995). For the advocates of the base-generation view, reconstruction effects indicate that resumptive pronouns are in some cases interpreted as hidden definite descriptions, i.e., DPs replicating the A'-antecedent (Guilliot & Malkawi 2006; Rouveret 2008). Under this view, what arises as a resumptive pronoun is a D-head with φ-features whose NP-complement has undergone PF-deletion, under identity with the A'-antecedent (see Elbourne 2005).

(24) [$_{DP}$ D$_\varphi$ [NP]]$_{A'\text{-antecedent}}$ . . . [$_{DP}$ D$_\varphi$ [NP]]$_{Resumptive\ pronoun}$

As a result, the lexical material of the antecedent required for reconstruction effects is provided by resumptive pronouns without presuming movement.

1.3.2. Movement approaches

The main idea of the movement approach to resumption is that *resumptive items* (RIs) are related to their antecedents via movement. The simplest way to materialize this idea is to assume that the resumptive item is nothing but the overt realization (spell-out) of the trace/copy of the moved A'-antecedent (Ross 1967/86; Koopman 1983; Grohmann 2003).

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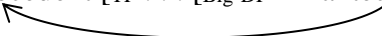
(25)   [CP A'-antecedent₁ [TP . . . **RI₁** . . .]]

Koopman (1983: 368) focuses on resumptive wh-dependencies in Vata, a West-African Kru language, noting that "constructions containing a resumptive pronoun behave in the same way as to the cluster of properties which is characteristic of wh-movement (Chomsky 1977)". Koopman concludes that resumptive items are spelled out wh-traces. It should be noted however, that resumptive items and gaps in Vata are in a complementary distribution: subject extraction requires resumption, whereas extraction from any other position disallows it (cf. Engdahl 1985 for the distribution of resumption in Swedish). Resumption has been therefore analyzed as a strategy to avoid a wh-trace in the subject position (the 'that-t' effect), where it is not properly licensed (violation of the ECP in Government and Binding terms). This means that resumption in Vata is tied to contexts which block movement and falls into the category of intrusive resumption, which is beyond the scope of the present study. An analysis of resumptive items as spelled out traces has been also proposed by Grohmann (2003). I consider Grohmann's account in chapter 5.

In more recent movement analyses, resumptive items are treated as D-elements which head a "big" DP constituent. The A'-antecedent is generated within this DP and it then moves to its surface position (Uriagereka 1995, Aoun et al 2001, Boeckx 2003). In (26), I illustrate the movement analysis, abstracting away from the internal structure of the big DP.

(26)   [CP A'-antecedent [TP . . . [Big-DP A'-antecedent **RI**] . . .]]

Resumption is widespread in Lebanese Arabic. Aoun et al. (2001) observe that resumption is also possible within island domains ((27) from Aoun et al. 2001: ex.48c), and they propose that there are two types of resumptive dependencies in Lebanese Arabic.

(27) [ha-l-muttahame]$_1$ btaʕrfo   [$_{island}$ l-muħaame   yalli   raħ   ydeefiʕ

3-the-suspect   know-2PL   the-attorney   that   FUT   defend-3SG

ʕann-**a**$_1$]

of-her

'This suspect, you know the attorney that will defend her.'

In island contexts, where movement is blocked, the A'-antecedent is base-generated in the left periphery and is doubled by a true resumptive pronoun (see (19)). In contexts where movement is permitted, resumptive dependencies prefer a movement derivation along the lines of (26). Hence, resumption in these cases is only apparent:

(28) Two types of resumptive pronouns (Aoun *et al.* 2001)

   a. *Apparent resumption* involves movement of the A'-antecedent.

   b. *True resumption* involves a base-generated A'-antecedent.

At the surface, the two types of resumption resemble each other since they involve morphologically identical resumptive elements. However, true and apparent resumptive dependencies are functionally different in the sense that they behave differently in terms of reconstruction. As shown below, apparent resumption allows *reconstruction for binding*: a pronoun within the A'-antecedent is bound by a QP in a lower position (see (29)). On the other hand, reconstruction is not possible in true resumption, in dependencies that cross island-boundaries (30). (Aoun *et al* 2001: ex.51a, 52a)

(29) [təlmiiz-α$_2$]$_1$ l-kəsleen ma baddna nχabbir [wala mʕallme]$_2$ ʔənno l-mudiira

ʃaħatət-**o**$_1$ mn l-madrase

'[Her$_2$ bad student]$_1$, we don't want to tell [any teacher]$_2$ that the principal expelled him$_1$ from school.'

(30) *[təlmiiz-α$_2$]$_1$ l-kəsleen ma zəʕlit [wala mʕallme]$_2$ laʔanno l-mudiira ʃaħatət-**o**$_1$

mn l-madrase

'[Her$_2$ bad student]$_1$, [no teacher]$_2$ was upset because the principal expelled him$_1$ from school.'

All in all, the above data show that reconstruction is allowed only in contexts that allow movement.[9] This lends further support to the view that reconstruction effects detect movement dependencies (Sauerland 1998; Fox 1999; Sportiche 2017). More specifically, reconstruction for binding in (29) shows that the moved phrase *tUlmiiz-a* is interpreted in a lower position, below the QP-binder. Under the copy theory of movement, there must be a full copy of the moved phrase in the trace position which can be interpreted by LF (Chomsky 1995) (see the discussion below). Therefore, given the movement analysis of resumption, reconstruction for binding in (29) comes for free.

A different movement analysis has been put forth for languages where resumption is expressed via a clitic item (e.g., French, Greek). In these languages, clitics agree in φ-/case features with their A'-antecedent and attach to the (main/auxiliary) verb, far from the base-position of the A'-antecedent ((31) comes from Angelopoulos & Sportiche 2021: ex.1b).[10]

(31) Jean_1,   on   le   connait   _1.
      John   we   CL-3SG.M.ACC   know-1PL
      'We know John.'

Sportiche (1996) argues that clitics are base-generated heads of a functional projection (CliticP) in the middle field of the sentence. In resumptive dependencies, clitics attract the A'-antecedent in the spec,CliticP as in (32). The A'-antecedent then moves to its surface position in the left periphery (cf. Angelopoulos & Sportiche 2021).

(32) [CP A'-antecedent_1 . . . [CliticP t_1 [Clitic' clitic . . . [VP . . . t_1 . . .]]]]

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[9] See Malkawi (2009) for Jordanian Arabic data with reconstruction into islands. See also chapter 4 for relevant data from Greek.

[10] Here and it what follows, topic-marking sentences are translated with the standard for English SVO word-order, since topic-dislocation in English does not always result in well-formed sentences. Consider the Greek sentence in (i) with an existential bare nominal in topic position and its English counterpart:

(i) [Palto]_Top,   aghorase   o   Kostas.
     coat   bought-3SG   the Kostas

(ii) *[Coat]_Top, Kostas bought.

A short note on the terminology of syntactic movement is in order before we proceed. This thesis presumes the *copy theory of movement*, according to which a moved phrase leaves a full copy in its base position (Chomsky 1995; Sauerland 1998; Fox 1999). Hence movement chains are dependencies between two copies of the same constituent. More specifically, I follow Chomsky (2001, 2008, 2020, 2021) who argues that *Merge* is the only structure-building operation, reanalyzing movement as *internal merge*. Internal merge is defined as a binary merge operation in which one of the two constituents is already part of the tree (i.e., it has been already externally merged in a lower position, see below).

Here is how external and internal merge have been formulated in more recent studies (Chomsky 2020; 2021). The derivation of a sentence involves a dynamic *workspace* consisting of the occurring *syntactic objects* (SO) at each step of the derivation. Let's say that the initial workspace for the sentence *the boy wrote a letter* contains five SO:

(33)   [the, boy, wrote, a, letter]

The derivation starts with the *external merge* of the indefinite article *a* with *letter*. This operation increases the number of SO by one; hence in the new workspace we have six SO. More specifically, the workspace in (34) contains all the SO of the workspace in (33) plus the "complex" SO *{a, letter}*.

(34)   [the, boy, wrote, {a, letter}]

The derivation proceeds in the same way until the workspace in (35), with a hierarchically structured expression, is formed.

(35)   [{the, {boy, {wrote, {a, letter}}}}]

Now consider the passive sentence *The letter was sent* which as we will see involves *internal merge* of the SO {the, letter}.

(36)   [{was, {sent, {the, letter}}}]

(36) contains the expression *was sent the letter*, but at this point we need to merge the SO *{the, letter}* in the subject position. This is achieved by the merge operation in (37a) which yields the workspace in (37b).[11]

(37)   a. INTERNAL MERGE({the, letter}, {was, {sent, {the. letter}}})
        b. [{{the, letter}, {was, {sent, {the, letter}}}}]

As (37a) demonstrates, the SO *{the, letter}* merges with a SO that contains it. It is now obvious that the workspace contains two instances of the syntactic object *{the, letter}*: one as the theme of *sent* and one in the subject position which is arguably related to the discourse function of topichood. Note however that the two instances of *{the, letter}* cannot refer to different letters. The *stability* condition ensures that the several instances of the same syntactic object have the same internal structure and interpretation. For Chomsky (2022) *stability* stems from the rule *Form-Copy* which assigns the relation COPY to identical (instances of) syntactic objects as (38).

(38)   COPY <{the, letter}, {the, letter}>

Therefore, *internal merge* in Minimalism does exactly what *syntactic movement* in previous frameworks was assumed to do. In this way Minimalism dispenses with an actual movement operation. Having said that, notions like 'trace', 'trace position' or 'movement' are only used for ease of reference, in the present study.

1.4. Overview of the present study

The goal of this thesis is to explore the gap and the resumptive A'-dependencies in Greek. Resumption in Greek is predominantly expressed via a clitic, which matches the left-dislocated phrase in case and φ-features. Greek exhibits proclisis, i.e., clitic+verb

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[11] Internal Merge, as any other operation that applies to SO (e.g., Form Copy), incorporates a search operation Σ. Σ is designed to do the least effort possible (Minimal Search) in the sense that "Σ searches as far as the first element it reaches and no further" (Chomsky 2021: 18).

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sequences, with V being in T (Terzi 1999a; Mavrogiorgos 2010 and references therein).[12]

(39) Ton   Jani₁,   ton   ksero.
      the   John   CL-3SG.M.ACC   know-1SG
      'I know John.'

It should be made clear that in this study I restrict myself to clitic resumption in A'-dependencies (see 47), leaving aside *Clitic Doubling* constructions, in which the doubled phrase arises to the right of the clitic+verb sequence, as in (40) (see Anagnostopoulou 2017). Whether the proposed analysis for clitic resumption can be extended to Clitic Doubling is left open for future research.

(40) Ton   ksero   ton   Jani₁.
      CL-3SG.M.ACC   know-1SG   the   John
      'I know John.'

The discussion so far has made clear that the present thesis investigates cases of grammatical resumption in Greek. Recall that grammatical resumption differs from intrusive resumption, in that it is not tied to contexts which seem to disallow extraction. For this reason, the focus of our discussion will be on resumption of direct objects, which are generally assumed the least problematic cases in terms of movement, as opposed to indirect objects which are associated with intrusive resumption in several cases. To illustrate, compare the direct object relative clause in (41) (from Alexiadou & Anagnostopoulou 2000: ex.3b) with the indirect object relative clause in (42), with respect to clitic-resumption:

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[12] Enclisis is only attested with imperatives and gerunds, which arguably move to a higher, that is a C, position (see Rivero & Terzi 1995; Terzi 1999a).

(41) Aghorasa   ena   vivlio$_1$ pu   (**to**)   dhiavasa me   meghalo

bought-1SG   a   book   that   CL.ACC   read-1SG with   great

endhiaferon.

interest

'I bought a book which/that I read it with great interest.'

(42) To pedhi$_1$ pu   *(**tu**) dhanises lefta   ine   o   jos   mu.

the kid   that   it.DAT   lent-2SG   money is-3SG the   son   my

'The kid you lent money to is my son.'

As (42) shows, indirect object relative clauses without resumption are ungrammatical. This suggests that extraction of indirect objects in *pu*-relatives is disallowed (see Alexiadou & Anagnostopoulou 2001; Alexopoulou 2006; Daskalaki & Mavrogiorgos 2013) and that dative resumptive clitics arise as a saving device.[13] On the other hand, the accusative resumptive clitic in (41) arises in a construction which is grammatical in the absence of the clitic, and as such it falls into the category of grammatical resumption. It should also be mentioned that Greek lacks (overt) subject clitics, thus direct evidence for clitic resumption of subjects is not available. I return to this issue in chapter 4.

1.4.1. The puzzle of resumption

The puzzle that the present study deals with is two-fold, pertaining (i) to the *complex distributional pattern* of resumptives in A'-dependencies as well as (ii) to the *mixed syntactic-semantic behavior* of resumptive dependencies.

To begin with, the thesis examines gap-extraction and resumption in two kinds of A'-dependencies: *topic-marking extraction* and *wh-extraction*. Data from these dependencies shape a complex picture of the distribution of resumptive clitics in A'-dependencies. More specifically, resumptive clitics are obligatory in some contexts, excluded in others, while in some contexts they are optional.[14] In particular, in sentences

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[13] See also Anagnostopoulou (1999) who notes the special behavior of experiencer-DPs with respect to dative clitic resumption in a series of different constructions such as CLLD, Clitic Doubling, and Relativization.

[14] The distribution of resumptive clitics is examined in more detail below. My intention here is to highlight the complex distribution of resumptive clitics through a simplified pattern.

with a left-dislocated, *topic-marked definite DP*, clitic resumption is obligatory (from Panagiotidis 2002: 76). Sentences like (43) are called *Clitic Left Dislocation* (CLLD) (Cinque 1990), given the presence of the clitic.

(43)   [To   palto], *(to)   aghorase   o Kostas.
        the   coat   CL   bought-3SG   the Kostas
        'Kostas bought the coat.'

On the other hand, *topic-marked bare DPs* cannot be clitic-resumed. Topic-marking of a bare DP is necessarily expressed through a gap dependency (from Panagiotidis 2002: 76). Sentences like (44) will be called *Topicalization* sentences.

(44)   [Palto],   (*to)   aghorase   o Kostas
        coat   CL   bought-3SG   the Kostas
        'Kostas bought a coat,'

Last, in *which-questions*, the wh-phrase can be clitic-resumed, though this is not necessary (Androulakis 1998: ex2a).

(45)   Pja   jineka   (**ti**)   dhagose o   Patroklos?
        which woman   CL   bit.3SG the   Patroclus
        'Which woman did Patroclus bite?'

Hence one of the main goals of the present study is to account for resumptive clitics, on the basis of their distribution.

   The second problematic aspect of resumption pertains to the mixed syntactic-semantic properties of resumptive dependencies. More precisely, Greek CLLD shows obligatory reconstruction for Condition C, which indicates a movement derivation:

(46)   *[Tin   fotoghrafia   tu Jani$_1$], pro$_1$ tin estile   sti   Maria.
         the   picture   the John   CL sent-3SG   to-the Mary
         'He sent to Mary the pictures of John.'

On the other hand, the lack of weak crossover effects in CLLD suggests a base-generation derivation.[15]

(47)   [Kanenan astheni]   dhen   ton   episkefthike   to afediko   tu.
         No   patient   not   CL   visited   the boss   his
       'His boss visited no patient.'

Having said that, the proposed analysis should be able to account for the mixed behavior of resumptive chains.

1.4.2. The proposed analysis

As we have seen in the previous section, an adequate analysis must be able (a) to predict when resumptive clitics are obligatory or optional and when they are excluded altogether, (b) to explain the mixed behavior of resumptive chains.

    First, I argue that resumptive dependencies are derived by movement. Hence in terms of Aoun et al. (2001), the resumptive dependencies at hand are instances of "apparent resumption". In this context, I argue that resumptive clitics indicate A'-traces/copies which are semantically interpreted as variables of type *e*, a generalization which is called ReMIV:[16]

(48)   Resumption Marks Individual Variables (*ReMIV*):
       Traces of A'-movement are interpreted as individual-type variables *iff* they are associated with a resumptive clitic.

Putting everything together, we end up with (49) as a schematic representation of resumptive chains: the resumptive clitic indicates that the low copy of the moved phrase is interpreted as an individual-level variable.

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[15] Note that the mixed behavior of resumptive dependencies can be also stated in terms of A'/A-movement: reconstruction for Condition C indicates A'-movement while lack of weak crossover effects suggests an A-movement derivation.

[16] Following standard practice, I use the following notation for semantic types: *e* for individuals; *t* for truth-values; σ, τ for arbitrary semantic types; $<\sigma,\tau>$ for functions from $D_\sigma \rightarrow D_\tau$. World variables (*s*) are omitted in cases which do not require intensional semantics.

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(49)   [XP] λ_e . . . clitic . . . [XP]$_e$

The discussion in the following chapters aims at demonstrating how (48) derives the distributional and the syntactic/semantic properties of resumption. To start with the distribution of resumptive clitics, they are obligatory when a topic-marked definite DP is left dislocated (CLLD). In general, definite DPs are of type e, thus their movement can only map onto an individual-denoting trace triggering clitic resumption ((43) analyzed as (50) below).

(50)   [To palto]$_e$ λ_e *(to) aghorase o Kostas [to palto]$_e$

Next, (44), analyzed as in (51), shows that resumptive clitics are excluded in sentences with topic-marked bare DPs (Topicalization). Given that bare DPs in Greek are analyzed as property-denoting phrases (i.e., phrase of type <e,t>), I argue that these sentences cannot map onto traces of type e and resumptive clitics are not allowed. As a result, Topicalization chains can only be interpreted through total reconstruction of the moved phrase:

(51)   [Palto]$_{<e,t>}$ (*to) aghorase o Kostas [palto]$_{<e,t>}$

Last, I argue that wh-questions may map onto individual-denoting traces (which gives rise to resumptive wh-questions) (see (52a)), but this is not the only option, as they can otherwise involve binding of choice function variables, for gap wh-questions (see 52b).

(52)   a. [Pja jineka] λx_e *(ti) dhagose o Patroklos [THE$_x$ jineka]$_e$

        b. [Pja jineka] $\lambda f_{<<e,t>e>}$ (*ti) dhagose o Patroklos [$f_{<<e,t>e>}$(jineka)]

In chapter 7, I provide syntactic and semantic evidence supporting this dichotomy between gap and resumptive wh-questions.

As for the mixed syntactic behavior of the resumptive chains, since I argue for a movement analysis of resumption, their movement properties, such as reconstruction for Condition C (among other reconstruction effects), are derived without any further assumptions. The key issue in the present analysis is to show how the effects which are

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typically tied to a base-generation derivation (e.g., insensitivity to weak crossover effects, lack of narrow scope readings of the dislocated phrase) are also captured under the movement approach to resumption. In short, I argue that these properties stem from the individual semantic type of the trace in resumptive dependencies.

1.4.3. Outline of the thesis

In (43)-(45), I presented (a simplified version of) the complex distributional pattern of resumption in Greek. A systematic approach to the distribution of resumptive clitics is possible only if we first break this pattern into two parts. More specifically the triplet (43)-(45) implies a contrast between *topic-marking dependencies* (CLLD and Topicalization) on the one hand and *wh-dependencies* (wh-questions) on the other. The former show a stricter distributional pattern: they either require clitics (CLLD) or exclude them altogether (Topicalization). The investigation of clitic distribution in these constructions can thus shed some light on the syntactic and semantic conditions that give rise to resumption. Given that, Chapter 2 discusses these two types of topic-marking constructions and argues for a *Type-theoretic distinction of Topics*: CLLD chains are headed by individual-denoting topics (*Individualhood of CLLDed phrases*), while Topicalization is restricted to property-denoting ($<e,t>$) topics (*Propertyhood of Topicalized phrases*).

Building on the conclusions of Chapter 2, in Chapter 3 I investigate the syntactic derivation and the LF-properties of Topicalization chains. More specifically, I argue that Topicalization involves movement of property-denoting topics to spec,TopP, in the left periphery. Moreover, based on a number of syntactic and semantic tests (e.g., Late Merge of adjuncts, scope reconstruction), I show that Topicalization obligatorily involves *total reconstruction* of the topic phrase (i.e., the topic phrase is interpreted only in its base position). As a result, the copy in the trace position is not interpreted as an individual variable and, as ReMIV predicts, clitics are excluded.

In Chapter 4 I propose a movement analysis of CLLD, based on its reconstruction properties. As for the representation of these chains at LF, I argue that CLLD is restricted to individual-denoting topics, hence it obligatorily maps onto individual-level variables. In line with ReMIV, this accounts for the obligatory presence of resumptive clitics. It also explains a number of syntactic/semantic properties of CLLD which, in previous studies, have been argued to indicate a base-generation derivation.

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Chapter 5 develops a theory of resumptive clitics as markers of individual-denoting traces (ReMIV). Given that movement copies turn into individual-denoting variables through the *Trace Conversion* rule, I argue that resumptive clitics realize the determiner introduced as part of this process. The suggested analysis belongs to the group of studies that analyze clitics as D-elements (definite determiners).

In Chapter 6, I examine several cases of topic-marked QPs (numeral-DPs, modified numeral DPs, negative and universal QPs). At first glance, these phrases do not seem to fit with the *Type-theoretic distinction of Topics* proposed in Chapter 2. However, a deeper examination of the distributional and the interpretational properties of CLLDed/Topicalized QPs indicates that these cases too are constrained by the proposed type-theoretic conditions of CLLDed and Topicalized phrases.

In Chapter 7, I turn into resumption in Greek wh-questions. I examine three types of wh-questions (*which-questions*, *what-questions* and *how many-questions*) which show a different behavior with respect to resumption. I argue that gap which-questions involve binding of a choice function variable, while what-questions are interpreted with total reconstruction (like Topicalization). Last, as ReMIV predicts, resumptive wh-questions obligatorily map onto individual-denoting variables, while how many-questions seem to be able to instantiate any of the three LF-representations (with individual variables, choice function variables or with total reconstruction) .

Chapter 8 summarizes the conclusions of the present study and offers a discussion on the taxonomy of movement chains, based on the results of this thesis. I also list a number of issues which arise from the discussion and are open to future research.[17]

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[17] Here is a note on the methodology used for the collection of the linguistic data presented in this thesis. To begin with, being a bidialectal speaker (Cypriot Greek and Standard Modern Greek) I did not rely on my introspective judgments only. Hence all of the examples from Standard Modern Greek that have not been drawn from previous studies were confirmed by at least two monodialectal native speakers, while more complex examples were discussed with more speakers. Informal grammaticality tasks were carried out in restricted cases, where judgments were crucial for my conclusions and speakers did not have clear intuitions. More details are reported in footnotes. This work however was not intended to be an experimental study, therefore, as I note at various points, this thesis would benefit from an experimental evaluation of the reported results.

Chapter 2: Topic-marking in Greek: Some preliminaries a type-theoretic distinction

The main objective of this thesis is to explore the syntactic representation and the syntax-semantics mapping that give rise to two types of A'-dependencies in Greek, the first with a resumptive item and the second with a gap. To this goal, the syntactic-semantic properties of these dependencies will be thoroughly investigated. Moreover, by comparing non-resumptive (*i.e.,* gap) dependencies with resumptive ones, the aim is to clarify the role of the resumptive elements in the syntax and the semantics of the A'-dependency.

This thesis pursues the hypothesis that resumptive clitics arise in A'-movement dependencies which are associated with λ-abstraction over individual variables (*ReMIV* – Resumption Marks Individual Variables). However, we have a long way to go before we can safely reach this conclusion. As a first step towards this conclusion, I examine two dependencies within the topic-marking domain: Clitic left Dislocation (CLLD) and Topicalization.

In this chapter we will see that topic-marking in Greek can be performed with two dependencies which are in a complementary distribution. CLLD is restricted to individual-denoting topics, i.e., topics of type *e* (see 1), while Topicalization involves property-denoting topics i.e., topics of type <e,t> (see 2).[1]

(1)　　*Individualhood of CLLDed phrases*
　　　　CLLD: $[XP]_{1\text{-}e}$ . . . *(cl) . . .

(2)　　*Propertyhood of Topicalized phrases*
　　　　Topicalization: $[XP]_{1\text{-}<e,t>}$ . . . (*cl) . . .

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[1] More accurately, the *Individualhood* and *Propertyhood* generalizations for CLLD and Topicalization respectively should be defined as below:

(i)　*Individualhood of CLLDed phrases*
　　　CLLD: $*[_{TopP} [XP]_{1\text{-}\sigma} [. . . cl . . .]]$, where $\sigma \neq e$

(ii)　*Propertyhood of Topicalized phrases*
　　　Topicalization: $*[_{TopP} [XP]_{1\text{-}\sigma} [. . . . . .]]$, where $\sigma \neq <e,t>$

According to this *type-theoretic distinction of topic-marking dependencies*, the presence of a resumptive clitic is obligatory in topic-marking sentences which involve λ-abstraction over an individual variable (1). These sentences are realized as instances of CLLD. On the other hand, as (2) implies, a resumptive clitic is excluded from property-topicalization dependencies. On the basis of this type-theoretic distinction, it will be argued that the presence or absence of a resumptive clitic reflects the syntactic and semantic properties of these constructions. Given a number of assumptions regarding the interpretation of traces/copies at the syntax-semantics (LF) interface, I aim to explain the differences between Topicalization and CLLD with respect to a number of phenomena, such as weak crossover (WCO) and reconstruction.

The present chapter sets the scene for this discussion and is organized as follows. In section 2.1, I introduce the topic-marking strategies in Greek mentioned above, namely Topicalization and Clitic Left Dislocation. That both constructions are *bona fide* topic-marking strategies is exemplified in section 2.2. As has been acknowledged in previous studies these two constructions show a complementary distribution. This will be the point of departure for the investigation of the two topic–marking dependencies in Greek. I will start by arguing that the distribution of Topicalization and CLLD in Greek is regulated by the semantic type of the moved topic phrase. In section 2.3, I will defend the *individualhood condition of CLLDed phrases* according to which, only individual-denoting elements may undergo CLLD (see (1)). *Propertyhood of Topicalized phrases* (see (2)) is defended in section 2.4. In section 2.5, I employ an *existential construction test* to confirm the results of the previous sections. According to this test, the impersonal existential verb *ehi* (lit. 'has') takes only property-denoting complements. It is then predicted that the distribution of the existential sentences overlaps with the distribution of Topicalization (unless independent factors intervene). In section 2.6 I focus on some (apparent) exceptions to the type-theoretic distinction of topic-dependencies. More specifically, I examine some CLLD cases, where the topic phrase does not seem to be referential at a first glance and then I turn to an apparent case of Topicalization which is restricted however to a specific pragmatic context/register. Section 2.7 summarizes the discussion.

2.1. CLLD and Topicalization in Greek

Greek is equipped with two topic–marking dependencies, namely Clitic Left Dislocation (CLLD) and Topicalization (see Alexopoulou & Folli 2019).[2] Both of them are characterized by the dislocation of a topic phrase to a left peripheral position of the sentence. What differentiates them on the surface is the presence of a resumptive clitic (e.g., *to*) in the former, as in (3a) but not in the latter, as in (3b).[3]

(3)   a. [To palto], *(to)   agorase   o   Kostas.
      the coat   CL   bought-3SG   the   Kostas
      'Kostas bought the coat.'

      b. [Palto], (*to)   aghorase   o   Kostas.
      coat   CL   bought-3SG   the   Kostas
      'Kostas bought a coat.'

(Panagiotidis 2002: 76)

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[2] In contrast to *focus-marking* (see Grohmann 2009) and *wh-extraction* (see Grohmann et al. 2006), Topic-marking in Cypriot Greek – the most-widely spoken variety of Greek after Standard Modern Greek – is accomplished exactly as in Greek, through CLLD (i) and Topicalization (ii):

(i) [To   sakui],   aghorasen *(to)   o   Kostas.
    The   coat-DIM   bought-3SG CL   the Kostas
    'Kostas bought the coat.'

(ii) [Sakui],   aghorasen (*to)   o   Kostas.
    coat-DIM   bought-3SG CL   the Kostas
    'Kostas bought a coat.'

A well-known difference between the two varieties concerns the position of clitics (see Terzi 1999b). Roughly, indicative sentences in Greek require *proclisis*, as in (3a), whereas their Cypriot-Greek counterparts require *enclisis*, as in (i) (unless some operator (e.g., for negation) is involved). This fact however does not affect the distribution and the syntactic-semantic effects of resumption which seem to be identical in the two varieties. More specifically, the data provided in this thesis (with some exceptions which are noted in separate footnotes) would also work in Cypriot Greek and although further examination is required, the results of this study seem to carry over to Cypriot Greek without problems.

[3] Given what was said in Chapter 1, we should not take for granted that resumptive clitics are pronominal elements. This is the reason that clitics throughout this thesis are not assigned referential indices. I return to the nature and the role of resumptive clitics in Chapter 5.

CLLD in Greek (see (3a)) has been extensively investigated (Tsimpli 1990; Iatridou 1995; Anagnostopoulou 1994; Grohmann 2003; Philippaki-Warburton et al. 2004; Angelopoulos & Sportiche 2021 among others). The existing analyses vary significantly. The two main points of controversy are (a) the type of the chain that links the left-peripheral topic phrase to its argument position (i.e., movement vs binding chain), and (b) the status of the clitic element (pronominal vs a functional element). Topicalization, as in (3b), has mostly escaped researchers' attention, with few exceptions, (Dimitriadis 1994; Panagiotidis 2002; Alexopoulou & Kolliakou 2002; Alexopoulou & Folli 2019). In Topicalization, no (overt) clitic is involved, unlike CLLD.

Previous studies emphasize that despite appearances, these two constructions share a common syntactic structure. For instance, Dimitriadis (1994) and Panagiotidis (2002) postulate the presence of a 'null indefinite clitic' in (3b). In this way, CLLD and Topicalization can be conceived as PF variants of the same syntactic configuration. I return to the syntactic analysis of Topicalization and CLLD in chapters 3 and 4, respectively.

Crucially, these two constructions seem to be in a complementary distribution, which is conditioned by the semantic properties of the phrase that is dislocated. As Alexopoulou & Folli (2019) put it, dislocated *referential phrases* undergo CLLD, while Topicalization involves *non-referential phrases*. Therefore, a referential definite DP is topic-marked through CLLD, as in (3a). By contrast, a non-referential bare nominal is marked as the topic of the sentence through Topicalization (see 2b). While the referentiality-based distinction is towards the right direction, in sections 2.3 – 2.6, I show that what we actually need is a more refined distinction, based on the semantic type of the topic-phrase (see (1)). Before proceeding to the distribution of Topicalization and CLLD though, I provide evidence for the topic status of the dislocated phrase in these constructions in the following section.

2.2. Topicalization and CLLD are topic-marking strategies

In this section it is shown that both CLLD and Topicalization are genuine topic-marking strategies. I adopt Reinhart's (1981) view of topichood, according to which topic-marking is associated with the discourse function of *aboutness*. In short, with a topic-marking sentence, the speaker identifies the topic of the sentence with the topic phrase,

and s/he provides new information about this topic (Krifka 2008; Endriss 2009; Neeleman & Vermeulen 2012).[4] This point of view competes with the view of topicality as a *familiarity marking strategy* (see Kuno 1972, for instance). According to this strand of analyses, a topic phrase necessarily bears (old) information that is presupposed by the speaker and the addressees. However, it has been repeatedly shown that this claim is not empirically supported, as topic phrases may express old or new information, in a way that the novelty/givenness distinction is orthogonal to the presence/absence of topichood (see Reinhart 1981; Endriss 2009; see Anagnostopoulou 1994: 155-156, for relevant data from Greek).

In what follows, I argue that CLLD and Topicalization are topic-marking strategies by showing that a number of conditions, traditionally related to topic-marking, are met in these constructions. As a matter of fact, (Greek) CLLD has been already associated with topic-marking by many authors (see Tsimpli 1990; Iatridou 1995; Anagnostopoulou 1994 among others), so what is really at stake is the topic-status of Topicalization.

I have just highlighted that, according to the *aboutness* view, familiarity is not a precondition for a phrase which is to be considered a sentential topic. However, the claim that topic phrases are compatible with old information is uncontroversial and it can be used to distinguish between topic-marking dependencies from other discourse functions which are also encoded in the left periphery, such as focus-fronting. In general, foci cannot express old information. This point is usually exemplified through question-answer pairs. In order to test for the familiarity of the dislocated phrase, I use the definition of *Givenness* proposed by Schwarzschild (1999), according to which a phrase is *discourse-given* only if it is entailed by a salient antecedent in the prior discourse. Let us then consider the following examples (modified from Dimitriadis 1994: 5):

---

[4] Definitions of *aboutness topicality* are mostly developed within the model of *file-card semantics* (Heim 1982). As a consequence, it is implied that only referential phrases are possible targets for topicalization (see Endriss 2009: 23ff). However, since then, many cases of predicate (VP, AP etc.) topicalization have been reported in many languages. In this chapter, we will see that topic-marking of non-referential/property-denoting phrases is possible in Greek. These cases call for an alternative, empirically motivated definition of topichood.

(4)   A: Pjos aghorase to palto? ('Who bought the coat?')

        B: To   palto, to aghorase   o   Kostas.

            the   coat CL bought-3SG   the   Kostas

            'Kostas bought the coat.'

In (4) the CLLDed DP *to palto* in B's answer is discourse given (i.e., it expresses old information), due to the salient antecedent in the preceding A's question (Tsimpli 1990; Iatridou 1995). The same holds for Greek Topicalization (Dimitriadis 1994). 'Palto' in (5) (Dimitriadis 1994: 5) is already part of the common ground.[5]

(5)   A: Pjos aghorase palto? ('Who bought a coat?')

        B: Palto, aghorase   o Kostas.

           coat   bought-3SG   the   Kostas

           'Kostas bought a coat'

By contrast, focus-fronted phrases must be discourse new. In this context, focus-fronted phrases with old information are doomed to lead to question-answer incongruence (see (6), slightly modified from Dimitriadis 1994: 5). Focused elements are denoted with small caps.

(6)   A: Pjos aghorase to palto? ('Who bought the coat?')

        B: #TO   PALTO aghorase   o   Kostas.

            the   coat   bought-3SG   the   Kostas

           'Kostas bought THE COAT.'

---

[5] Schwarzschild (1999) emphasizes that entailment relations hold for propositions. Therefore, an operation ('existential type shifting') converts the constituents of interest into propositions in order to check the entailment relation between a constituent and a possible discourse antecedent. For the topicalization sentence in (4) we get the following entailment relation in (ic), which establishes that the topic phrase is discourse given:

(i) a. antecedent: $\exists x(coat(x))$

    b. Topic-phrase: $\exists x(coat(x))$

    c. entailment relation: antecedent: $\exists x(coat(x))$ ENTAILS topic phrase: $\exists x(coat(x))$

Rizzi (1997: 296-297), based on assumptions relating to information structure, states that multiple topics can co-occur within a single clause. On the other hand, foci are subject to a uniqueness condition, so multiple focus-fronting is (generally) blocked. Along this line, the following triplet shows that CLLD ((7) from Tsimpli 1990: 242) and Topicalization (8) in Greek align with the topic marking strategies of other languages (see for instance Rizzi 1997 for Italian; Krapova & Cinque 2008 for Bulgarian). On the other hand, multiple focus-fronted phrases are disallowed in Greek, as expected ((9) from Tsimpli 1990: 244).

(7) [Tis Marias], [ta vivlia], tis ta edhose o John
     the Mary-DAT the books-ACC CL-DAT CL-ACC gave-3SG the Janis.
     'John gave Mary the books.'

(8) [Luludhja], [mias fititrias], edhose o Petros
     flowers-ACC a student-DAT gave-3SG the Peter.
     'Peter gave flowers to a student.'

(9) *[TIS MARIAS] [TA VIVLIA] edhose o Janis.
     the Mary-DAT the books-ACC gave-3SG the John
     '*John gave MARY THE BOOKS.'

The discourse notions 'topic' and 'focus' come with certain word order restrictions. Neeleman and Vermeulen (2012: 4) note that, crosslinguistically, a topic phrase may precede but may not be preceded by a focus-fronted phrase (topic > focus, *focus > topic). Given our assumptions about CLLD and Topicalization in Greek, the following predictions arise:

(a) CLLDed/Topicalized phrases can precede focus-fronted phrases,
(b) CLLDed/Topicalized phrases cannot follow focus-fronted phrases,
(c) the order between CLLDed and Topicalized phrases is free.

The following examples confirm these predictions:

(10)   *CLLDed phrases can precede focus-fronted phrases*
[To   ghrama],   STI   MARIA   to   estile   o   Janis.
the letter-ACC to-the Mary   CL-ACC   sent-3SG   the   John
'John sent MARY the letter.'

(11)   *Topicalized phrases can precede focus-fronted phrases*
[Ghramata],   STI   MARIA   estile   o   Janis.
letters-ACC   to-the Mary   send-3SG   the   John
'John sent letters TO MARY.'

(12)   *CLLDed phrases cannot follow focus-fronted phrases*
?*STI   MARIA [to ghrama],   to   estile   o   Janis.
  to-the   Mary   the   letter-ACC CL-ACC   sent-3SG   the   John
'John sent MARY the letter.'

(13)   *A Topicalized phrase cannot follow a focus-fronted phrase*
?*STI   MARIA [ghramata]   estile   o   Janis.
  to-the   Mary   letters-ACC   sent-3SG   the   John
   'John sent letters TO MARY.'

(14)   *A CLLDed phrase can follow a Topicalized phrase*
[Ghramata],   [tis   Marias],   tis   estile   o   Janis.
letters-ACC   the   Mary-DAT CL-DAT   send-3SG the   John
'John sent letters to Mary.'

(15)   *A Topicalized phrase can follow a CLLDed phrase*
[Tis   Marias],   [ghramata],   tis   estile   o   Janis.
the   Mary-DAT letters-ACC   CL-DAT   send-3SG the John
'John sent letters to Mary.'

An additional word-restriction which seems to be common in CLLDed and Topicalized phrases is related to their position with respect to wh-phrases. When a CLLDed and a wh-phrase co-occur in the left-periphery, the CLLDed phrase must precede the wh-phrase (there are some exceptions that are discussed in chapter 7):

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(16) (To   ghrama), se pjon   (*to ghrama) to estile   o Kostas?
      the   letter   to whom   CL sent-3SG   the Kostas
      'To whom did Kostas send the letter?'

The same pattern is also found in sentences where wh-phrases co-occur with Topicalized phrases:

(17) (Ghrama), se pjon   (*ghrama) estile   o Kostas?
      letter   to whom   sent-3SG   the Kostas
      'To whom did Kostas send a letter?'

It should be mentioned that, at least in matrix clauses, wh-phrases cannot co-occur with focus-fronted phrases. Based on this observation, Agouraki (1990) and Tsimpli (1995) independently concluded that in these contexts, wh- and focus-phrases compete for the same position (spec,FocusP).

(18) (*TON JANI) pjos   (*TON JANI)   kalese?
      the   John   who   invited-3SG'
      'Who invited John?'

Note that to the extent that focus-fronted and wh-phrases occupy the same left-peripheral position, examples (16) and (17) merely replicate the observations made above with respect to the order-restrictions between CLLDed/Topicalized and focused phrases.

The next point concerns the phonological aspect of topic-marking. Across many languages, it has been observed that the preposed topic phrase is separated by a comma intonation from the rest of the sentence (see Rizzi 1997 for Italian; Büring 1997 for German). More specifically, Baltazani & Jun (1999) show that CLLD sentences, which they consider topic-marking constructions, consist of two intonational phrases (with a boundary tone in between), one for the dislocated topic phrase and one for the rest of the sentence, each with its own pitch accent. Focus-fronting sentences on the other hand exhibit a different intonational pattern since there is no boundary tone between the focus-phrase and the rest of the sentence. The focus phrase receives the nuclear pitch

accent, while the words that follow the focus-fronted construent are deaccented. To my knowledge, there are no studies on the prosody of Greek Topicalization. However, it is clear to native speakers that the intonational properties of topic-marking (comma intonation, separate intonational phrase) are present in this construction as well.

What is more, in a question-answer pair with a set-subset relation, CLLD (19) as well as Topicalization sentences (20) give rise to *contrastive topic* readings which are associated with a "pragmatic effect of uncertainty, non-finality, and/or incompleteness" (Tomioka 2010: 115).[6] The following examples involve a question about a set (of candies) followed by an answer focusing on a subset of this set (chocolates). The uncertainty effect in these examples is realized as ignorance regarding the other members of the superset of candies. As shown below, this interpretation is possible with CLLD (19) and Topicalization (20), but it is not possible with focus-fronting (21).

(19) A: Pjos efaje ta ghlika? ('Who ate the candies?')
     B: Tis sokolates   (pandos), tis efaje   o   Kostas.
      the chocolate-bars   at-least   CL ate-3SG   the   Kostas
      'As for the chocolate bars, Kostas ate them.'
      (I don't know about the other candies.)

(20) A: Pjos efaje ghlika? ('Who ate candies?')
     B: Sokolates   (pandos), efaje   o   Kostas.
      chocolate-bars   at-least   ate-3SG   the   Kostas
      'Kostas ate some chocolate bars.'
      (But I don't know if Maria has eaten some candies as well.)

(21) A: Pjos efaje ghlika? ('Who ate candies?')
     B: SOKOLATES   (#pandos) efaje   o Kostas.
      chocolate-bars   at-least   ate-3SG   the   Kostas
      'Kostas ate SOME CHOCOLATE BARS.'

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[6] The interested reader is referred to Büring (2003), Krifka (2008), Tomioka (2010), Constant (2014). See Georgiou (2020) for a syntactic analysis of contrastive topics in Greek.

Finally, Rizzi (1997: 285), building on Reinhart (1981), argues that topic-marking is the discourse function which maps sentences to the information structure of the form [TOPIC [COMMENT]]. Roughly speaking, the dislocated topic-phrase is followed by a comment part which contains new information, relevant to the topic phrase. By contrast, focalization leads to the information structure [FOCUS [PRESUPPOSITION]] (Krifka 1992; see Vallduvi 1990, for a slightly different approach).[7] As can be seen from examples (3) and (4), CLLD and Topicalization sentences provide a 'comment domain' with new information which corresponds to the wh-phrase of the preceding question. In Focus-fronted sentences, the material that follows the dislocated phrase is typically already known to the addressee (old information). The following table summarizes the discussion of this section.

Topic-marking properties	CLLD	Topicalization	Focus-fronting
Old information	√	√	*X*
Multiplicity	√	√	*X*
*Topic > Foucs > *Topic*	√	√	-
Comma intonation	√	√	*X*
Contrastive topic	√	√	*X*
[topic [comment]]	√	√	*X*

Table 1. Properties of CLLD, Topicalization and Focus-fronting in Greek.

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[7] See Krifka (2008), Neeleman & Vermeulen (2012), Vallduvi (2016), for a summary of the field of *information-structure* from different perspectives. See also Skopeteas (2016), a state-of-the-art paper on information structure in Greek.

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With this evidence in place, we can safely conclude that Topicalization as well as CLLD are *bona fide* topic-marking strategies.

What are the consequences of this conclusion? Following Rizzi (1997), I assume that topic-marking is syntactically encoded through a functional projection Top(ic)P at the left periphery. Since both CLLD and Topicalization are topic strategies, it is natural to conclude that they both involve an activated Topic projection and more specifically that the dislocated phrase in CLLD and Topicalization occupies the spec,TopP at the left periphery. Furthermore, in order to account for sentences with multiple topic phrases (see (7), (8)), I assume that TopPs can be iterated (indicated as TopP*) (Rizzi 1997). Below this TopP, there must be a FocP for the focus-phrases that move to the left-periphery (and for the wh-phrases, under the assumption that focus/wh-extraction is encoded in the same projection). Finally, based on the following contrast, I argue that complementizers like *oti* (C-heads) merge higher than topics (Anagnostopoulou 1994; Vlachos & Palamaras 2022).[8]

(22) a. Ipe   oti   [ton   Petro] ton   aghapai   poli.
        said-3SG that   the   Peter   CL   loves-3SG much
        'She said that she loves Peter very much.'

(22) b. ?Ipe   [ton   Petro] oti   ton aghapai   poli.
        said-3SG   the   Peter   that   CL loves-3SG much
        'She said that she loves Peter very much.'

(Anagnostopoulou 1994: ex 50a)

All in all, the following tree illustrates the hierarchy of the functional projections in the left periphery, which derives the ordering-restrictions presented above. It should be noted though that the conclusions of the present thesis do not depend on the accuracy of (23), in any crucial way.

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[8] The fact that the pattern in (20) is in some cases allowed is attributed to a CP-recursion structure (see Anagnostopoulou 1994: 94ff for an extensive discussion).

(23)

```
                 CP
                /  \
               C    TopP*
                    /    \
              topic-XP    Top'
                         /    \
                       Top     FocP
                              /    \
                      wh-/focus-XP   Foc'
                                    /    \
                                  Foc     TP
                                         /____\
```
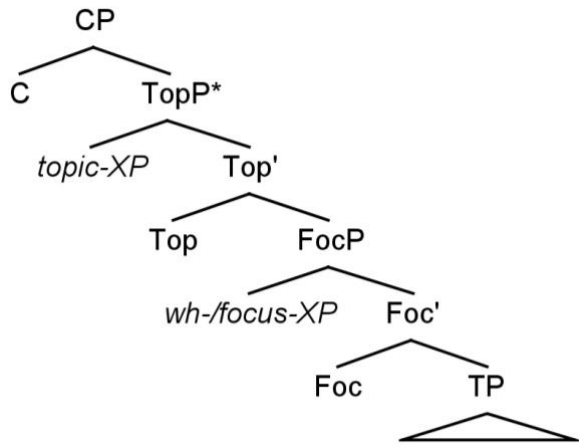
As can be seen in (23), the derivational component of the Grammar treats CLLDed and Topicalized phrases alike. Leaving aside the details, in both CLLD and Topicalization, the topic-XP probably forms an AGREE chain with the head of the TopicP – the *Probe* – on the basis of a [TOP] feature. This fits well with the analysis of CLLD and Topicalization in this study. Anticipating the discussion in the next two sections, the difference between CLLDed and Topicalized XPs lies in their semantic type: CLLD involves *individual-denoting topics* (i.e., topics of semantic type *e*) while Topicalization involves *property-denoting topics* (i.e., topics of semantic type <e,t>). Indeed the semantic type of the topic-phrase should not be visible to the derivational component of the Grammar, therefore we should not expect significant differences between the two chains at the level of narrow syntax. I return to the syntactic analysis of Topicalization and CLLD in Chapters 3 and 4, respectively. Of course the presence of the clitic in CLLD and its absence from Topicalization cannot be ignored. This issue however hinges on the analysis of resumptive clitics that one adopts (i.e., how resumptive clitics are introduced in the derivation of A'-dependencies). An analysis of resumptive clitics, compatible with these points, is developed in chapter 5. It will there become obvious how resumptive clitics are introduced in the derivation of resumptive dependencies like CLLD and why they are excluded from gap-dependencies, like Topicalization.

2.3. Individualhood of CLLDed phrases

I have established that topic-marking in Greek is syntactically expressed as Topicalization or CLLD. It has been argued that these two constructions are in a complementary distribution, depending on the referential properties of the left-dislocated topic phrase (Dimitriadis 1994; Alexopoulou & Folli 2019; Georgiou 2021 among others). As Alexopoulou & Folli (2019) put it, the dislocation of a *referential* topic phrase requires CLLD, whereas the dislocation of a *non-referential* topic results to Topicalization. Dimitriadis (1994) relies on *definiteness* and *specificity* to explain the distribution of CLLD and Topicalization (his 'Exceptional CLLD'). Anagnostopoulou (1994: 59ff) provides a detailed discussion on the term specificity and other related terms which are often used to describe the same interpretational effects, such as *referentiality* and *presuppositionality*. Roughly, the group of topic-phrases which undergo CLLD includes definite DPs, specific/referential indefinites, determiner-headed CPs without this being an exhaustive list. On the other hand, Topicalization involves phrases such as bare (singular/plural) nominals and non-specific indefinites. It should be noted that the distinction between 'strong' (including weak NPs in their strong reading) and 'weak' NPs in Milsark's (1977) work seems to be relevant to the distribution of CLLD and Topicalization.[9] Anagnostopoulou (1994) argues that strong NPs undergo CLLD, while left-dislocated weak NPs resist clitic-doubling.

In this chapter I defend the descriptive generalization about the complementary distribution of CLLD and Topicalization, nevertheless I turn into type-theory terminology and argue that the distribution of CLLD and Topicalization in Greek is based on the semantic type of the displaced topic phrase. In other words, I propose a *type-theoretic distinction between CLLDed and Topicalized phrases*. Admittedly, the notion of referentiality, used in Alexopoulou & Folli (2019), is not type-theory neutral. As de Swart (1999: 288) argues "in type-theoretical terms, the intuition that referential NPs refer to individuals corresponds with the claim that they have a well-formed denotation of type *e*".[10] Therefore, it may well be the case that this divergence from

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[9] According to Enç (1991), this distinction is morphologically marked in Turkish. *Strong NPs* (what Enç calls *specific NPs*) in Turkish are assigned an overt accusative case morpheme. For example, an indefinite NP in object position, overtly case-marked, is unambiguously interpreted as specific indefinite.

[10] This claim is not uncontroversial though. For instance, 'Russelian' definite descriptions are analyzed on par with generalized quantifiers. Hence, they do not fall into the *Individualhood generalization* (thanks to

Alexopoulou & Folli (2019) on the distribution of CLLD in Greek is only of a terminological nature. Nevertheless, as the discussion proceeds it will become clear that switching to type-theory terminology will prove useful, especially when investigating phenomena at the syntax-semantics interface such as *reconstruction* and *weak crossover*. That said, this section argues in favor of an individualhood condition for CLLDed phrases, which explicitly states that only individual denoting phrases, of type *e*, can participate in CLLD (see fn. 1).[11]

(24)   *Individualhood of CLLDed phrases*
        CLLD: $[XP]_{1\text{-}e} \ldots *(cl) \ldots$

If (24) is on the right track, all CLLD sentences involve a resumptive clitic and an individual-denoting topic phrase in spec,TopP, as in (25).

(25)   Greek CLLD:
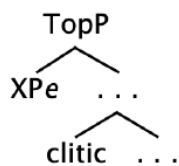
What remains to be done is to investigate the individualhood condition across different cases of CLLDed phrases. Of course, this discussion is not meant to be an exhaustive presentation, since each case that will be presented carries an extensive discussion along with it in the literature.

   We have already shown that referential definite DPs can be dislocated through CLLD but not through Topicalization. In other words, as shown in (26), the resumptive clitic cannot be omitted.

W. Lechner for pointing this out to me). In the present thesis, I adopt the Fregean view of the definite determiner and I refer the reader to Elbourne (2005: section 3.3.1) for an extensive discussion (in favor of the Fregean view). A detailed discussion on the meaning of the definite determiner falls beyond the scope of the present thesis.

[11] A generalization about the distribution of the Spanish CLLD along these lines, has been proposed by Arregi (2003: 39).

(26)　　[To　palto], *(to)　aghorase　　o　　　Kostas.

　　　　the　coat　CL　　bought-3SG　the　　Kostas.

　　　'Kostas bought the coat.'

According to the standard analysis of definite determiners, the definite article 'to' is an iota operator which applies to a set and derives an individual denoting expression, as illustrated in (26) (Heim & Kratzer 1998: 75). In (26) the definite DP denotes the unique coat that exists (in the relevant context of the utterance).

(26)
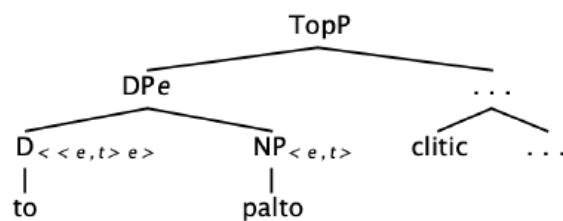
Coordinate definite topic phrases, either distributive (27) or collective (28), are also clitic resumed. This follows naturally if we assume that coordinate definites are non-atomic individuals/sums (of type e), along the lines of Link (1983).

(27)　　[Ti Maria ke ton Niko] *(tus) kseri o Kostas.

　　　　'Kostas knows Maria and Nikos.'

(28)　　[Ti Maria ke ton Niko] *(tus) padrepse o Kostas.

　　　　'Kostas was the best man at Mary and Nikos' wedding.'

The same is true for distributive (29) and collective (30) plural definite DPs.

(29)　　[Tis ghates] *(tis) taisa.

　　　　'I fed the cats'

(30)　　[Ta egrafa] *(ta) sigedrose o Kostas.

　　　　'Kostas gathered the documents.'

38

Plural nouns, like singular nouns, denote sets. Imagine a model M with three cats (Luki, Malou and Felix). These three cats form the set which is denoted by the singular $[\![cat]\!]^M$. According to the analysis of Link (1983), the plural noun 'cats' denotes the set that contains all the sums (the possible combinations) of these three individual cats: {Malou, Luki, Felix, Malou+Luki, Malou+Felix, Luki+Felix, Malou+Luki+Felix} in the Model M. Thus, in (29), the definite determiner (iota-operator) applies on this set and extracts the non-atomic individual 'Malou+Luki+Felix'. Of course, this presentation is an oversimplification of how definite plurals are interpreted (see Brisson 1998, for an overview). However, the main ideas developed with respect to these issues are not incompatible with the point I want to make here.

Crucially, Donellan (1966) recognizes a second type of definite description, *attributive definite DPs*. In (31), the speaker does not necessarily know who the murderer of John is. Indeed, it is likely that people were terrified by the way that John was killed, such that they are afraid of 'the murderer of John', whoever they may be.

(31)   [Ton   dholofono tu   Jani], *(ton) fovunde   oli.
         the   murderer of-the John   CL   scared-of-3PL   all
         'Everyone is scared of John's murderer.'

Following Elbourne (2013: section 5), I assume that attributive definite DPs, as well as referential definites, are individual denoting expressions, only that attributive DPs involve a situation variable as in (32). Furthermore, the fact that the denotation of attributive DPs varies from situation to situation reflects λ-binding of the situation variable

(32)   [DP[DP The murderer of John] s1]

Type-theoretically, attributive definite DPs as well as referential definite DPs are individual referring expressions, and they fall into the individualhood condition.[12]

---

[12] Kind nominals like 'dinosaurs' or 'spiders' are *nominalized/individualized properties* (see Carlson 1977; Chierchia 1998). Since in Greek, kinds are expressed through Definite DPs (see Roussou & Tsimpli 199; Alexopoulou & Folli 2019) no special reference is needed to the fact that topic-marked kind DPs are obligatorily clitic-resumed.

Next, Alexopoulou & Folli (2019) show that specific indefinites undergo CLLD through the following example where the CLLDed indefinite 'a red skirt' in (33a) refers to a specific skirt the speaker has in mind. This is indicated by the continuation in (33b).

(33)   a. Mia kokini fusta, *(tin)   psahno   edho   ke   meres . . .
            a   red   skirt   CL   look-for-1SG here and   days
            'A red skirt, I've been looking for it for a few days . . .'

        b. . . . ke dhen boro na thimitho pu tin echo vali.
            'but I cannot remember where I put it.'

                                    (adjusted from Alexopoulou & Folli 2019: 440-1)

The term *specific indefinite* characterizes the wide-scope indefinites, whose scopal properties however are not constrained by the standard quantifier-raising restrictions (Fodor & Sag 1982). In (34) the indefinite *mia kokini fusta* in the embedded clause seems to be able to outscope the universal QP in the matrix clause:

(34)   [Kathe jineka]∀ mu ipe oti ithele na aghorasi [mia kokini fusta]∃.
        'Every woman told me that she wanted to buy a red skirt.'   (∀>∃, ∃>∀)

This cannot be a result of quantifier-raising (QR) of the indefinite, since QR is typically assumed to be clause-bound. To account for these cases Reinhart (1997) proposed the choice function analysis of wide scope indefinites (see also Winter 1997; Kratzer 1998; Matthewson 1999 among others). According to this analysis, the fact that the indefinite DP refers to a specific skirt derives from a choice function f^{cf} (of type $<<e,t>e>$) which when applies to a set of individuals returns an individual of this set. Consequently, what we get after choice function application is an individual denoting constituent.[13]

(i) Ta fidhja, *(ta)   trone   i   aeti.
     the snakes   CL   eat-3PL the eagles
     'Eagles eat snakes.'

[13] Here I assume that (singular and plural) indefinite 'determiners' in Greek are NP-internal prenominal modifiers, rather than D-elements (see Giannakidou & Merchant & 1997; Alexopoulou & Folli 2019, cf. Tsimpli & Stavrakaki 1999). Hence f^{cf} takes scope over the indefinite along with the adjective and the

(35) $[\![\text{mia kokini fusta}]\!] = [f^{cf}([\![\text{mia kokini fusta}]\!])]_e$

To illustrate, consider a model M with three different red skirts where the speaker refers to the handmade one. To start with, the NP *mia kokini fusta* denotes the set of these three skirts, which means that there must be three distinct f^{cf} which correspond to each of these skirts. According to Kratzer (1998) choice functions are like free pronouns in the sense that they get valued contextually, and as (36) demonstrates, the f^{cf} with the value $_1$ (f^{cf}_1) corresponds to the handmade skirt:

(36) $[\![\text{mia kokini fusta}]\!]^M$

  $= [f^{cf}_1([\![\text{mia kokini fusta}]\!])]^M$

  $= [f^{cf}_1(\text{mini red skirt, handmade red skirt, jean red skirt})]^M$

  $= [\text{the handmade red skirt}]^M$

(37)
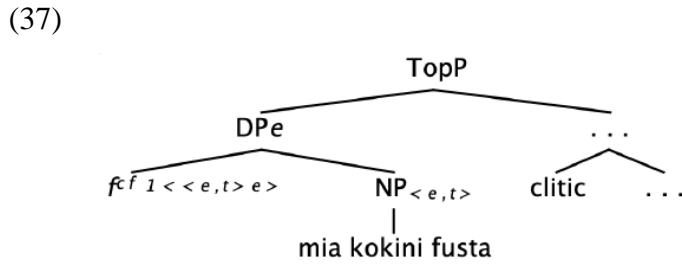
(37) depicts how specific indefinite topics fall within the descriptive generalization for the distribution of Greek CLLD.

This analysis extends to other types of indefinites as well, like 'some', 'many' 'few' and numeral indefinites like 'two cats' (Reinhart 1997). Consider the following cases of CLLDed weak indefinites where the specific/referential reading is the only option.

(38) [Kapjes/ Dhio/Poles ghates], tis pire   i   Maria.

    some/ two/many   cats   CL   took-3SG the   Mary

    'Mary took some/many/three cats.'

---

noun. (Reinhart 1997). The choice-function analysis of indefinites is compatible with the indefinite articles occupying a higher (NP-external) position as well (Kratzer 1998).

Recall that our goal here is to show that, since plural indefinites are clitic resumed in (38), they somehow must be of type *e*. Choice function was shown to be a useful tool to model specific singular indefinites as individual denoting expressions. In order to see how the choice function analysis works with plural indefinites, consider a model M with exactly three cats: Luki, Malou, Felix. In this model the noun $[\![ghata]\!]^M$ for 'cat' denotes the set in (39a). $[\![ghates]\!]^M$ for 'cats' denotes the set containing the three individual cats along with their sums as in (39b) (Link 1983).

(39)   a. $[\![ghata]\!]^M$ = {Luki, Malou, Felix}
        b. $[\![ghates]\!]^M$ = {Luki, Malou, Felix, Luki+Malou, Luki+Felix, Malou+Felix,
                Luki+Malou+Felix}

Simplifying somewhat, the specific indefinite *kapjes ghates* (some cats) is interpreted with a choice function over the set in (39b). The particular choice function determined by the context (f^{cf}_1) selects the sum/non-atomic individual 'Luki+Felix':

(40) $[\![Kapjes\ ghates]\!]^M$
        = $[f^{cf}_1([\![kapjes\ ghates]\!])]^M$
        = $[f^{cf}_1(\{Malou, Luki, Felix, Malou\&Luki, Malou+Felix, Luki+Felix,$
          $Malou+Luki+Felix\})]^M$
        = [the sum Luki&Felix]^M

Accordingly, the specific indefinite *dhio ghates* (two cats) is interpreted with a choice function as well. Only that in this case the choice function operator applies to a set containing only sums of two cats:

(41) $[\![dhio\ ghates]\!]^M$
        = $[f^{cf}_1([\![dhio\ ghates]\!])]^M$
        = $[f^{cf}_1(\{Malou+Luki, Malou+Felix, Luki+Felix\})]^M$
        = [the sum Luki+Felix]^M

Recall that sums are standardly treated as 'non-atomic individuals', or in type-theory terms, elements of type *e*.

The data considered so far, allow us to safely conclude that CLLDed weak indefinites comply with the Individualhood condition. In addition, I assume that *specific partitive indefinites* in Greek ('some/two/many of the cats') are to be analyzed along the lines of specific indefinites. This is based on the assumption that while *partitivity* introduces a familiarity presupposition to the NP-argument in the partitive construction, it does not affect the semantic type of the indefinites involved (see McNally 1998). As expected, topic marking of *specific partitives* obligatorily involves clitic resumption.[14]

(42) [Kapjes/ Dhio/ Poles   apo   tis   ghates],   *(tis)   pire   i Maria.
      some/ two/ many   from the   cats   CL   took-3SG the Mary
      'Mary took some/ two/many of the cats.'

The next case I would like to discuss here is that of the CLLDed elements in (43-44):

(43) [Oles   tis   askisis],   *(tis)   elise   i   Maria.
      all   the   exercises   cl   solved-3SG   the   Mary
      'Mary solved all the exercises.'

(44) [Tis   perisoteres/lighoteres   askisis],   *(tis)   elise   i   Maria.
      the   most/fewest   exercises   CL   solved-3SG   the Mary
      'Mary solved the most/least exercises.'

Despite appearances, 'all' and 'most' phrases in Greek are not true quantificational DPs. Rather, for Anagnostopoulou (1994: 41-42), "DPs headed by the elements 'ola' and 'ta perisotera' [R.G.: plus 'ta lighotera'] act as names for sets". Additional evidence in favor of the non-quantificational status of 'all/most-DPs' in Greek is provided by Anagnostopoulou (1994: 43). For instance, Anagnostopoulou shows that in (45b-c), the *most/all-DP* object may not take scope over the subject, in contrast to what we find with true quantified objects (see 45a).

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[14] Interestingly, in Enç (1991), the notion of *specificity*, which the author identifies with Pesetsky's (1987) *D-linking*, is treated as a case of *partitivity*. For instance, for Enç the specific indefinite 'two cats' is a covert partitive 'two of the cats'. Morphologically, specific indefinites like partitives bear a case morpheme which is treated as a specificity marker.

(45) a. Kapjo pedhi arhiothetise kathe arthro.

       some child filed-3SG each paper

       'Some child filed every article.' (∃>∀, ∀>∃)

  b. Kapjo pedhi arhiothetise ta perisotera arthra.

       some child filed-3SG the most papers

       'Some child filed most articles.' (∃>most, *most >∃)

  c. Kapjo pedhi arhiothetise ola ta arthra.

       some child filed-3SG all the papers

       'Some child filed all the articles.' (∃>all, *all>∃)

With respect to (43), I would like to draw the reader's attention to Brisson (1998: 6ff) and her claim that 'all' in English is not a quantificational determiner. Most of her arguments apply to Greek 'ola' as well. For example, in (46) *ola ta koritsia* (all the girls) functions as a discourse-antecedent for the subject pronoun of the following sentence. If 'ola' were a quantificational determiner, it would render this discourse anaphoric relation impossible (see Brisson 1998: ex.20-22).

(46)   [Ola ta pedhja]$_1$ irthan mesa. pro$_1$ ekatsan kato.

      'All the kids came in. They sat down.'

Brisson (1998) concludes that in '*all the NP*' constituents, 'all' is a 'maximizing' modifier which, in this case, combines with a plural DP and returns a plural DP. The point here is that, from a type-theoretic standpoint, "all DP" phrases look like any other (non-atomic) individual-denoting plural DP (see also Margariti 2014):

(47)
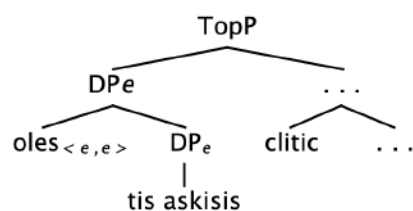
As for the quantity superlative in (44), Coppock & Strand (2019), considering data from Greek and from other languages, develop an analysis according to which the phrase *tis perisoteres askisis* denotes the plurality of exercises in a comparison domain, whose quantity exceeds some degree which is contextually determined.[15] As illustrated in (48), *perisoteres* 'most' denotes a degree predicate which combines with the predicate *askisis* 'exercises' with a composition rule called *Measure Identification*. μ_i stands for a measure function, salient in the context, where the index *i* expresses a contextually valued variable. At this level, the denotation $\lambda x.\ \mu_i(x) > d \wedge askisis(x)$ stands for a set of pluralities whose quantity exceeds a contextually determined *d*.

Let us assume a model M with a set of three exercise-pluralities {a+b, a+b+c+d, a+b+c+d+e+f}; given a (cardinality) value 3 for *d* (*d*=3), the resulting set that the complex predicate denotes is the set {a+b+c+d, a+b+c+d+e+f}. On the other hand, if *d*=5, there is only one plurality (a+b+c+d+e+f) satisfying the predicate $\lambda x.\ \mu_i(x) > d \wedge askisis(x)$. This state of affairs is compatible with the uniqueness presupposition (and the referentiality effects) of the definite determiner. The determiner derives an individual denoting (topic) phrase which refers to the unique plurality of exercises (a+b+c+d+e+f) whose quantity exceeds *d*. The reader is referred to Coppock & Strand (2019: 403ff) for the specifics of this analysis.

(48)
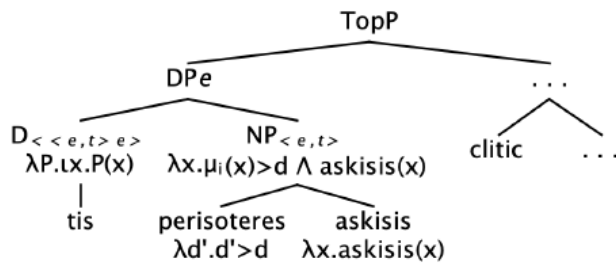
One more case of CLLD that deserves our attention is that of left-dislocated sentential constituents (Roussou 1991; Dimitriadis 1994; Tsakali 2006; Angelopoulos 2019a). The following example comes from Roussou (1991: 78):

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[15] The quantity superlative in (44) is ambiguous between a *relative* (=the most exercises) and a *proportional* (=most of the exercises) reading (see Coppock & Strand 2019: 375). The analysis offered above applies directly to the *absolute reading* of the superlative. The authors (2019: 399ff) discuss some options with which this analysis extends to the relative readings as well.

(49) [To   oti   perase],   to ksero.
       the   that   passed-3SG   CL know-1SG
      'I know that he passed,.'

First of all, the dislocated constituent in (49) is a proper topic phrase. Its topic status can be confirmed via the application of the topicality tests of section 2.2. For instance, in (50), the CLLDed sentential constituent may precede but may not follow the focus fronted phrase 'o Kostas':

(50) (*O   KOSTAS) [to   oti   perasa],   (O KOSTAS), to epiveveose.
       the   Kostas   the   that   passed-1SG   CL confirmed-3SG
      'That I passed, Kostas confirmed.'

Moreover, the left dislocated sentential constituent is headed by the definite determiner *to*. Roussou (1991) uses the term *nominalized clauses* for these constituents and proposes a DP-structure for them with the CP being the complement of the D-head. This DP-structure fits well with Moulton's (2015) predicative view of CP-arguments. Moulton (2015), following Kratzer (2006), maintains that *that-clauses* are predicates of individuals with propositional content of type <e,<s,t>>. Despite the fact that this type for that-clauses creates some problems to the composition of the verb with its CP-argument (which Moulton (2015) solves with remnant-movement), this analysis effortlessly deals with determiner-headed CPs, as in (49). Moulton (2017: 295) explicitly refers to these cases in Greek, arguing that the definite determiner is a standard iota operator which derives an individual denotation out of the CP-predicate. As it stands, the CP denotes a set of individuals with propositional content (quite similarly to the nouns 'idea' or 'rumor'), while the DP denotes an individual-referring expression. This analysis is in agreement with the individualhood condition on CLLDed phrases proposed above.

(51)
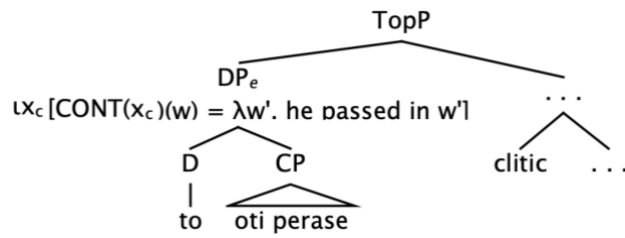
But this is not the end of the story, given the following example (modified from Roussou 1991: 92):

(52)   [Oti   perase],   to ksero.
          that   passed-3SG   CL know.1SG
         'I know that he passed.'

(52) illustrates a CLLDed sentential constituent which is not (overtly) headed by a definite determiner. If this is a case of CLLDed CP (see Dimitriadis 1994; Angelopoulos 2019a), more needs to be said about how CLLDed CPs end up being of type *e*. However, the examples that follow support the idea that the CLLDed sentential constituent in (52) is a DP with a covert D.

In the next lines I suggest the following mapping: DP-nominalized clauses undergo CLLD, while CPs undergo Topicalization. This implies that (52) is an undercover DP (see below). Crucially, the following examples ((53)-(55)) clearly illustrate that a CLLDed constituent is allowed only with verbs that select for a DP (see Alrenga 2005; Takahashi 2010).[16] To begin with, the verb *ksero* 'know' takes either a CP argument (53a) or a DP argument (53b). (53c) involves a well-formed CLLDed sentential constituent.

(53)   a. Ksero [CP oti perase].
           'I know that he passed.'

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[16] One could argue that in (52), the CLLDed phrase is a CP, base-generated at the left periphery and associated with a DP null operator as in (i) (see Koster 1978; Alrenga 2005).

(i)   [TopP [CP] [D-Op$_1$ . . . clitic . . . t$_1$]]

This possibility is excluded by Angelopoulos (2019a) who shows that there must be a copy of the CLLDed element below the subject of the matrix clause and that this copy is subject to Condition C.

b. Ksero [_DP_ afti tin pliroforia]

'I know this information.'

c. [Oti perase],   to ksero.

  that   passed-3SG   CL know.1SG

   'I know that he passed.'

By contrast, the verb *epimeno* 'insist' does not tolerate DP-complements (54b). As can be seen in (54c), the sentential constituent in this case cannot be left-dislocated by CLLD (see also Tsakali 2006, for the verb *dhistazo* 'hesitate').

(54)   a. Epimeno [_CP_ oti pahina].

      'I insist that I got fat.'

    b. *Epimeno [_DP_ afto].

      'I insist (on) that.'

    c. *[Oti   pahina],   to epimeni   i   Maria.

      that   got-fat-1SG   CL insists-3SG   the Mary

       'Mary insists that I got fat.'

Of course, the CP *oti pahina* can be topic-marked, but it cannot be clitic doubled. In other words, being a CP, it can only be left-dislocated through Topicalization as in (55a) (see next section). Crucially, the definite determiner *to* (and by extension a DP category) is excluded from these cases, as (55b) shows. This further confirms the true CP-status of this topic phrase.

(55)   a. [Oti   pahina],   epimeni   i   Maria.

       that   got-fat-1SG   insists-3SG   the Mary

      'Mary insists that I got fat.'

    b. *[_To_ oti pahina], epimeni i Maria.

Last, consider verbs like *ekfrazo* 'express' which take DP-complements (55b) while they exclude CPs (55a). Crucially, CLLD of a determiner-less sentential constituent is fine in (55c). However, given that *ekfrazo* excludes CP-complements (55a), it means that the topic phrase in (55c) cannot be a true CP. On the other hand, the fact that *ekfrazo* combines freely with DPs (see (55b)) suggests that the topic phrase in (55c) must be a DP, headed by a null definite article. In addition, this topic phrase may freely combine with a D-head '*to*' (55d). In addition, I find no interpretational difference between (55c) and (55d).

(55)   a. *Ekfrazo [CP oti lipithika]
          'I express that I was sad.'

       b. Ekfrazo [DP ti lipi mu]
          'I express my sorrow.'

       c. [oti   lipithika],   to   eksefrasa   apo   tin proti   stighmi.
          that   was-sad-1SG CL   expressed-1SG   from   the first   moment
          'I express my sorrow from the first moment.'

       d. [*To* oti lipithika], to eksefrasa apo tin proti stighmi.'

This set of data casts doubt on the CP-label of CLLDed sentential constituents (55c). Thus, I tentatively propose that these phrases are DPs whose determiner has undergone PF-deletion (see Roussou 1991: fn.12). For now, note that this idea is supported by the fact that no interpretational differences can be detected between (55c) and (55d), a CLLDed clausal constituent with a covert and an overt D-head, respectively.

   Further evidence for *a covert D* in CLLDed clausal constituents comes from verbs like *eksigho* 'explain' which shows the following contrast between CP-complements and nominalized clausal-complements with an overt D-head (in bold) (thanks to A. Roussou (p.c.) for pointing this out to me; see also Bondarenko 2020):

(56) a. I   Maria mu eksighise   [CP   oti   i   nei   metanastevun].

      b. I   Maria mu eksighise   [DP **to** oti   i   nei   metanastevun].

        the Mary me explained-3SG   the that   the   young migrate-3PL

      'Mary explained to me that/why young people migrate.'

(56a) can be interpreted as 'Mary told me that young people migrate'. On the other hand, (56b) with the DP-complement is restricted to the following interpretation: 'Mary explained to me the phenomenon that young people migrate'. Interestingly this difference is eliminated when it comes to CLLD. The presence or absence of the definite article does not affect the meaning of (57).

(57) [DP (to)   oti   i   nei   metanastevun], i   Maria mu to eksighise.

         the   that   the young migrate-3PL   the   Mary me CL explained-3SG

      'Mary explained to me that young people migrate.'

More specifically, (57) obligatorily receives the 'true-explanation' meaning, following (56b) which involves a DP-complement. This shows that in (57), even in the absence of the overt definite article, the CLLDed constituent is a DP, a nominalized clause.

So far, we have seen a handful of different cases which align with the *individualhood condition* on CLLDed phrases, which is schematically illustrated as below:

(58)   Greek CLLD:
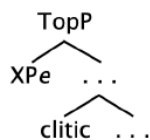
It should be noted that (58) excludes CLLDed sentences with *quantified DP* topics, which are standardly assumed to be of type $<<e,t>t>$. These cases are discussed to a great extent in Chapter 6. For now, let's accept without further justification Alexopoulou's (2008) claim that quantified DPs are generally excluded from CLLD (see also Tsimpli 1999; Baker & Kramer 2018: section 6). The example in (59) is slightly modified from Alexopoulou (2009: 35):

(59)   *[Kanena fititi],   dhen   ton   idha   sto   parti.
         no-(one) student   not   CL   saw-1SG   at-the party
       'No student did I see at the party.'

Alexopoulou further notices that clitic resumed quantifiers become grammatical under certain circumstances, for instance under a generic reading (from Alexopoulou 2009: 36):

(60)   Kanenan, dhen   ton   apoliun   etsi.
         no-(one) not   CL   fire-3PL like-this
       '(In general) no one you fire like this.'

(61)   Kathe dhiatrivi,   ti   djavazume   pada   me   meghali   prosohi.
         each dissertation CL   read-1PL   always   with   big   attention
       'Each dissertation we always read (it) with big attention.'

According to Alexopoulou (2009), (60) and (61) are only apparent exceptions to the generalization that Greek CLLD excludes quantified DPs. Building on Fox & Sauerland (1996) and on the observation that such sentences are acceptable only in generic contexts, she argues that (60) and (61) involve a *Generic Operator* quantifying over situations, and that quantified DPs in these cases are trivialized under the assumption that each situation contains a single salient individual (see also Sauerland 2009 for a refinement of the semantic analysis). I currently leave this issue open, and I return to these cases in chapter 6 where I examine the cases of CLLDed QPs in more detail. It will be shown that CLLDed QPs may also be found in episodic sentences, slightly complicating the picture.

2.4. Propertyhood of Topicalized phrases

The previous section demonstrated that CLLD is restricted to individual-denoting topics. This section, focusing on the distribution of Greek Topicalization – a construction that excludes resumptive clitics – shows that it involves topics of type <e,t>, i.e., topics that denote *properties* (see fn. 1):

51

(62)   *Propertyhood of Topicalized phrases*
        Topicalization: $[XP]_{1\text{-}\langle e,t\rangle} \ldots (*cl) \ldots$

The following tree is an abstract representation of Topicalization, a construction that excludes clitic-resumption (symbolized by Ø), and involves a property-denoting phrase in spec,TopP.

(63)
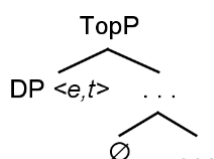
The same methodology will be followed here as in section 2.3; I will examine some well-known cases of Topicalization in Greek and I will show that the phrases that undergo Topicalization are independently treated as elements of a higher type, and more specifically as properties ($\langle e,t\rangle$).

Let us start with an example already introduced as (3b), at the beginning of this discussion. This example shows that a bare singular noun is left-dislocated through Topicalization. In fact, a doubling clitic would lead to strong ungrammaticality.

(64)   [Palto],   (*to)   aghorase   o Kostas.
        coat   CL   bought-3SG   the Kostas
        'As for coat, Kostas bought one.'

Note that the same holds for plural bare nouns (65) and for bare mass nouns (66):

(65)   [Ruha],   (*ta)   aghorase   o   Kostas.
        clothes   CL bought-3SG   the   Kostas
        'As for coats, Kostas bought some.'

(66)   [Zahari],   (*tin) aghorase   o   Kostas.
        sugar   CL   bought-3SG   the   Kostas
        'As for sugar, Kostas bought some.'

52

In this study I adopt the standard view in the literature according to which existentially-interpreted bare nominals introduce a variable which gets bound by an existential closure operator (see Heim 1982; Diesing 1992).

(67)   a. O   Petros aghorase   palto.

        the   Peter   bought-3SG   coat

        'Peter bought a coat.'

       b. $\exists x[\text{bought}(\text{Peter}, x) \ \& \ \text{coat}(x)]$

Having said that, bare nominals in Greek denote properties ($<e,t>$) (see Alexopoulou & Folli 2019 and Kalluli 2000, for an extensive discussion). For the time being, whether the existential closure takes place at the v/VP level (Diesing 1992) or the clausal level (Heim 1982) is not crucial. I discuss the several views for the composition of these sentences in the next chapter. As a result, the *Propertyhood generalization for Topicalized phrases* correctly predicts that bare nominals are topic-marked through Topicalization, rather than CLLD:

(68)
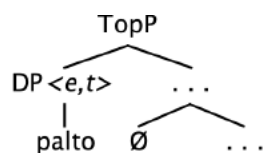
Moving on, it is a well-known fact that indefinite DPs across languages allow for different readings. We have already talked about *specific (wide scope) indefinites*. It was shown that a topic-marked specific indefinite phrase is always resumed by a clitic, and this was attributed to the analysis of these phrases as individual-denoting phrases (derived by a contextually valued choice function). On the other hand, as Dimitriadis (1994) and Alexopoulou & Folli (2019) point out, topic-marked *non-specific indefinites* (with existential interpretation) block clitic-resumption. (69) shows that Topicalization is the only option for non-specific/existential singular indefinite topic phrases. Consider the continuation in (69b) which promotes the non-specific reading.

(69) a. [Mia   kokini bluza], (*tin) psahno   edho ki   enan   mina.
        a   red   blouse CL   look-for-1SG here and   one   month
        'I've been looking for a red blouse for a month now . . .

     b. . . . ke de boro na vro kamia pu na mou aresi.
        ' . . . and I cannot find one that I like anywhere.'

                                                  (Alexopoulou & Folli 2019: 441)

Clitic-resumption is also excluded for plural indefinites with non-specific interpretation, such as 'many', 'some' (*mn*, *sm*, in Milsark 1977) and cardinals (e.g., 'two').

(70) [Dhio/ Kapjies/ Poles   kokines   bluzes],   (*tis) ehi   i   Maria.
      two/ some/ many   red   blouses   CL   has-3SG   the   Mary
      'Mary has two/many/some red blouses.'

Crucially, the view that these phrases are generalized quantifiers has been doubted since Kamp (1981) and Heim (1982). Rather, these authors proposed that weak indefinites introduce a free variable only, which gets bound by a quantifier/operator, external to indefinite's semantic denotation. More specifically, existentially interpreted indefinites are generally assumed to involve an existential closure rule, along the lines of the analysis of bare nominals presented above (Heim 1982; Diesing 1992 among others).[17]

   In the case of plural indefinites, we assume that the variable introduced does not range over *atomic individuals* but over *non-atomic individuals/sums*. The DP 'two blouses' hence introduces a variable ranging over two-blouse sums. This variable, subsequently, gets bound by an existential closure operator:

(71) $\exists x[.. \text{two-blouses}(x) . . .]$

These cases, interpreted as sets of individuals, fall into the descriptive generalization that property-denoting topics undergo Topicalization.

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[17] See Kratzer & Shimoyama (2002) for an alternative (semantics) account for non-specific indefinites.

(72)
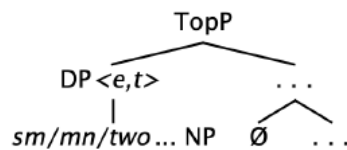
Let us now move on to CP-constituents which, as we have already seen, get topic-marked through Topicalization. Witness for instance (73):

(73)   [CP Oti   pahina],   (*to)   epimeni   i   Maria.
             that   got-fat-1SG   CL   insists   the   Mary
        'Mary insists that I got fat.'

However, as we have seen in the previous section, CLLD sentences with apparent CPs complicate the situation. Let me remind you of the main results of the discussion on CLLDed nominalized CPs. First, CLLD of a sentential constituent (headed by an overt determiner or not) is well-formed only with verbs which may take a DP-argument. This observation led us to the conclusion that these sentential constituents are nominal in nature (nominalized clauses), even if an overt determiner is missing. On the other hand, Topicalized (non-clitic resumed) sentential constituents appear with CP-taking verbs, as the following sentences show. *Epimeno* 'insist' takes a CP-complement, as in (74a), while it excludes a DP-complement, as in (74b). As the reader can observe in (74c), the sentential constituent is topic-marked and dislocated through Topicalization excluding clitic-resumption (see also Tsakali 2006 for relevant examples).

(74)   a. Epimeno [CP oti pahina].
            'I insist that I got fat.'

        b. *Epimeno [DP afto].
            'I insist on that.'

        c. [Oti pahina], (*to) epimeni i Maria.
            'Mary insists that I got fat.'

These distributional facts support the idea that the dislocated element in (74c) is a true CP constituent. An independent fact that points to this direction is that, unlike CLLDed nominalized clauses, the sentential constituent in a Topicalization construction may not be headed by an overt determiner.[18]

(75)   [(*To) oti pahina], epimeni i Maria.

In fact, in the previous section we concluded that CLLD and Topicalization are in a complementary distribution: CLLD involves nominalized CPs, with an overt or a covert D-head (which denotes individuals), whereas determiner-less 'true' CPs (which are of a higher type) undergo Topicalization. Against this background, verbs which exclude CP-complements should not be compatible with Topicalization. Consider the verb *amfisvito* which, as opposed to *amfivalo* 'question', excludes CP-complements (76a). As predicted, the counterpart Topicalization sentence is blocked as well (see (76c)). Of course, nothing blocks a CLLD sentence with this verb, as in (76d). In this case, with or without the definite article, the CLLDed constituent must be a DP (see the discussion on the CLLDed nominalized clauses in 2.3.).

(76)   a. *Amfisvito [CP oti lipithikes].
        'I question that you were sad.'

        b. Amfisvito [DP ti lipi su].
        'I question your sorrow.'

---

[18] The option of a base-generated topicalized CP associated with a moving DP-operator (Koster 1978; Alrenga 2005) is excluded by simple Condition C facts like the following ones (see Angelopoulos 2019a):

(i)   ?[Oti antighrafo ti Maria₁] pro₁ epimeni horis na ehi stihia.
       'That I copy Mary, she insists without any evidence.'

(ii)   [Oti tin₁ antighrafo] pro₁ epimeni horis na ehi stihia.
       'That I copy her, she insists without any evidence.'

(iii) [Oti tin₁ antighrafo] i Maria₁ epimeni horis na ehi stihia.
       'That I copy her, Mary insists, without any evidence.'

c. *[oti lipithikes], amfivitisa apo tin proti stighmi.

    that were-sad-2SG questioned-1SG from the first moment

    'I questioned your soorow from the first moment.'

d. [(to) oti lipithikes], to amfivitisa apo tin proti stighmi.

    the that were-sad-2SG CL questioned-1SG from the first moment

    'I questioned your sorrow from the first moment.'

Having established that the dislocated constituent in the Topicalization sentences above is a true CP, we can assume a predicative denotation of these CPs, following Moulton (2015) (see the discussion in 2.3, for more information).[19]

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[19] It has become a standard view which is based on English data that CP-constituents do not move (see Alrenga 2005; Takahashi 2010; cf. Moulton 2013, 2015). If one wants to reconcile the data from Greek Topicalization with this view, they have to assume that sentential constituents which undergo Topicalization are headed by a phonetically null indefinite determiner, turning the CP constituent into a property-denoting DP. If we follow this path, we need to be more specific on the (phonological, syntactic and semantic) nature of this determiner. We also need to explain the fact that these cases of Topicalization are only compatible with verbs that take CP-complements.

    D. Michelioudakis (p.c.) points out that the CP-taking verbs like *epimeno* (insist), *amfivalo* (doubt) and the like can also take a PP-complement:

(i) Epimeno sto oti pahines.

    insist to-the that got-fat-2SG

    'I insist that you got fat.'

(ii) Amfivalo ja to oti pahines.

    doubt for the that got-fat-2SG

    'I doubt that you got fat.'

These examples suggest an alternative account for the Topicalization cases in (73): what undergoes Topicalization (movement) is a PP-constituent and not a CP-constituent.

(iii) [PP Sto oti pahina] epimeni i Maria

Indeed, in (78) below, I show that PPs undergo Topicalization (*i.e.,* they exclude clitic-resumption), hence (iii) is in line with this observation. More importantly, (iii) is not in conflict with the generalization that CPs do not move, since no CP-topic is involved in the first place. This view requires further examination in order to specify the exact conditions that would allow the deletion of the preposition and the definite determiner in these cases.

(77)

$$\text{TopP}$$

CP $<e, <s,t>>$ ...

oti pahina   Ø   ...
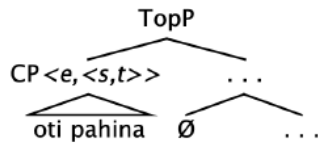
Up to this point, we have seen a number of property-denoting phrases (bare nominals, weak indefinites, CPs), which get topic-marked through Topicalization, while they exclude clitic-resumption. This should not be taken as a complete discussion on the semantic type/denotation of these phrases; however it shows that the *type-theoretic distinction between CLLD and Topicalization* is empirically and theoretically towards the right direction.

For the sake of completeness, let us consider Topicalization of categories other than DP and CP. (78) (from Alexopoulou & Folli 2019: 472) shows that a topic-marked PP is left-dislocated through Topicalization, while (79) and (80) illustrate the same point for AdjPs and AdvPs respectively. It should be made clear though that Greek lacks clitics for these categories, thus CLLD in these cases is not an option anyway.

(78) [PP Stin   Athina],   pao   avrio.
           to-the   Athens   go-1SG   tomorrow
           'I am going to Athens tomorrow.'

(79) [AdjP Hontro], zoghrafise   ton   Kosta. (…emena me ekane konto)
              fat   drew-3SG   the   Kostas
              'He painted Kostas fat. (… he made me short)'

(80) [AdvP Ghrighora],   odhiji   i   Maria.
              fast   drives   the   Mary
              'Mary drives fast.'

Without going into detail, these phrases are traditionally considered as "predicates" in the sense that they need a "semantic subject". In type-theoretic terms, this probably means that these phrases are of type <e,t> (hence *properties* in our terms) which return a truth-value, when they combine with an individual-expression. Under this simplified

view of these phrases, (78)-(80) are in line with the *Propertyhood generalization* for Topicalized phrases, defended in this section.

A note on Topicalization of quantified DPs is in order, before we proceed. The Propertyhood generalization predicts that quantified DPs, which are standardly considered as expressions of type $<<e,t>t>$, are excluded from Topicalization. While this prediction does not seem to be correct, the discussion of these cases is postponed until Chapter 6 where I investigate in detail both CLLDed and Topicalized QPs.

Summing up, in the last two sections we explored the *type-theoretic distinction between CLLD and Topicalization*, according to which the complementary distribution between these two topic-marking dependencies is based on the semantic type of the left-dislocated topic phrase. In the first part of this discussion (section 2.3) we showed that CLLD is an A'-dependency headed by an element of type *e*, while in section 2.4, we have seen that Topicalization is headed by a topic phrase of type $<e,t>$.

2.5. Evidence from existential sentences

In this section I employ existential constructions to test the type-theoretic distinction between CLLDed and Topicalized phrases which is repeated below:

(81) Type-theoretic distinction between CLLDed and Topicalized phrases:
  a. *Individualhood of CLLDed phrases*
    CLLD: $[XP]_{1\text{-}e}$ . . . *(cl) . . .

  b. *Propertyhood of Topicalized phrases*
    Topicalization: $[XP]_{1\text{-}<e,t>}$ . . . (*cl) . . .

Since Milsark (1977), it has been a well-known fact that existential constructions are sensitive to the semantics of the DPs they involve. More specifically, according to Milsark only a *weak DP* may occupy the post-copular position in the English existential construction 'there be'. Given the distinction between *strong DPs* (e.g., definites, strong indefinites, all/every NPs) and *weak DPs* (e.g., weak indefinites) we get the contrast between (82) and (83):

(82) a. *There is [the/each/every glass] on the table.

59

b. *There are [two of the/most glasses] on the table.

(83) a. There is [a glass] on the table.

b. There are [some/many/two glasses] on the table

Milsark's (1977) strong/weak DP distinction has received different treatments in the literature (see McNally 2020 for a review). Some analyses (e.g., de Hoop 1992; Ladusaw 1994; McNally & Van Geenhoven 1997) suggest that the strong/weak DP dichotomy is grounded on the semantic type of these phrases. Accordingly, Milsark's observation for the distribution of the existential construction 'there be' (in many cases considered as a "definiteness restriction"), in studies that followed, turned to a type-theoretic restriction (e.g., Heim 1987; McNally 1998). More specifically, I follow McNally's (1998) proposal that only property-denoting DPs (i.e., phrases of type <e,t>) may arise in the post-copular position in existential sentences (see also Poole 2017).[20]

(84) *there be XP, if XP is not of type <e,t>

Existential sentences in Greek can be expressed with the impersonal existential verb *ehi* (lit: has) (Kampanarou 2021). Therefore, the existential sentence 'there are glasses on the table' is expressed as in (85):

(85) Ehi   [potirja]   pano   sto   trapezi
      has-3SG   glasses   on   to-the   table
      Impersonal existential reading: 'there are glasses on the table'
      (Non-existential reading: 'He/She/It has glasses on the table)'

Ehi can also combine with strong DPs, in these cases though the sentence can only be assigned a non-existential reading with a null subject (86).

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[20] I am not going into the pragmatic aspect of this analysis, whose goal is to constrain the distribution of definite DPs in existential sentences (see McNally 1998: 383). The distribution of the definite DPs in the existential sentences (e.g., (i)) is much more restricted in Greek.

(i) Ehi   [to kotopulo]   sto   psighio.
     Has-3SG   the chicken   to-the   fridge
     'There is chicken in the fridge.'

(86) Ehi   [ta   potirja] pano sto   trapezi.

    has-3SG   the   glasses   on   to-the   table

    'She has the glasses on the table.'

Having said that, the type-theoretic distinction in (81) can be tested by examining to what extent the distribution of CLLD/Topicalization overlaps with the distribution of the existential impersonal *ehi*. First, if the Individualhood condition for CLLD is on the right track, phrases which can be clitic-resumed should be excluded from impersonal *ehi* sentences, because of their individual semantic type. On the other hand, phrases that exclude clitic-resumption are predicted to be fine as complements of the existential *ehi*, because of their property semantic type.

Let us start from some topic phrases that obligatorily give rise to CLLD: *definites* (87), *ta perisotera/lighotera DP* (88), *ola ta DP* (89) (clausal constituents are excluded anyway probably because of their propositional content). Recall that these phrases should be incompatible with the impersonal verbl *ehi*. In the following examples the asterisk denotes the ungrammaticality of these sentences under the existential reading, which means that these phrases do not denote properties. This is in line with the conclusions of section 2.3, namely, that these phrases have individual-level denotations.[21]

(87) *Ehi [ta   potirja] pano sto   trapezi.

    has   the   glasses   on   to-the   table

(88) *Ehi [ta   perisotera/lighotera potirja] pano sto   trapezi.

    has   the   most/least   glasses   on   to-the   table

---

[21] It could be argued that at least some of these phrases, for example *ta perisotera DP*, *ola ta DP* are quantified DPs ($<<e,t>t>$) which undergo quantifier raising leaving an individual variable in the complement position of the verb *ehi*, which violates (84) (see Heim 1987)

(i) *[ola ta NP, ta perisotera/lighotera NP]$_1$ . . . . . . *ehi* t$_{e-1}$

This view is clearly at odds with the Individualhood condition of CLLDed phrases which predicts individual denotations for these phrases. However, as was shown in section 2.3, 'ola ta NP', 'ta perisotera/lighotera NP' may not perform QR and they cannot take scope over other quantified DPs (Anagnostopoulou 1994).

(89) *Ehi [ola ta potirja] pano sto trapezi.
     has all the glasses on to-the table

Turning to indefinite DPs, we predict that wide scope (strong) indefinites, in contrast to the narrow scope (weak) indefinites, may not occupy the complement position in existential sentences. First consider (90), which does not involve an existential construction.

(90) Tha ine periergho an dhen rotisun [kapjes erotisis] ton proedhro.
     will be-3SG weird if not ask-3PL some questions ton president
     'It will be weird if they do not pose some questions to the president.'

In this context the indefinite *kapjes erotisis* is ambiguous as it may refer to a set of specific questions the speaker has in mind, (under the wide scope indefinite construal), or to any question(s) for the president (narrow scope indefinite). Interestingly, when it comes to the impersonal existential *ehi*, the specific reading of the indefinite is blocked (see McNally 1998 among others). This observation offers independent evidence in support of the claim that specific indefinites do not have a property-denotation.

(91) Tha ine periergho an dhen ehi [kapjes erotisis] ja ton
     will be-3SG weird if not has-3SG some questions ton the
     proedhro.
     president
     'It will be weird if there aren't any questions for the president.'

The second step of this argument is to show that topic-phrases that exclude clitic-resumption (i.e., they undergo Topicalization) form well-formed existential sentences. Let us start from bare nominals, with (92) and (93) which illustrate a *bare plural* and a *mass bare noun* in existential sentences, respectively.

(92) Ehi [vivlia] pano sto trapezi
     has-3SG books on the table
     'There are books on the table.'

(93) Ehi   [zahari] pano sto   trapezi.
     has-3SG sugar   on   the table
     'There is sugar on the table.'

Non-specific (existential) indefinites too may appear as complements of the impersonal *ehi* (see also 90). The following examples demonstrate singular and plural indefinites as complements of *ehi*:

(94) Ehi   [ena/ kapjo   vivlio] pano sto   trapezi.
     has-3SG   a/ some   book   on   to-the table
     'There is a/some book on the table.'

(95) Ehi   [pola/ kapja/ dhiafora/ dhio vivlia] pano sto   trapezi.
     has-3SG   many/ some/ several/ two   books on   to-the table
     'There are many/some/several/two books on the table.'

As a conclusion, the existential construction in Greek with the impersonal *ehi* provides independent evidence in favor of the *type-theoretic distinction of topic-marked phrases*, according to which, individual-denoting topics head CLLD chains and property-denoting topics head Topicalization chains. In the following section though, I examine three cases which seem to be exceptions to this mapping.

2.6. Some true and some apparent exceptions

2.6.1. Ouzaki-sentences as amount topicalization

I will start this discussion with a famous example in the literature on doubling phenomena in Greek. The original example comes from Kazazis & Pentheroudakis (1976) (see Anagnostopoulou 1994: fn.4). Here we have the CLLD version of this example (from Gryllia 2009: 67):[22]

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[22] *Ouzaki* is the diminutive form of 'ouzo', an anise-flavored alcoholic drink, widely consumed in Greek and Cyprus.

(96)   Ena   uzaki,   tha   to epina.

       an   ouzo-DIM would CL was-drinking-1SG

      'I would have an ouzo.'

According to the individualhood condition on CLLDed phrases, only specific/strong indefinites undergo CLLD. In 2.2 we saw that specific indefinites are individual-denoting expressions derived by a choice function applying to a set of individuals (Reinhart 1997; Kratzer 1998). Could one really assume a contextually valued choice function over a set of bottles/glasses of ouzo in this 'ouzaki example'? This explanation is hardly plausible since the speaker probably does not have a specific container of ouzo in mind. One could then assume that the topic phrase in (96) is a weak/existential indefinite. As shown in 2.4., weak indefinites are existentially closed $<e,t>$-type DPs which exclude clitic resumption. Under this view, (96) would be a true exception to the generalization defended in this chapter, about the distribution of resumptive clitics in Greek topic-marking strategies. Hence, in what follows I will attempt to exclude this possibility. Below I examine the licensing conditions for exceptionally CLLD sentences like the one in (96), which are here called *ouzaki-sentences* for ease of reference.

    First, contrary to what many believe (see for instance Anagnostopoulou 1994: fn.4), the modal reading is not a necessary condition for these exceptional CLLD cases (A. Roussou, p.c.), as the following example, retrieved from the internet, shows.

(97)   Egho pandos   mia   bira, tin   ipia.

      I   at-least one   beer CL   drank-1SG

      'As for me, I had one beer.'

Thus, although modality does play a role, it should be discussed separately. I discuss CLLDed indefinites in modal contexts in the next section. In what follows I turn to past-tense/episodic examples.

    Second, *ouzaki-sentences*, that is sentences with CLLDed phrases which do not refer to a specific entity, cannot be formed with just any weak NP. Consider the following examples:

(98)   a. *[Bires],   tis ipjame.
             beers   CL drank-1PL
             'We had beers.'

       b. *[Kapja   bira],   tin ipjame.
            some   beer CL drank-1PL
            'We had some beer.'

       c. [Dhio   bires], tis ipjame.
            two   beers CL drank-1PL
        'We had two beers.'

       d. [Lighes   bires], tis ipjame.
            few   beers CL drank-1PL
            'We had few beers'

(98a) shows that bare nominals cannot be 'exceptionally' CLLDed. The same is true for the indefinite determiner 'some' (98b). It goes without saying that (98b) is grammatical under the specific/referential/strong reading of the indefinite DP. In contrast, (98c) and (98d) with a non-referential reading are grammatical. This contrast supports the idea, which is followed here, that these *ouzaki- sentences* express amount topicalization. More specifically, weak DPs without any amount information (such as 'some' NPs or bare nominals) are excluded from this construction. On the other hand, amount topicalization with numeral DPs is much more common, as expected.

    Quite characteristic are the following examples that are provided here as evidence that topic-marking of an amount can be performed through CLLD in Greek. In particular, the topic phrases in (99) and (100) are unambiguously interpreted as amount phrases. Such sentences are pretty common in colloquial Greek.

(99)   (Afou imastan stin Athina…)   [ena   Verti], ton pighame.[23]
     'Since we were in Athens..'   one   Vertis CL went-1PL
     'We went to the place where Vertis sings for a little bit, since we were in Athens.'

---

[23] Vertis (not to be confused with the Italian opera composer Giuseppe Verdi) is a Greek pop-singer.

(100) [Mia tualetitsa],   tin pighena   tora.
    one   toilet-DIM   CL would-go-1SG   now
    'I would go to the toilet now (but it is not an emergency).'

Consider (99). What is understood with the topic phrase 'ena Verti' is a specific quantity of time (at the place where Vertis sings).[24] (99) cannot mean that we went to some (unknown) singer called 'Vertis'. For this interpretation we would need a preposition-headed goal phrase.[25] Compare the loose translations of (101), with an amount phrase, and (102) with an entity referring phrase. The same argument applies to (100).

(101) Pighame [DP ena   Verti].
    went-1PL   one   Vertis
    'We went to the place where Vertis sings, for a little.'

(102) Pighame [PP se [DP ena   Verti]].
    went-1PL   to   one   Vertis
    'We went to some (not so famous singer called) Vertis.'

Returning to our previous beer-examples, we can more straightforwardly show that the topic-phrase *dhio bires* 'two beers' from (98c) may express amount interpretation by combining them with predicates that normally apply to amount phrases:

(103) [Dhio   bires]   ine   ligho.
    two   beers   is-3SG little
    'Two beers is not enough.'

I have argued that, semantically, *ouzaki-sentences* express topic-marking of some amount. For expository reasons, I illustrate this assumption as in (104b), without really

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[24] Measuring with proper names under metonymy is a common phenomenon in natural languages like in 'we read some Shakespeare' where *Shakespeare* is understood as 'the plays by Shakespeare'.

[25] I would like to thank Dimitris Michelioudakis (p.c.) for pointing this out to me.

assuming that the phrase 'the amount of' is a covert phrase, present in the syntax-semantics interface:

(104) a. Ena uzaki,   to   ipjame.
      an ouzo-DIM CL   drank-1PL
      'We had an ouzo.'

      b. [Ena ouzaki] = the *amount of ouzo* that corresponds to one glass (or more)

(104b) is reminiscent of what is found in *amount relativization* where the head of an amount-relative can be interpreted as an amount-phrase, in the absence of a measure term (i.e., liter) (see Grosu & Landman 1998):

(105) a. We will need the rest of our lives to drink [the wine] they spilled that evening.
      b. [the wine] = the *amount* of wine

   It is worth noting that *ouzaki-sentences* appear to be constrained by a pragmatic condition. *Ouzaki-sentences* are more felicitous with determiners that denote a small rather than a large amount.

(106) a. [Lighes bires], tis ipjame.
      few   beers CL drank-1PL
      'We had few beers.'

      b. #[Polles   bires], tis ipiame.
       many   beers CL drank-1PL
      'We had many beers.'

(107) a. [Dhio   bires], tis ipiame.
      two   beers CL drank-1PL
      'We had two beers.'

     b. #[Dhekapente bires], tis ipiame.

         fifteen   beers CL drank-1PL

       'We had fifteen beers.'

A complete pragmatic account of this effect is beyond the scope of the present study.[26] Here I will only attempt to describe the intuition of native speakers about the pragmatics of the *ouzaki-sentences*. What seems to be the case, which is also compatible with the observations associated with the contrast in the pairs in (106) and (107) is that the utterer recognizes that the amount denoted by the topic phrase is at the lower part of a contextually relevant scale. To put it differently, the speaker minimizes or depreciates the amount under discussion. This pragmatic effect can be explicitly indicated with the continuation *sigha to praghma* meaning ". . . and this is not much/important".

(108) a. [Dio   bires], tis ipiame   (… sigha to praghma).

       two   beers CL drank-1PL

      'We had a couple of beers… this is not much.'

     b. #[Dhekapente   bires], tis   ipiame   (… sigha to praghma).

        fifteen   beers   CL drank-1PL

      'We had fifteen beers… this is not much.'

---

[26] It cannot be the case that the pragmatic minimizing effect (see "and that's not much") in the 'ouzaki examples' derives from the semantics of *contrastive topicalization* (*pace* Oikonomou et al. 2020). The same minimizing effects arise with the doubled numeral phrases in clitic-doubling constructions (for Greek Clitic-doubling, see Anagnostopoulou 1994).

(i) a. Tis ipjame   dhio/lighes bires.

    CL   drunk-1PL two/few   beers

    'We had two/few beers (and that's not much).'

(ii) b. #Tis ipjame   dhekapede/poles   bires.

    CL   drunk-1PL fifteen/many   beers

     'We had fifteen/may beers (and that's not much).'

Clitic-doubling in Greek though does not license a contrastive topic interpretation (Georgiou 2020). The source of the pragmatic minimizing effects found in clitic-doubled (in CLLD or Clitic-Doubling) phrases must be further explored.

This pragmatic effect seems to be associated with the extended use of *diminutive nominals* in this construction (see 109b). On the other hand, *augmentatives* are not compatible with the pragmatic effect outlined above, thus they are infelicitous (109c).

(109)   a. dhulepsa arketo kero, opote…

        'I've been working for a long time, so…'

        b. [dhio   spitakia],   ta pira.

           two   houses-DIM   CL took-1SG

           'I bought two little houses.'

        c. #[dhio spitarones],   tis pira.

           two houses-AUG   CL took-1SG

           'I bought two big houses.'

Phonologically, *ouzaki*-sentences exhibit a specific intonational pattern, as they seem to require a focus pitch accent on the verb. In section 2.2, we saw that in CLLD sentences the dislocated topic phrase and the rest of the sentence (the *comment*-part) form different intonational phrases separated by a 'comma pause' (Baltazani & Jun 1999). As it can be seen in (102), in typical CLLD sentences, the pitch accent in the comment part can fall either on the verb or on the postverbal subject:

(110)   a. [Topic Ti Maria], [Comment tin IDHE o Panajotis]

        b. [Topic Ti Maria], [Comment tin idhe O PANAJOTIS]

          'Mary, Panagiotis saw.'

On the other hand, as (111) shows, in *ouzaki*-sentences the pitch accent falls on the verb:

(111)   a. [Topic Ena ouzaki], [Comment to IPJE o Panajotis]

        b. #[Topic Ena ouzaki], [Comment to ipje O PANAJOTIS]

          'Panagiotis had an ouzo.'

The intonation pattern with focus-marked verbs is generally referred to as *verum focus* and it is used when a speaker wants to stress the truth of the sentence in question.

To recap, *ouzaki*-sentences realize an idiosyncratic construction which semantically expresses topic-marking of a covert amount phrase. Thus, no reference to any entities is involved (see Scontras 2014: 311). This accounts for the fact that indefinites in these exceptional CLLD sentences are not understood as *specific/referential indefinites* and they are sometimes assumed to receive narrow-scope readings (see Oikonomou 2019). In addition, this idiosyncratic construction is associated with certain pragmatic effects, namely the utterer minimizes the amount denoted by the topic phrase and/or the importance of this amount. Last, ouzaki-sentences require a specific intonational pattern which assigns a pitch accent to the verb that follows the topic phrase.

The problem now that *ouzaki*-sentences raise is how they comply with the individualhood condition on CLLDed phrases. If what has been said so far is on the right track, the analysis of these sentences requires amount-semantics and for this reason a full-fledged analysis of these cases fall beyond the scope of this thesis. As a brief remark, Scontras (2014) develops a kind-analysis of *degrees* which is compatible with the individualhood condition. Consider (112):

(112) [Dhio vivlia],   ta dhjavasa sti   zoi   mu.
        two   books   CL read-1SG to-the life   my
        'I have read two books, in my life.'

A degree is an abstract representation of measurement, which, according to Scontras, is defined with a measure function (*μf*), such as *kilos* or *feet* and a value *n*. For instance, the sentence in (112) involves a *cardinal measure function* and the value *2*. Crucially, Scontras (2014: 314) notes that "these representations [degrees] behave as individuals: speakers may reference degrees and provide them as arguments to predicates" and he formalizes this idea by assimilating degrees to (nominalized) kinds. More specifically, following Chierchia (1998) who assumes that type *e* kinds (e.g., DOG) are derived with the *down operator* (∩) applying to the predicate 'dog', Scontras suggests that the down operator (∩) is involved in individual degrees as well, as in (113):

(113) degree := $^{\cap}\lambda x.\ \mu_f(x) = n$

Against this background, it could be proposed that the CLLDed topic phrase in (113) denotes the individual correlate of the set of amounts/degrees such that the amount of x is 2 and x is a book:

(114) $[\![\text{two books}]\!] = ^{\cap}\lambda x.\ \mu_{card}(x) = 2\ \&\ book(x)$

A denotation of this sort can be developed for the other *ouzaki'* sentences as well, with the use of the proper metonymical relations (e.g., beers, ouzaki as bottles of beers/glasses of ouzo). The analysis of the CLLDed phrases in the *ouzaki-sentences* as amount phrases along the lines of (114) is aligned with the individualhood condition on CLLDed phrases.

2.6.2. Free choice Indefinites

The following example illustrates a CLLD sentence with an indefinite topic phrase with a modal verbal form (see Angelopoulos & Sportiche 2021: section 5.3.3).

(115) [Enan kalo skilo] dhen tha   ton   htipagha pote.
       a   good dog   not   would CL   beat-1SG ever
       'I would never beat a (=any) good dog.'

Clearly, in (115), no reference to a specific dog in the actual world is made, rather the CLLDed indefinite DP appears to receive a *free choice interpretation* (*i.e.,* any good dog). As a matter of fact, Angelopoulos & Sportiche (2021) use the term 'free choice indefinite', which I will keep using here for ease of reference, though it should be made clear that these indefinites are not true free choice forms like *opiosdhipote* (whoever) and *otidhipote* (whatever) (see Giannakidou 2001). Angelopoulos & Sportiche (2021) note that, in Greek, an indefinite may be interpreted as a free choice element only if it is licensed by a modal operator, such as the modal conditional form 'would' in (108) which is expressed through the future particle *tha* plus the past imperfective form of the verb. As a result, a free choice reading does not arise with an indefinite in the corresponding episodic context (Giannakidou 2001).

(116) [Enan kalo   skilo] dhen ton   ktipisa   pote.
        a   good dog   not   CL   beat-1SG ever
        'I never beat a (≠any) good dog.'

The problem with (115) is the following: the type-theoretic generalization for CLLD
and Topicalization predicts that among the indefinite DPs, only the strong ones
(specific/referential) undergo CLLD whereas topic-marked non-referential indefinites
resort to Topicalization. What happens in (115) seems to be an exception to this rule,
because the CLLDed indefinite does not refer to a specific dog. However, in defense of
the individualhood condition on CLLD, I will argue that, like specific indefinites,
CLLDed indefinites with a free choice reading are individual-denoting phrases, with the
only difference being that they are interpreted within a modal, non-veridical situation.

    Recall that in section 2.3 I argued that specific indefinites are derived with a choice
function that applies to a set extracting a specific element of that set. Consider however
the following example from Kratzer (1998):

(117) Every husband had forgotten *a certain date* – his wife's birthday.

Kratzer (1998) notes that while an indefinite DP like *a certain date* has only a specific
interpretation, though its denotation in (117) varies with the value of the universal
quantifier: as the continuation of the sentence implies, each man is related to a different
date. In order to account for these examples, Kratzer suggests the p*arametrized choice
functions* analysis which presumes an implicit argument that appears as a variable tied
up with the choice function variable (f_x):

(117') Every husband had forgotten f_x(a certain date) – his wife's birthday.

As shown below, in (117''), the variable *x* gets bound by the universal quantifier, which
means that each man of the domain restriction is mapped to a different choice function,
hence into a different date.

(117'')$\forall$x[husband(x) → had forgotten (x, f_x(date))]

It should be stressed that the parametrized choice function approach is not restricted to indefinites that covary with quantifiers ranging over individuals. For instance, it has been shown that, Russian indefinites co-vary with the universal quantifier ranging over times. First note that the specific/non-specific distinction in Russian is morphologically realized with the suffixes *–to/-nibud* respectively (see Eremina 2012 and references therein). Witness (118) where the *–to indefinite* necessarily takes scope over negation referring to a specific book that the speaker couldn't find (Eremina 2012: ex.29).

(118) Ja ne   nashla   kakuju-to knigu.
      I   not   found-1SG   some   book.
      'I didn't find some book.'

Although, *–to indefinites* are typically used to refer to a specific entity, in several contexts they appear to have non-specific readings as for example in sentences with the adverb *vsegda* 'always' (Eremina 2012: ex.53).

(119) Kakoj-to student   vsegda   chitajet   gazetu   na uroke.
      some   student   always   reads-3SG newspaper   in class.
      'Some student always reads a newspaper in class.'

Given that *to*-indefinites are specific indefinites, in the sense that they are interpreted via choice functions, it is argued that their variable denotation demonstrates that the 'implicit-argument variable' gets bound by the adverb which is a universal quantifier ranging over times.

An additional case of *to*-indefinites with quasi-non-specific interpretation, which is relevant to the CLLD example (115) above, are the sentences with conditionals where indefinites co-vary with and bound by an operator ranging over possible worlds through binding of the implicit argument (see Yanovich 2006 and especially Eremina 2012: ex. 47).

(120) Petia budet schastliv, jesli   kakaja-to devushka pridet.
      Petia will   be-happy if   some   girl   come-FUT
      'Petia will be happy if some girl comes.'

In essence, my proposal here is that *CLLDed indefinites* in Greek are semantically equivalent to *to-indefinites* in Russian: both involve a (parametrized) choice function which results to an individual-level denotation. Therefore in (115), the CLLDed indefinite introduces a choice function which results to an individual denotation and clitic-resumption is expected. What is the difference then between the CLLDed indefinites examined in section 2.3 which refer to specific referents and the CLLD indefinite in (115) which refers to any 'good dog'? According to Kratzer's analysis, when the implicit argument remains free, it is assigned a value by the speaker. These phrases are interpreted as wide-scope indefinites. On the other hand, in (116) the implicit argument is bound by the modal operator which ranges over possible worlds: the choice function still selects an individual 'good dog', but now we have a set of choice functions – a different choice function for each possible world. This is what derives the free-choice/*any* interpretation. Crucially, this analysis correctly predicts the lack of this interpretation in the episodic sentence in (109) where there is no modal operator to bind the implicit argument. This means that it remains free and it can only be valued by the speaker. As a result, it is obligatorily interpreted as specific indefinite.

A similar account for the cases under discussion can be found in Keshet (2010), who also presumes choice functions that are depended on situation/world operators. More specifically, Keshet (2010: 695) argues that the ambiguity of (121) is derived by the fact that the choice function variable can be bound at different points.[27]

(121) a. Mary thinks that if [two uncles] of hers die, she will be rich.

b. [∃*f* [Mary **thinks** that [if *f*(two uncles of her) . . .

c. [Mary **thinks** that [∃*f* [if *f*(two uncles of her) . . .

In the first interpretation of (121) (see 121b), the choice function chooses the same pair of Mary's uncles across all her thought worlds. In other words, Mary's plans involve two specific uncles of her that she has in mind. On the second reading, Mary is not sure which of her uncles will make her rich. Thus, we need a function choosing a different pair of uncles for each *thought-world*. This reading is derived with the choice function variable being bound within the scope of the intensional verb *think*. With this distinction

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[27] Keshet (2010) adopts Reinhart's (1997) version of choice function analysis, according to which a free choice function variable is bound by an existential closure operator.

in place, consider the following analysis of our initial *free-choice* example, repeated here as (122) and represented roughly as in (122'):

(122) [Enan kalo skilo] dhen tha ton xtipagha pote.

     a good dog not would CL beat-1SG never

     'I would never beat a (=any) good dog.'

(122') [WOULD [∃f [never beat f(a good dog)]]]

According to (122'), there is a choice function that results to a different 'good dog' for each possible counterfactual world, triggered by the modal operator WOULD. This line of analysis captures the characteristic properties of free choice indefinites. First, the 'free choice' interpretation (i.e., any good dog) is derived with the choice function extracting a different dog for each possible unrealized world. Further, (114) involves an individual-denoting topic phrase, which, as the individualhood condition on CLLD predicts, must be clitic-resumed.

Summarizing, I presented two different approaches to the CLLDed free choice indefinites: the first one is based on Kratzer's (1998) parameterized choice function framework, while the second embraces Reinhart's (1997) main assumptions about the choice-function analysis of specific indefinites. Which one should be preferred over the other does not affect the conclusions of the present thesis. For the purposes of this section, it suffices to say that both accounts involve a (intensional context-depended) choice function analysis for the free-choice interpretation. A choice function, by definition, generates an individual denoting element and as the analysis of this chapter predicts, these elements get clitic-resumed when they are topic-marked.

2.6.3. News register topicalization

So far, we have seen two cases which are only apparent exceptions to the individualhood condition on CLLDed phrases. However, the construction that I am turning to now seems to be a true exception, as its special properties suggest. The following example comes from Alexopoulou & Kolliakou (2002: 196) and it shows an exceptional behavior in two respects.

(123)   a. To Kratiko Theatro ksekinise htes ti himerini seson me tin Erofili tu Hortatsi.

'Yesterday the State Theatre began its winter season with Erofili by Hortatsis.'

b. . . . Tin   parastasi,   skinothetise o Karolos   Koun.

the   performance directed-3SG the Karolos   Koun

'Karolos Koun directed the performance.'

First, (123) deviates from the individualhood condition because although the left-dislocated topic phrase is a referential definite DP, it is not clitic-resumed (see also Kechagias 2014).

Second, as the authors (Alexopoulou and Kolliakou 2002: 228) note, the acceptability of such examples is tied to the pragmatic context in which they occur (see also Roussou & Tsimpli 2006: 343). More specifically, these sentences are judged as fully acceptable by native speakers only if they are presented to them as part of TV/newspaper news. This is the pragmatic context in which (115) is realized as well.

Based on the peculiar distributional behavior of this topic-marking construction, I will be using the term '*news-register topicalization*' to refer to these cases. The counterpart of (123) in colloquial Greek would be uttered with a CLLD sentence.

(124) Apistefto   re!   Tin   parastasi,   *(ti)   skinothetise o   Koun!

unbelievable dude   the   performance CL   directed-3SG the   Koun

'Unbelievable dude! Koun directed the performance!'

From the perspective of the present study, what is really idiosyncratic in sentences like (123) is the absence of the resumptive clitic. Therefore, *news register topicalization* is an idiosyncratic syntactic structure which is strictly related to a specific pragmatic context.[28] Crucially, this construction does not generalize to the spontaneous oral register (even in formal contexts). Given that, and in absence of a better solution, I tentatively suggest that this construction should be examined from a functional

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[28] A. Roussou (p.c.) suggests that the lack of clitic-resumption in these cases might indicate that these topic-phrases present new information (i.e., they are *discourse-new*), which is consistent with the news register. However, note that in (123) the performance under discussion (Erofili) is already introduced by the previous sentence.

perspective: the clitic is dropped at a meta-linguistic level as a strategy for the speakers to indicate the formal context in which this utterance is expressed.

Crucially, the same phenomenon is encountered in the realm of relative clauses as well. More specifically, resumptive clitics are obligatory in appositive (non-restrictive) relative clauses in Greek. However, as Alexopoulou (2006: fn.24) notes the clitic can be dropped in the *news-register* context:

(125) O   Karamanlis, ton opio/pu   (ton) ihan   prosegisi   diafores
      the   Karamanlis, the who/that clitic had-3PL   approached-3PL   various
      parataxis pros   to   telos tis   diktatorias.
      parties   towards   the   end   the   dictatorship
      'Karamanlis, who various parties had approached towards the end of the
      dictatorship.'

As a result, the fact that this phenomenon extends beyond topic-marking dependencies shows that *clitic-drop* in specific pragmatic contexts cannot be straightforwardly attributed to any topic-related discourse function (*pace* Kechagias 2014).

2.7. Summary: Distribution of Greek CLLD and Topicalization

Summing up, the left-dislocated phrase in both CLLD and Topicalization is a topic phrase. Topichood is a discourse function which is syntactically encoded through a dedicated functional projection, the TopicP. Furthermore, in this chapter we saw that the complementary distribution between CLLD and Topicalization is based on the semantic type of the dislocated topic-phrase:

(126) *Individualhood of CLLDed phrases*
       CLLD: $[XP]_{1-e}$ . . . *(cl) . . .

(127) *Propertyhood of Topicalized phrases*
       Topicalization: $[XP]_{1-\langle e,t \rangle}$ . . . (*cl) . . .

According to (126) and (127), topic phrases of type *e* undergo CLLD, while property-denoting topic phrases undergo Topicalization. Of course, this generalization, though

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accurate, is purely descriptive, without any explanatory power. Further insight about the correlation between individual denoting topics and the presence of resumptive clitics cannot be gained without an extensive discussion on the nature and the function of the clitics in Greek. This discussion is offered in Chapter 5. In chapters 3 and 4, I focus on the syntactic and semantic properties of Topicalization and CLLD, which, as I argue, stem from the type-theoretic distinction presented above.

Chapter 3. Greek Topicalization: movement of properties

3.1. Introduction

In Chapter 2 we showed that Greek Topicalization is a true topic-marking dependency which is syntactically encoded in a left-peripheral topic projection, TopP (Rizzi 1997). Furthermore, according to the *Propertyhood Condition* on Topicalized phrases, Topicalization is restricted to property-denoting topic phrases, while it excludes resumptive clitics (see (1)).

(1)   Topicalization: $[_{TopP} [topic]_{<e,t>} [_{TP} \ldots (*CL) \ldots]]$

Nevertheless, (1) is not even close to a complete syntactic analysis of Topicalization. In this chapter, I examine the syntactic properties of this construction in more detail with the aim of filling this gap. More specifically, the data in this chapter suggest that:

   a. Topicalization involves A'-movement (internal merge) of the topic phrase to the left periphery.
   b. The topic phrase obligatorily undergoes *total reconstruction* (see below).

   Parenthetically, in the literature of 'reconstruction', the same term (e.g., *obligatory reconstruction*) is sometimes used to describe different things. To avoid any unnecessary confusion, it is worth clarifying how several terms are to be used in the present study.

   a. Obligatory *vs.* Optional reconstruction: If Condition C effects are detected under reconstruction, it means that the moved phrase cannot avoid reconstruction, i.e., it obligatorily reconstructs. Descriptively speaking, A'-movement obligatorily reconstructs, while reconstruction in A-movement is only optional (see Sauerland 1998: 2.3 among others). This is the background assumption behind the well-documented finding that A-movement bleeds Condition C (see

Takahashi & Hulsey 2009 and references therein). Recall that this study is restricted to A'-chains, where reconstruction is obligatory.

b. <u>Total reconstruction</u>: When a moved element undergoes total reconstruction, only its lower copy is interpreted (by deletion/neglection of the higher copy at LF). This kind of reconstruction is necessary in cases of scope reconstruction. Other types of reconstruction effects (e.g., Condition C reconstruction) do not require total reconstruction.

The above notions will become more precise as the discussion proceeds. For an overview of the reconstruction phenomena, the reader is referred to Sportiche (2017) and Keine & Poole (2018). Returning to Greek Topicalization, the abstract schematic representation in (2) illustrates the syntactic analysis that I am going to propose for this construction. As indicated in (2), only the foot of the Topicalization chain is interpreted at LF.[1]

(2)   Topicalization: [$_{\text{TopP}}$ [~~topic~~]$_{<e,t>}$ [$_{\text{TP}}$ . . . [topic]$_{<e,t>}$ . . .]]

In this chapter I will also discuss how the representation of Topicalization in (2) is related to *ReMIV* (*Resumption Marks Individual Variables*, Chapter 1), a descriptive generalization that regulates the distribution of resumptive clitics in A'-dependencies. According to ReMIV, resumptive clitics arise (always and only) when an A'-trace is interpreted as an individual (type *e*) variable. As shown in (2), Topicalization involves total reconstruction of the property-denoting topic to its trace position. On this basis, ReMIV derives the fact that Topicalization excludes resumptive clitics in a straightforward manner.

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[1] It should be clear that the LF-deletion (neglection) for the purposes of the interpretation of sentences and the PF-deletion which concerns the phonological representation of the sentence do not always target the same phrase. This is what we expect for the Topicalization sentences in Greek, given (2):

(i) LF: [$_{\text{TopP}}$ ~~[topic]~~ [$_{\text{TP}}$ . . . [topic] . . .]]

    PF: [$_{\text{TopP}}$ [topic] [$_{\text{TP}}$ . . . ~~[topic]~~ . . .]]

3.2. Topicalization involves A'-movement

Here is our prototypical example of Topicalization from Chapter 2. First of all, recall that Topicalization excludes clitic-doubling of the topic phrase, as (3) demonstrates.

(3)   [Palto],   (*to)   aghorase   o   Kostas.
       coat   CL   bought-3SG   the   Kostas
       'Kostas bought a coat.'

In addition, the topic phrase in Topicalization sentences is of type <e,t>. More precisely, in (3), the bare DP denotes a property (<e,t>) which gets existentially closed in the course of the derivation (see Chapter 2, section 2.4).

   Crucially, in (3), the topic constituent is interpreted as the theme of the verb *aghorase*; however, it does not appear in an argument (post-verbal) position. Rather, it occupies a left-peripheral position, in which it is interpreted as a sentence topic. The most obvious question at this point is about the syntactic derivation that underlies this topic-phrase displacement. Two options are usually considered: either the topic phrase merges within the VP and moves to the left periphery (movement analysis), or the topic phrase is base-generated (externally merged) in its surface position (base-generation analysis). In the former case there must be a copy of the topic-phrase in the object position, while in the latter there is only one instance of the topic-phrase, in the left periphery. Here I take the following example to strongly suggest a movement analysis in line with (2):

(4)   *[Fotoghrafies   tu   Kosta$_1$],   pro$_1$ stelni   sti   Maria.
        pictures   the   Kostas   send-3SG to-the Mary
       'He sends Mary pictures of Kostas.'

The ungrammaticality of (4) is related to the coindexation of the null subject pronoun pro with the proper name *Kostas* inside the topic phrase.

   Before I demonstrate how this example indicates movement of the topic phrase, allow me to examine an alternative explanation for the ungrammaticality of (4). More specifically, someone might argue that, since the proper name immediately precedes the subject pronoun, (4) involves a violation of Binding Condition B, as in (5):

(5)   *Kostas$_1$ loves him$_1$.

Here I give three reasons against this hypothesis. First of all, the proper name does not c-command the subject pronoun in (4). Being a complement to the noun *fotoghrafies*, *Kostas* is further embedded within the topic-DP and it does not c-command any phrase out of the topic-DP. Similarly, the proper name 'tis Meris' in (6) is complement to the noun (*antras*). The fact that (6) does not violate Condition B shows that the proper name from this syntactic position does not c-command the pronoun that follows:[2]

(6)   [O   antras   tis   Meris$_1$]   ti$_1$ zilevi   poli.
        the   husband   the   Mary   her   is-jealous-3SG much
        'The husband of Mary is so jealous of her.'

Second, in (7) the distance between the pronoun and the DP-antecedent is extended beyond a CP boundary. The proper name now is without a doubt, outside the domain in which the pronoun must be free. (7) is bad against the predictions of the Condition B hypothesis.

(7)   *[Fotoghrafies   tu Kosta$_1$],   ksero   oti   pro$_1$ stelni   sti   Maria.
         pictures   of Kostas   know-1SG   that   send-3SG   to-the Mary
        'I know that Kostas sends Mary pictures of himself.'

Third, pronouns and anaphors are, in most of the cases, in a complementary distribution in a way that Condition B effects are eliminated by replacing a non-anaphoric pronoun with an anaphor. This would work for (5), but it does not in (8):

(8)   *[Fotoghrafies   tu Kosta$_1$],   [o eaftos tu]$_1$ stelni   sti   Maria.
         pictures   of Kostas   the self   his   send-3SG to-the Mary
        'Kostas sends Mary pictures of himself.'

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[2] Although *ti$_1$* in (7) is a clitic pronoun, it is not glossed with *CL*, which I keep for resumptive pronouns only. For free/referential pronouns I use English weak pronouns instead.

It is thus reasonable to analyze the ungrammaticality of (3), along the lines of (9) which is assumed to violate Binding Condition C under reconstruction (Freidin 1986; Lebeaux 1988; Chomsky 1995; among others):

(9)   *[Which picture of John$_1$]$_2$ does he$_1$ like t$_2$?

It is uncontroversial that in many cases, a moved element is interpreted not in its PF-position, but in the position where it is externally merged (see Sportiche 2016 and the references therein). This phenomenon is commonly described with the term *reconstruction*. This is because earlier studies conceived this phenomenon as a property of the moved element to reconstruct, by *LF-lowering*, to the syntactic position they occupied before movement has taken place (May 1977; Chomsky 1977; Barss 1986). Nevertheless, with the development of the Minimalist Program, where traces are conceived of as copies of the moved element, the effects of reconstruction are directly derived without postulating a special reconstruction mechanism (Chomsky 1995; Fox 1999; Sauerland 2004). Therefore, we can get rid of an actual reconstruction operation if we adopt the reduction of movement to an instance of *Internal Merge*, an operation that merges a copy of a previously merged element in a higher position (see the relevant discussion in Chapter 1). As a result, the semantic component has access to both copies of the 'moved' phrase. Having said that, it should be clear that the existence of a copy in a lower position presupposes a movement derivation, and as is usually put 'reconstruction effects' indicate movement.

Returning to (9), a movement derivation implies a copy of the wh-phrase (in angle brackets) in its base position as in (10):[3]

(10)   *[Which picture of John$_1$] does he$_1$ like <which picture of John$_1$>?

In (10), the copy of the moved constituent contains the R-expression *John* which is c-commanded by the coreferential pronoun *he$_1$*. In this way, the ungrammaticality of (9) is straightforwardly attributed to a Condition C violation. In reconstruction terms, the wh-phrase obligatorily reconstructs to its base position for Condition C. In the same vein,

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[3] Here, I ignore the elimination of the wh-operator of the lower copy (Chomsky 1995; Fox 1999).
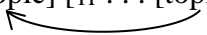
the ungrammaticality of (4), under a movement analysis (see 11), is an instance of reconstruction for Condition C.[4]

(11) *[Fotoghrafies tu Kosta$_1$], pro$_1$ stelni sti Maria <fotoghrafies tu Kosta$_1$>

More accurately, (11) shows that Topicalization involves *A'-movement*, as opposed to *A-movement*. The distinction between A/A'-movement is crucial with respect to reconstruction for condition C; recall that Condition C effects indicate obligatory reconstruction, a characteristic property of A'-movement chains. On the other hand, it has been shown that A-movement shows optional reconstruction, bleeding Condition C (see Takahashi & Hulsey 2009). In the raising construction in (12), (from Sportiche 2016: ex41) the A-moved phrase does not need to reconstruct into its base position (t$_1$) below the pronoun *him*.

(12) [These pictures of Picasso$_1$]$_2$ seemed to him$_1$ to be t$_2$ unattractive.

Given the above clarifications, it is concluded that Topicalization involves A'-movement of the topic phrase to the left-periphery, as in (13).

(13) Topicalization: [$_{TopP}$ [topic] [$_{TP}$ . . . [topic] . . .]]

While reconstruction for Condition C is generally assumed irrefutable evidence of a movement derivation, in what follows I provide additional arguments in favor of the movement analysis, as opposed to the base-generation analysis. To start with, it is well-known that syntactic movement is diagnosed by Weak Crossover (WCO). Descriptively, WCO refers to the unavailability of a moved element to bind an intervening DP-embedded pronoun: the A'-moved phrase c-commands the pronoun from its landing site, but not from its launching site (Postal 1971; Wasow 1972).

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[4] It should be noted that (11) does not necessarily mean that the topic-phrase has been moved from the direct object position; it only shows that the topic-phrase moves from some position below the subject pro$_1$. I return below to the subject position in Greek (see section 3.4.2).

(14)   *Who$_1$ does [his$_1$ boss] dislike t$_1$?

(Lasnik & Stowell 1991:689)

The theoretical background on WCO is rich, and many different accounts of this phenomenon have been proposed (see Safir 2017). Nonetheless, it is a common assumption that WCO sensitivity is a property of A'-movement chains.[5] From this perspective, the detection of WCO effects in Topicalization supports the movement analysis proposed above (a more detailed discussion on the nature of the WCO phenomenon is given in section 3.3.4 and Chapter 4, section 4.3.3). Witness (15):

(15)   *[Kapion fititi]$_1$,   proselave [o   pateras   tu$_1$]   t$_1$.
         some   student   hired-3SG the   father   him
        'His father hired some student.'

Of course, if the topic phrase and the intervening pronoun were not coindexed (thus if the possessive pronominal were a free pronoun, referring to some contextually salient individual) (15) would be perfectly fine. Below I refine my explanation of WCO in Greek Topicalization.

Further evidence for a movement analysis of Topicalization comes from island-sensitivity (see Boecx (2012), for a comprehensive overview of islands). Here, I restrict myself to *strong islands*, out of which movement of any sort is blocked. Consider (16) which illustrates wh-extraction (of *which book*) out of a relative clause. Since relative clauses are considered strong islands (crosslinguistically), this movement leads to ungrammaticality, often called 'strong island violation'.

(16)   *[Which book]$_1$ did John meet [$_{island}$ a child who read t$_1$]?

Other well-known examples of strong islands are *adjunct*s, *subject clauses*, *complex NPs* (nouns with CP complements), and *coordinate structures*. Having said that, islandhood is a good diagnostic to check whether a given dependency involves

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[5] It has been shown that the opposite is not true. The lack of WCO effects does *not* tell us anything about the presence or the absence of an A'-movement chain. In other words, in an A'-movement chain, WCO-effects may be eliminated due to other reasons (see the discussion in Lasnik & Stowell (1991) and Ruys (2004) who use the term 'weakest crossover' for these cases).

movement or not: movement dependencies are island sensitive, whereas non-movement (e.g., binding) dependencies are insensitive to islands. Our analysis of Topicalization predicts that a topic phrase may not be extracted out of a strong island. As a matter of fact, that Topicalization is island sensitive is already known since Dimitriadis (1994). Consider the following examples: (17) illustrates a Topicalization chain across a relative clause island and (18) across an adjunct.

(17)   *[Palto]$_1$, o Janis sinadise [$_{island}$ tin kopela pu dhen forai t$_1$].
     coat   theJohn met-3SG   the girl that not wears-3SG
     'John met the girl who never wears a coat.'

(18)   *[Katharistes], o ipurghos paretithike [$_{island}$ afu proselave t$_1$].
     cleaners   the minister resigned-3SG   after hired-3SG
     'The minister resigned after he had hired some cleaners'

As a conclusion, (17) and (18) demonstrate that Topicalization is an island-sensitive movement chain, confirming the analysis proposed in this chapter.

Above, it was made clear that 'reconstruction effects' indicate a movement derivation and we saw that a copy of the topic phrase in a lower position triggers Condition C effects. Nevertheless, reconstruction for Condition C is not the only case where a moved phrase is interpreted in a lower position. I am now turning to a number of additional reconstruction effects which lend further support to the movement analysis of Topicalization.

First, we will examine *reconstruction for pronominal-binding* where a pronoun within the displaced topic phrase can be bound by a quantifier in a lower position, as in (19).

(19)   [Fotoghrafies tu baba tu$_1$]$_2$, dhen efere [kanenas mathitis]$_1$ t$_2$.
     pictures   the father his not brought-3SG no-(one) student
     'No student brought a picture of his father.'

Binding requires c-command, therefore in (19) we need to assume that the pronominal variable *tu$_1$* can be interpreted in a lower position, within the c-command of the QP-

binder *kanenas mathitis*. Indeed, we have already explained that the movement analysis of Topicalization presumes a copy of the topic-phrase in its base position, as in (19'):[6]

(19')   <photos of his₁ mother>, [no student]₁ brought <photos of his₁ mother>

Second, the term *reconstruction for anaphor-binding* (also called *reconstruction for Condition A*) refers to sentences where a moved phrase contains an anaphor which is bound by an antecedent in a lower position. In (20), the anaphor *tu eaftu tu* 'of himself' within the dislocated topic-DP is coindexed with the postverbal subject, thus it is not clear how Condition A is satisfied in this case (see Anagnostopoulou & Everaert 1999; Angelopoulos & Sportiche 2022 for the syntactic behavior of Greek anaphor *eaftos*).

(20)   [Fotoghrafies tu   eaftu   tu₁]₂, anevazi   [o   Kostas]₁ t₂.
        pictures   the   self   him   uploads-3SG   the   Kostas
        'Kostas uploads pictures of himself.'

The most straightforward way to account for the anaphor-binding in (20) is to assume that there is a copy of the topic phrase in its external-merge position (t₂), providing the anaphor with a local c-commanding antecedent (*o Kostas*).

Third, Topicalization allows reconstruction for idiom interpretation. It is generally believed that the meaning of an idiom chunk is not compositionally derived, which means that the subparts of an idiom must be interpreted as a whole (constituent) at LF. As a consequence, in case of movement of an item which is part of an idiom, this item must reconstruct at LF to its base position for the idiom interpretation (see Brame 1968; Bianchi 1999). Consider the following Greek idiom:

(21)   Petao   hartaeto.
        throw-1SG   kite
        a. Literal meaning: 'I fly a kite.'
        b. Idiom: 'I avoid performing a task that I have been assigned due to laziness, loaf.'

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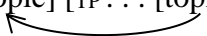
[6] In fact, reconstruction for pronominal-binding has received different treatments in the literature (cf. Sharvit 1999; Sauerland & Elbourne 2002; Sportiche 2017). I return to this debate in the next chapter.

The movement analysis of Topicalization, predicts that, in (22b) there is a copy of the Topicalized-DP *hartaeto* in its base position (t_1) and the idiom meaning arises without problems.

(22)   a. O Kostas jenika petai hartaeto ke kanenas dhen niazete.
        'Kostas loafs all the time and no one cares.'

        b. Nomizo   oti   [hartaeto]$_1$,   petai t_1 ke   o   Janis.
           think-1SG that   kite   throws-3SG   and   the John
           'I think John loafs too.'
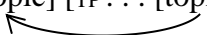
    To conclude, this section has provided solid evidence for the movement analysis of Topicalization, based on a number of movement tests such as reconstruction, WCO and island-sensitivity. More specifically, Topicalization involves A'-movement of the topic phrase to spec,TopP, in the left-periphery, as in (23).

(23)   Topicalization: [$_{TopP}$ [topic] [$_{TP}$ . . . [topic] . . .]]

The next section focuses on the representation of Topicalization chains at LF, showing that Topicalization necessarily undergo *total reconstruction*.

3.3. Greek Topicalization at LF: total reconstruction

In this section I will argue that Topicalization chains are associated with *total reconstruction*. As explained above, when a moved element undergoes total reconstruction at LF, only its lower copy is interpreted, while the higher copy is deleted, as in (24) (see Aoun & Benmamoun 1998; Sauerland & Elbourne 2002; Sportiche 2016, for different views on this phenomenon[7]).

(24)   Topicalization: [$_{TopP}$ ~~[topic]~~ [$_{TP}$ . . . [topic] . . .]]

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[7] For instance, Sauerland (1998: section 6.2) and Sauerland & Elbourne (2002) suggest that movement with total reconstruction effects takes place at PF. The effects of a PF-movement are not visible to LF and to the semantic component.

The LF-representation in (24) is supported by three arguments which pertain to (i) *scope reconstruction*, (ii) *Late Merge of adjuncts* and (iii) *anaphor-binding in long-distance dependencies*.

3.3.1. Scope reconstruction

With *scope reconstruction*, I refer to the situation where a dislocated element with quantificational force receives a narrow scope reading with respect to some other scopal element in a lower position. Consider the following example of narrow scope of the topic phrase (modified from Alexopoulou & Kolliakou 2002: 222).

(25) [Kapio traghudhi], protine kathe musikos.
    some song recommended-3SG every musician
    'Each musician recommended a/some song'

(25) involves two scopal elements: the *non-specific indefinite topic phrase*, and the *universally quantified subject-DP*. Having in mind other scope-interaction phenomena, we expect that there should be two readings. The surface scope reading which says that there is a unique song which was recommended by every musician (∃>∀), and the inverse scope reading according to which, every single musician recommended a (different) song (∀>∃). In (25) only the inverse scope reading is possible though. In other words, the wide scope reading of the topic phrase with respect to the subject universal-DP is blocked.[8] This suggests that it is obligatory for the object topic phrase in a Topicalization construction to totally reconstruct below the subject.

The same conclusion is drawn with sentences where the topic phrase obligatorily reconstructs below the modal *prepi*, as in (26):

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[8] It could be the case that the inverse scope reading is derived by QR of the subject DP. This possibility is excluded in the following example, where the subject DP should have QRed across a CP.

(i) [Kapio traghudhi], akusa oti protine kathe musikos.
    some song heard-1SG that suggested-3SG each musician
    'I've heard that each musician suggested a song.'

This example shows that the narrow scope reading of the topic phrase is irrelevant from the LF-position of the subject DP.

(26) [Ikosi   vivlia], *prepi*   na djavasi o   Kostas.
     twenty   books   should   to read-3SG the   Kostas
     'Kostas should read two books.'

Sentences like (26) are expected to be ambiguous:
   a. [20>should]: there are twenty (particular) books x, such that it is necessary for
      Kostas to read x.
   b. [should>20]: It is necessary for there to be twenty books x, such that Kostas
      reads x.

Again, the surface scope reading (20>should) is blocked, as a result of the obligatory total reconstruction of the topic phrase in Topicalization sentences.

   Last, this point can be replicated with sentential negation (*dhen* 'not'). In the following sentence the Topicalized weak NP is mandatorily interpreted within the scope of the sentential negation operator:

(27) [Ena kalo astio], *dhen* akusa   olokliro to   vradhi.
     one   good joke   not   heard-1SG whole   the   night
     'I haven't heard a single good joke the whole night.' [NOT>∃], *[∃>NOT]

   It is widely assumed that scope reconstruction is derived by total reconstruction of the moved phrase (see Sportiche 2016). More precisely, when it comes to scope, syntax goes hand in hand with the semantics, in the sense that α takes scope over β, if α c-commands β at LF. Along these lines, in the LF-representation of the scope-reconstruction examples above, the topic-phrase is not interpreted in its surface position; rather it reconstructs to a lower position below sentential operators and quantified subject-DPs. (25'), illustrates this point for (25): [9]

(25')   [Kapio traghudi], protine kathe musikos [kapio traghudi].

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[9] I ignore for now the *semantic account of reconstruction* (Cresti 1995; Rullman 1995; Lechner 1998; Ruys 2015). According to this approach, scope reconstruction is derived when a moved phrase leaves a trace/variable of a higher type in its base position (I discuss this view below). Following this line of analysis we would need to assume that Greek Topicalization obligatorily maps onto traces of a higher type (e.g., type <e,t>).

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At first, the finding that total reconstruction of a topic phrase in a lower position is obligatory and not optional may sound strange. However, similar phenomena have been widely discussed in the literature and are typically associated with predicate (VP/AdjP) preposing (see Heycock 1995; Takano 1995). I return to this point below, arguing that the obligatory total reconstruction in Topicalization is directly related to the property-denotation of Topicalized phrases.

3.3.2. Late Merge of adjuncts

Further support for total reconstruction in Topicalization comes from sentences with *Late Merge* of adjuncts. More precisely, it is a well-known fact since Freidin (1986) and Lebaux (1988) that pied-piped adjuncts do not reconstruct for Condition C. Hence, in our terms, reconstruction is not obligatory for moved adjuncts. Consider (28) (from Heycock 1995: 557)

(28) [Which claim [that John$_1$ made]]$_2$ was he$_1$ willing to discuss t$_2$?

On the standard analysis, the adjunct-relative clause is inserted in the derivation after the wh-phrase has moved to its surface position (Lebeaux 1988; Chomsky 1995 among others).[10]

(28') [Which claim [that John$_1$ made]] was he$_1$ willing to discuss <which claim>?

⬆

Late Merge

As can be seen in (28'), the lower copy of the wh-phrase in the angle brackets does not contain the adjunct-relative clause with the R-expression *John$_1$*. This means that the co-referring pronoun *he$_1$* which c-commands the lower copy does not trigger Condition C effects and the sentence is grammatical.

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[10] Here I ignore the theoretical implications of a Late Merge mechanism (see Sportiche 2019; Chomsky 2020). It should be noted that the conclusions of this section do not hinge on the mechanism that underlies the obviation of Condition C in these cases. What is crucial for us here is the empirical observation that total reconstruction forces adjuncts to reconstruct for Condition C.

Crucially, it has been observed that adjunct Late Merge is in some cases blocked (see Takano 1995; Heycock 1995). For instance, the preposed VP in (29) (from Takano 1995: 332) disallows the late insertion of the adjunct-relative clause.[11]

(29)   *[Criticize a student [that John$_1$ taught]], he$_1$ said Mary did.

This shows that the relative clause must be merged with the moved VP in its base position as in (39'). As a consequence, the sentence is ruled out by Condition C.

(29')   *[Criticize a student [that John$_1$ taught]], he$_1$ said Mary did <criticize a student [that John$_1$ taught]>.

In the previous literature, the impossibility of the Late Merge of adjuncts in (39) correlates with the total reconstruction of the moved phrase (Takano 1995; Heycock 1995). Sportiche (2016: 25) explains the correlation between total reconstruction and lack of Late Merge as follows: "Suppose however that the preposed predicate must reconstruct. We must exclude the possibility that the adjunct has been late inserted and left stranded high once the predicate is totally reconstructed. Surely this is excluded because it would no longer [be] an adjunct to anything".

Before we proceed, it should be made clear that this section does not imply any connection between *VP-fronting in English* and *Greek Topicalization*, nor does it presuppose a specific account for the reconstruction behavior of VP-fronting.[12] The only

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[11] There have been some attempts to explain the Condition C effects in cases like (29), without bearing on total reconstruction. For instance, presuming the VP-internal subject hypothesis, Huang (1993) argues that there is a copy of the subject within the preposed VP (in bold) (cf. Takano 1995):

(i) [[$_{VP}$ **<he$_1$>** criticize a student [that John$_1$ taught]], he$_1$ said Mary did t$_{VP}$].

From (i) it follows that 'John' is c-commanded by a coreferential element, the copy of the subject of the matrix clause (<he>). However, Heycock (1995) and Takano (1995) provide evidence against this analysis, which for space reasons is not presented here.

[12] Anticipating the analysis proposed in section 3.5, Greek Topicalization must undergo total reconstruction because of the <e,t>-type of the topic-phrase and the unavailability of <e,t>-traces in natural languages. An account along these lines could also be proposed for the VP-fronting sentences above, given that VP-constituents are usually assumed to denote predicates (e.g., of type <e,t>). However as Poole (2022: section 4.2., and especially fn. 24) notes, under the VP-internal subject hypothesis, verbs take all their arguments within the VP, hence VPs must denote propositions (<s,t>), rather than

connection that the current discussion presumes is the one between total reconstruction (for any reason this happens) and lack of Late Merge, in the sense that total reconstruction in Topicalization is predicted to block late insertion of adjuncts.

An additional note is in order at this point. As we will see below, Late Merge effects are subtle and hard to detect. It seems to me that the lack of Late Merge in Topicalization should be presented through minimal pairs, with Topicalization being paired with a construction that allows Late Merge. In what follows, Topicalization sentences are paired with CLLD sentences which, as Angelopoulos (2019a) and Angelopoulos & Sportiche (2021) recently showed, allow Late Merge of adjuncts.[13] I return to this point in the next chapter where I focus on the syntactic-semantic properties of CLLD. For now, what we predict is a contrast between CLLD and Topicalization with respect to reconstruction for Condition C: On the one hand, Topicalization undergoes total reconstruction, blocking the late insertion of adjuncts. This means that adjuncts in this case reconstruct for Condition C. On the other hand, adjuncts in CLLD can be late-inserted, obviating Condition C. Compare (30) with (31), a CLLD and a Topicalization sentence, respectively.

(30) [Tis fotoghrafies pu enohopiun ton proedhro$_1$]$_2$, pro$_1$ dhen
     The pictures   that incriminate-3PL the president   not
     theli na pro$_1$ tis vlepi t$_2$ kan.
     want-3SG to CL see-3SG even
     'He does not want even to look at the pictures that incriminate the president.'

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predicates. Therefore, *Greek Topicalization* and *English VP-fronting* undergo total reconstruction for different reasons. See Poole (2022: fn. 24) for a suggestion.

[13] In addition, the fact that Topicalization and CLLD share a number of phonological, syntactic, semantic and pragmatic properties (see section 2.2) makes the comparison between these two constructions much easier. As a matter of fact, previous studies (e.g., Dimitriadis 1994; Panagiotidis 2002) treat Topicalization as an exceptional case of CLLD with a null clitic. Given that, the pairing of Topicalization with CLLD is not unjustified.

(31) *[Fotoghrafies pu enohopiun ton proedhro₁]₂, pro₁ dhen

      pictures that incriminate-3PL the president not

      theli na pro₁ vlepi t₂ kan.

      want-3SG to see-3SG even

      'He does not want even to look at pictures that incriminate the president.'

An additional pair ((42)-(43)) is provided, for reasons of concreteness.

(32) [Ta atoma pu plighosan ton Kosta₁]₂, pro₁ dhen ta kalese t₂

      the people that hurt-3PL the Kostas not CL invited-3SG

      pote sto neo tu spiti.

      never at-the new his house

      'He never invited the people who hurt Kostas to his new home.'

(33) *[Atoma pu plighosan ton Kosta₁]₂, pro₁ dhen kalese t₂

      people that hurt-3PL the Kostas not invited-3SG

      pote sto neo tu spiti.

      never at-the new his house

      'He never invited People who hurt Kostas to his new home.'

The judgments are subtle.[14] However, there is a clear pattern with respect to the availability of counter-cyclic merge of adjuncts in the pairs illustrated above. This pattern speaks in favor of the analysis of Topicalization proposed in this section:

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[14] As for the acceptability of the above sentences, I distributed a questionnaire with seven pairs of CLLD and Topicalization sentences to 6 native speakers for their judgments from 0 (totally ungrammatical) to 5 (fully grammatical). Given their answers, my informants can be divided in two categories. The first group (3 speakers) found all these sentences equally ungrammatical. On the other hand, the judgments provided above represent the answers of the speakers of the second category (3 speakers). For the speakers of this group, Condition C is (fully or marginally) obviated in the CLLD sentences, whereas Condition C effects are constantly detected in the Topicalization examples). There was no case of a Topicalization sentence outscoring its CLLD counterpart. In addition, it seems that speakers (linguists) who are familiar with Late Merge phenomena are more likely to detect the contrast reported above. All in all, once you allow Late Merge in Greek, this is only available for CLLD. These results are waiting for further experimental investigation.

Topicalization undergoes total reconstruction and Late Merge is blocked. Additionally, these results confirm the claim of Angelopoulos (2019a) and Angelopoulos & Sportiche (2021) that, in CLLD, Late Merge of adjuncts is (marginally) available.

3.3.3. Reconstruction for Anaphor binding

In the previous section, we have seen that Topicalized phrases reconstruct for anaphor binding. In (34) (repeated from (20) above), the topic phrase reconstructs below the postverbal subject, providing the anaphor with a local c-commanding antecedent (*o Kostas*).

(34) [Fotoghrafies tu   eaftu tu$_1$]$_2$, anevazi   [o   Kostas]$_1$ t$_2$.
       pictures   the   self   him   uploads-3SG   the   Kostas
       'Kostas uploads pictures of himself.'

Nonetheless, the fact that Topicalization is assumed to display total reconstruction complicates the situation. Consider (35) for *long-distance Topicalization chains*: the topic-phrase moves through the left periphery of the embedded clause (CP2), thus these long-distance chains consist of three copies of the topic phrase. However, under the assumption that Topicalization mandatorily undergoes total reconstruction, only the lower copy will be interpreted at LF.

(35)   [$_{CP1}$ [$_{TopP}$ ~~[topic]~~. . . [$_{CP2}$ ~~[topic]~~ . . . [topic] . . .]]]

In light of (35) and given that Greek anaphors must be locally bound, an anaphor inside the topic phrase must find its antecedent in the embedded clause (CP2). An antecedent in the matrix clause (CP1) will be too far away from the anaphor (see Heycock 1995). As the following examples illustrate, our predictions are borne out. In (36) the anaphor is locally bound by the (underlined) antecedent *o Kostas* in the embedded clause. On the other hand, in (37) the only available antecedent (*o Kostas*) is found in the matrix clause. As a result, the topic-internal reflexive pronoun remains unbound. (37), thus, violates Binding Condition A. I return to the sentences with reconstruction for anaphor binding in the next chapter. Topicalization and CLLD will be carefully compared with respect to this reconstruction effect.

(36) [CP1 [TopP [Katighories   ja   ton eafto tu]₁   lei   i   Maria
                 accusations   for   the self   his   says-3SG   the   Mary
       [CP2 t₁ oti   dhen   dhehete   pote   o̲   K̲o̲s̲t̲a̲s̲   t₁]]]
                that   not   accept-3SG   never   the   Kostas
       'Mary says that Kostas never accepts an accusation for himself.'

(37) *[CP1 [TopP [Katighories ja   ton eafto tu]₁   lei   o̲   K̲o̲s̲t̲a̲s̲
                 accusations   for   the self   his   says-3SG   the   Kostas
       [CP2 t₁ oti dhen   dhehete   pote   i   Maria t₁]]]
                that   not   accept-3SG   never   the   Mary
       'Kostas says that Mary never accepts an accusation for himself'

These data from anaphor-binding are compatible with the claim Greek Topicalization
necessarily undergoes total reconstruction. Given that, only an antecedent in the binding
domain of the lowest copy can bind the anaphor.

3.3.4. Weak Crossover effects in Topicalization
Let us now return to the WCO-sensitivity of Topicalization, since the claim made in the
previous subsections seem to suggest a new account for the WCO effects in this
construction. As (38) (repeated from (15) above) demonstrates, the left-dislocated topic
phrase cannot bind the pronoun *tu* into the subject, from its surface position.

(38) *[Kapion fititi]₁,   proselave [o   pateras tu₁]   t₁.
        some   student   hired-3SG the   father his
        'His father hired some student.'

I would like now to argue that the total reconstruction analysis of Topicalization carries
over to these WCO effects. As we have seen above, the dislocated topic phrase
undergoes total reconstruction below the subject as in (38').

(38') *[Kapion fititi]₁, proselave [o pateras tu₁] [kapion fititi]₁

This means that neither of the copies of the topic phrase can bind the intervening
pronoun, since the lower copy does not c-command the subject-internal pronoun, while
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the c-commanding higher copy is not interpreted at all. The intended reading, under co-indexation of the topic phrase and the intervening pronoun, is thus ruled out. As a result, WCO-effects in Topicalization can be seen as further evidence for the total reconstruction analysis.

To sum up, Topicalization involves A'-movement of a topic phrase of type <e,t> to spec,TopP in the left periphery of sentences. Furthermore, Topicalization undergoes total reconstruction which means that the higher copy is ignored by LF and only the lower copy is interpreted:

(39)   Topicalization: [$_{TopP}$ [topic]$_{<e,t>}$ [$_{TP}$ . . . [topic]$_{<e,t>}$ . . .]]

I return to the LF-representation of Topicalization in more detail below.

3.4. The syntax of Greek Topicalization

3.4.1. Greek word order: VSO and VP-internal subjects

Before we discuss the syntax of Topicalization, it is necessary to make some clarification regarding word order in Greek. As the reader may have observed, the examples from Greek are given with a *verb-subject* order. It is a standard assumption that the basic word order in Greek is *verb-subject-object* (VSO) (Philippaki-Warburton 1982, 1985; Tsimpli 1990, 1995; Alexiadou & Anagnostopoulou 1998, 2001; Philippaki et al. 2004; Roussou & Tsimpli 2006; Kotzoglou 2013 among others). This claim comes with two sub-assumptions. First, the verb in Greek raises to T and second, the subject does not move to the spec,TP position. Rather the subject remains in its external merge position, the spec,vP.[15] (40) is (probably an oversimplified version of) the syntactic structure that underlies the basic word order in Greek.

(40)   [$_{CP}$ [$_{TP}$ verb [$_{vP}$ subject [$_{v'}$ ~~verb~~ [$_{VP}$ ~~verb~~ object]]]]]

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[15] With respect to the postverbal subject position in Greek, one can find different syntactic positions/labels in the literature, e.g., [spec,VP] in Alexiadou & Anagnostopoulou (1998); [spec,vP] in Philippaki et al. (2004); [spec,VoiceP] in Michelioudakis (2012). What is crucial here is that each of these positions is assumed to be the external-merge position of the subject (cf. Spryropoulos & Philippaki-Warburton 2001).

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The SVO word order is very productive in Greek, in a variety of contexts (see Keller & Alexopoulou 2001). Nonetheless, SVO orders are assumed to involve a left-dislocated subject to a Topic projection (Anagnostopoulou 1994; Tsimpli 1995; Alexiadou & Anagnostopouou 1998 among others), in which case the canonical subject position is occupied by a *pro* (Philippaki-Warburton 1985).[16,17] As a matter of fact, there is no way to distinguish between a preverbal subject and a CLLDed/Topicalized object DP on the basis of any distributional or interpretational property (Alexiadou & Anagnostopoulou 2001: 501ff). For instance, left dislocated objects and preverbal subjects show the same free word-order distribution with respect to (topicalized) adverbs (Alexiadou & Anagnostopoulou 1998: ex. (15a), (16a)).

(41) (O Petros)[htes]   (o Petros) [meta   apo   poles prospathies] (o Petros)
      the Peter yesterday   after   from many efforts
      sinandise ti   Maria.
      met-3SG   the   Mary
      'After many efforts, Peter met Mary yesterday.'

(42) (Ti   Maria)[htes] (ti Maria) [meta apo   poles prospathies] (ti Maria)
      the   Mary yesterday   after from   many efforts
      ti sinandise o   Petros.
      CL met-3SG   the   Peter
      'After many efforts, Peter met Mary yesterday.'

In addition, both preverbal subjects and left-dislocated objects are incompatible with the new information part of a sentence in a wh-question/answer pair:

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[16] Roussou & Tsimpli (2006) mention that the VSO order may in principle be derived with verb movement to C with the subject occupying the spec,TP position. For the availability of spec,TP subjects in Greek, Roussou & Tsimpli mainly refer to sentences with generic interpretation, where preverbal subjects do not seem to be discourse-marked (for topichood). Oikonomou & Alexiadou (2020) however argue that "topichood is an integral part of genericity".

[17] But see Spyropoulos & Revithiadou (2007); Oikonomou & Alexiadou (2020), Angelopoulos & Sportiche (2021).

(43)   a. Pjos filise ti Maria?
           'Who kissed Mary?'

       b. Ti   Maria, (#o   Petros)   ti   filise   (o Petros).[18]
          the   Mary   the   Peter   CL   kissed-3SG
           'PETER kissed Mary.'

(44)   a. Pja filise o Petros?
           'Who did Peter kiss?'

       b. O   Petros,   (#ti   Maria ti) filise   (ti Maria).
          the Peter   the   Mary CL   kissed-3SG
           'Peter kissed MARY.'

As can be seen from the examples above, a preverbal subject exhibits exactly the same behavior with CLLDed phrases in a left peripheral TopP. Based on this observation, it can be concluded that preverbal subjects are not situated in an A-position (i.e., spec,TP); rather they occupy a left-peripheral (spec,TopP) position. The sole difference between the preverbal subject and the CLLDed object in the above examples seems to be that CLLDed objects are resumed by a clitic item while preverbal subjects are not. However, this observation is trivial, since Greek lacks subject clitics anyway (or it has a null one, Øclitic) (see chapter 1).[19] Alexiadou & Anagnostopoulou (1998) thus conclude that Greek SVO should be analyzed on a par with CLLD:

(45)   a. CLLD: [TopP object [TP clitic=verb [vP subject [v' [VP ~~object~~]]]]]

       b. SVO: [TopP subject [TP Øclitic=verb [vP ~~subject~~ [v' [VP object]]]]]

[18] Of course, this example is fully grammatical with a focus pitch accent on the preverbal subject (O PETROS), with the. rest of the sentence remaining de-accented. However in this case the preverbal subject occupies the spec,FocusP rather than the A-position spec,TP.

[19] The assumption that subject CLLDed phrases are doubled by a pro implies a base-generation analysis of CLLD. On the other hand the term '(null) clitic' is used as a theoretically neutral term, as it is compatible with both a base-generation and a movement analysis. I return to the syntactic analysis of CLLD in the next chapter.

Roussou & Tsimpli (2006) though, offer an argument against the unification suggested in (45). While CLLDed phrases are restricted to wide-scope readings (Alexopoulou & Koliakou 2002; Oikonomou et al. 2020; see chapter 4), in (46) (from Roussou & Tsimpli 2006: 339), the preverbal subject is (for pragmatic reasons obligatorily) interpreted within the scope of the universal quantifier (narrow scope reading, $\forall > \exists$).

(46)　[Enas astinomikos] stekotan　　brosta　se kathe spiti.
　　　　a　　policeman　　stood-3SG　in-front　at every house
　　　'A (different) policeman was standing in front of every house.'

Roussou & Tsimpli (2006) thus propose that at least narrow scope preverbal subjects should be kept separate from the CLLDed phrases in spec,TopP. In particular, without excluding subjects in topic-positions, they suggest that narrow-scope subjects sit in the spec,TP position.

However, in light of the results of the present study, Roussou & Tsimpli's (2006) argument should be reconsidered: does the narrow scope of some preverbal subjects really exclude a Topic position? In section 3.3.1, we have been looking at topic-marked phrases in Topicalization sentences which obligatorily scope in their base positions. Therefore, a Topic position is not a priori excluded for preverbal subjects with narrow scope.

More precisely, I would like to propose that preverbal subjects behave exactly like a topic-marked object. Consider the scopal behavior of topic-marked objects. A Topicalized object scopes in its base position, as in (47a). On the other hand, as (47b) illustrates, a CLLDed object takes wide scope. The scope position of the moved phrase appears in bold.

(47)　Topic-marked objects:
　　　a. Topicalization: [TopP object [TP verb [vP subject [vP **object**]]]] (narrow scope)
　　　b. CLLD: [TopP **object** [TP clitic=verb [vP subject [vP object]]]]　 (wide scope)

Importantly, it is the null hypothesis that (preverbal) subject DPs have the same topic-marking options. Hence, they can be targeted either by Topicalization, as in (48a)

or by CLLD as in (48b), resumed by a null clitic ($\emptyset_{\text{clitic}}$). In the former case it receives a narrow scope reading, as in (46), in the latter it takes wide scope.[20]

(48) Preverbal subjects:

a. Topicalization: [_TopP_ subject [_TP_ verb [_vP_ **subject** [_vP_ object]]]](narrow scope)

b. CLLD: [_TopP_ **subject** [_TP_ $\emptyset_{\text{clitic}}$=verb [_vP_ subject [_vP_ object]]]] (wide scope)

Therefore, given the option of Topicalization, the availability of narrow scope reading for preverbal subjects as in (56) does not imply that these phrases surface in an A-position. This claim further supports the dominant view in the literature that the basic word order in Greek is VSO, and that SVO orders are derived by movement of the subject to the left periphery (see Chapter 4 for more information on the syntactic analysis of CLLD).[21]

This section established that Greek is a VSO language, a claim that we will need to keep in mind in what follows. In addition, we saw that the discussion on the status of preverbal subjects in Greek should also consider the possibility of Topicalization.

3.4.2. Reconstruction position of Topicalized phrases

The discussion so far has established that topic phrases in Topicalization undergo total reconstruction into a lower position, nevertheless it is not clear yet what this position exactly is. In this section I argue that Topicalized phrases reconstruct into their external-merge position, and more specifically that Topicalized object-DPs are interpreted in the direct object position. The following discussion is based on the conclusion of the previous section about the basic syntactic structure of Greek sentences and more specifically on the standard assumption the postverbal subjects occupy their external-merge position (spec,vP).

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[20] The reader is referred to Roussou & Tsimpli (2006: 339) for an illustration of the debate on the scopal behavior of preverbal subjects in Greek (cf. Alexiadou & Anagnostopoulou 1998).

[21] An alternative analysis of the narrow scope preverbal subjects is suggested in Oikonomou et al. (2020). The authors argue that these elements are topic phrases which are situated in the spec,TP. Following Miyagawa (2017) they argue that the subject inherits its topic status from C. Space restrictions do not allow me to compare between their analysis and the analysis proposed in the present paper. It should not be overlooked though that what I presented above is the null hypothesis that subject DPs have exactly the same structural/discourse-marking options with their object counterparts.

We have already seen that anaphors within a Topicalized phrase can be bound by postverbal subjects, as in (49).

(49) [Fotoghrafies tu   eaftu tu$_1$]$_2$, anevazi   [o   Kostas]$_1$ t$_2$.
       pictures   the   self   his   uploads-3SG   the   Kostas
      'Kostas uploads pictures of himself.'

Anaphor-binding in these cases shows that Topicalized-DPs reconstruct below the subject-DP in spec,vP. This suggests that Topicalized phrases are interpreted in their base-position.[22] Nevertheless, (49) only shows that Topicalized phrases *can* reconstruct into their base-position and not that they *must* reconstruct into their base-position (N. Angelopoulos p.c.). In order to show that Topicalized phrases must reconstruct below post-verbal subjects I employ sentences with reconstruction for Condition C. We have already seen that Topicalized-objects display disjoint-reference effects with null subjects (pro):

(50) *[Fotoghrafies   tu   Kosta$_1$],   pro$_1$ anevazi   kathe   mera.
        pictures   the   Kostas   uploads-3SG   every   day
       'Kostas uploads pictures of himself every day.'

Here I abstract away from the theoretical discussion about null subjects in Greek and the syntactic position of *pro* (see for instance Angelopoulos & Sportiche 2021), by providing an example with an *epithet* in the postverbal subject position, as in (51).

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[22] In addition, as (i) shows Topicalized direct-objects (DO) reconstruct below Indirect-Objects:

(i) [Fotoghrafies   tu   eaftu   tu$_1$]   ediksa   tu   Kosta$_1$.
      pictures   the   self   his   showed-1SG the   Kostas.
     'I showed Kostas pictures of himself.'

(i) reflects the fact that in Greek indirect-objects c-command position where direct objects are externally merged (see Michelioudakis 2012 among others). I return to this point in chapter 4. For now (i) should be considered as evidence that Topicalized object-DPs reconstruct into their base-position below indirect objects.

(51)   *[Fotoghrafies   tu Kosta1],   anevazi   [o malakas]1 kathe mera.

        pictures   the Kostas   uploads-3SG the asshole   every day

          'The asshole uploads pictures of Kostas every day.'

The coreferring epithet in (51) occupies the postverbal subject position, spec,vP.
Therefore, the Condition C effects show that the Topicalized object-DP must
reconstruct below spec,vP, in the canonical direct object position. Below I argue that
there are semantic reasons explaining why property-denoting phrases must reconstruct
into their base-position.

3.4.3. Semantic composition of reconstructed Topicalized phrases

The claim that the trace position of a Topicalization chain is occupied by the
reconstructed topic-phrase – a phrase of type <e,t> – does not come without problems,
as it is not clear how verbs combine with property-denoting complements. In fact, in
chapter 2, section 2.4, it was argued that the interpretation of property-denoting weak
NPs (i.e., existentially interpreted bare nouns and weak indefinites) involves an
existential closure operator. This section offers a more detailed discussion of this issue.

   Here is the compositionality problem that the proposed analysis of Topicalization
faces. We said that the dislocated topic phrase in a Topicalization construction totally
reconstructs into its external-merge position. This means, that at LF, the Topicalization-
extraction is 'undone'. Thus, the LF of example (52) looks like (52').

(52)   [Palto],   aghorase   o   Kostas.
        coat   bought-3SG   the   Kostas
        'Kostas bought a coat.'

(52')
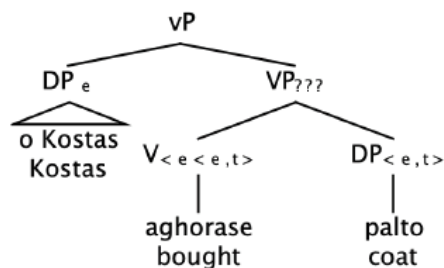
Note however that, (52') as it stands is problematic for compositionality reasons (as ??? indicates). The composition of the verb with the predicate-denoting object leads to type-clash: the selection properties of the verb do not match with the semantic type of the object (see Kallulli 2000 for an extensive discussion). In the following, the reader should keep in mind that this problem is not restricted to Topicalization sentences under reconstruction. The very same problem arises in sentences with a property-denoting object *in situ* (see van Geenhoven 1998; Chung & Ladusaw 2003). Any solution that works for the simple cases (*in-situ* objects) will work for topicalization as well.

Here I show how the analysis proposed by Chung & Ladusaw (2003) would work for Topicalization sentences (see also Kallulli 2000 for a similar proposal for Greek). According to Chung & Ladusaw's analysis, property-denoting direct-objects modify the denotation of their selecting verb through a semantic-composition rule called *Restrict*. As (53) illustrates, at the VP-level, the bare nominal *palto* does not combine with the verb *aghorase* through *function application*. Instead, it merges as a restrictive modifier of the verb. To put it differently, it only specifies that what was bought was a coat, without changing (saturating) the semantic type <e,<e,t>> of the transitive verb.

(53)

```
                        vP t
          ∃z[bought(z)(Kostas) & coat(z)]
         _____|_____
        DPe                            VP<e,t>
       Kostas            λy.∃z [bought(z)(y) & coat(z)]
                        _____|_____
                       ∃              VP <<e,<e,t>
                                 λz.λy[bought(z)(y) & coat(z)]
                              _____|_____
                          V<e<e,t>>            DP–<e,t>
                       λxλy.bought(x)(y)       λx.coat(z)
```
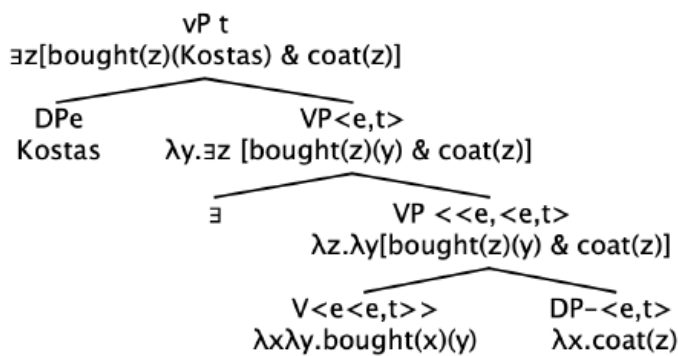
The object position is subsequently closed by an *existential closure operator* at the level of the extended VP (Diesing 1992; Chung & Ladusaw 2003 among others).[23] [24]

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[23] Some of the alternative accounts along these lines are van Geenhoven (1998), Tomioka (2003). Van Geenhoven's *semantic incorporation* analysis presupposes that transitive verbs, apart from their standard <e,<e,t>>-type denotation, also have a denotation of a higher type which is compatible with a property-denoting complements. Moreover, this more complex denotation encloses an existential quantifier which is required for the existential closure of the variable introduced by the object.

It has been stressed by various authors that this representation predicts that *weak DPs* are restricted to narrow scope readings with respect to other quantified-DPs or sentential operators such as modals or negation (Carlson 1977; McNally 1995; van Geenhoven 1998; Chierchia 1998). Indeed, this is exactly what we find in Greek Topicalization sentences (see section 3.3.1), therefore (53) is compatible with the semantic behavior of Topicalization sentences.

As a conclusion, this analysis deals with the type-mismatch problem in the composition of the verb with the reconstructed Topicalized phrases. Moreover, we saw that it also captures the narrow scope behavior of reconstructed Topicalized phrases. For reasons of clarity, in (54) I illustrate the LF-tree of the Topicalization sentence in (52). (54) presumes that verbs reconstruct into their base-position (probably due to their semantic type, see Poole 2022: section 7.2.4), a claim which is widely assumed to underlie the observation that head-movement does not have semantic effects (Chomsky 2000; but see Lechner 2006; Roberts 2010 for a different view).

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[24] A question that arises at this point concerns sentences with *null indefinite objects* as below (see Dimitriadis 1994; Giannakidou & Merchant 1997):

(i) O Kostas aghorase [palto-$_{<e,t>}$]$_1$ htes. Ki i Maria aghorase [ ]$_1$ htes.
   the Kostas bought -3SG coat yesterday and the Mary bought yesterday
   'Kostas bought a coat yesterday. Mary bought one on Monday.'

What does [ ]$_1$ stand for, given that it is discourse-related to the property-denoting bare noun in the preceding sentence? To my knowledge there have been proposed two ways to go: [ ]$_1$ can be interpreted either as an instance of NP-deletion under identity (see Giannakidou & Merchant 1997) or a property denoting pronoun (Tomioka 2003).

(54)

```
                    TopP
            ┌─────────┴─────────┐
           DP                  Top'
            |            ┌──────┴──────┐
          palto        Top            TP
                              ┌────────┴────────┐
                              T                vP
                           aghorase    ∃x[bought(y)(x) & coat(x)]]
                                       ┌────────┴────────┐
                                      DP                v'
                                     Kostas    ∃x[λy[bought(y)(x) & coat(x)]]
                                      /\      ┌──────────┴──────────┐
                                     o Kostas v                    VP
                                          aghorase    ∃x[λy[bought(y)(x) & coat(x)]]
                                                    ┌────────┴────────┐
                                                    ∃               VP
                                                          λx.λy[bought(y)(x) & coat(x)]
                                                        ┌──────────┴──────────┐
                                                        V                    DP
                                                λx.λy.bought(y)(x)        λz.palto(z)
                                                        |                    |
                                                    aghorase               palto
```
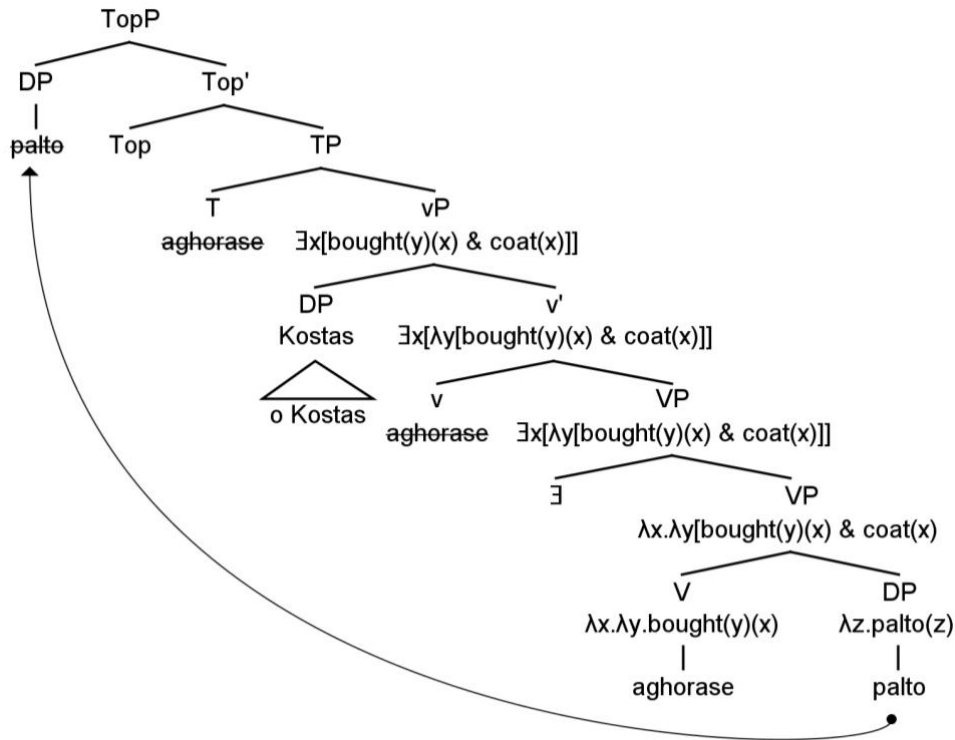
(54) summarizes the syntactic and semantic analysis of Greek Topicalization. What is special about this movement dependency is that it mandatorily undergoes total reconstruction. A question that arises at this point however is why topic phrases in Greek Topicalization *must* totally reconstruct. In the following section I will propose that this behavior of Topicalization has to do with the property-type of the left-dislocated topic phrase in these sentences.

3.5. A principled explanation for the total reconstruction analysis

3.5.1. Total reconstruction and property-denoting traces

This section is based on Poole's (2017; 2022) recent work on the syntax-semantics mapping of movement dependencies, and more specifically on his conclusion that property-traces do not exist in natural languages.[25] The consensus is that at LF, a movement chain is realized as an *operator – variable* dependency. More specifically, operators realize the head of the chain, while the foot of the chain is interpreted as a variable which is bound by the operator. According to Poole however, the syntax–

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[25] cf. Landman (2006) for a similar condition on semantic variables.

semantics mapping for movement chains does not allow traces ranging over properties. In other words, the foot of a movement chain never arises as a property-denoting variable:[26]

(55) *$XP_1 \ldots\ldots T_{1\text{-}\langle e,t\rangle}$

Poole (2017, 2022) explicitly draws the correlation between the unavailability of property traces/variables with the obligatory total reconstruction of moved phases. In other words, since a moved property-denoting phrase does not yield a well-defined operator-variable chain (it doesn't leave an interpretable variable in its trace position), it must reconstruct at LF:

(56) $\cancel{XP_{\langle e,t\rangle}} \ldots\ldots XP_{\langle e,t\rangle}$

In what follows I provide a discussion that justifies the above claims. Crucial to Poole's claim is the observation that certain constructions require property-denoting phrases. In Chapter 2, section 2.5, we have already referred to the *existential construction* in English, which, as (57) illustrates, requires a property-DP in the post-copular position (McNally 1998).

(57) *there be XP*, if XP is not of type <e,t>

Since Heim (1987) it is well-known that (57) also constrains traces created by movement, therefore movement chains that leave a trace of type *e*, must not be able to target the post-copular position in existential sentences. Consider for instance *English Topicalization*, which, according to Poole (2017, 2022), always leaves a trace of type *e*. As (57) predicts, the individual-denoting trace in the post-copular position rules (58) out (Poole 2017: 9) (see also Postal 1998).

(58) *[A potato]$_1$, there is t_1-*e* in the pantry.

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[26] See Lechner (1998 4.4.) for possible counter-evidence with CP-scrambling in German

Moreover, the existential construction is expected to affect sentences which are normally scopally ambiguous. In (59) (from Poole 2017: 107), the wh-phrase *how many books* can scope above or below the modal verb *should* (Rullman 1995; Cresti 1995 among others).

(59)   [How many books]₁ should Nina read this summer?

    a.   how many > should: for what number *n*, there are n-many particular books x such that Nina should read x this summer.

    b.   b. should > how many: for what number *n*, it is necessary for there to be n-many books x such that Nina reads x this summer.

The wide scope reading of the wh-phrase (see 59a) comes about by leaving an individual-type trace in its base position. The narrow scope reading (59b) involves syntactic reconstruction of the restrictor of the wh-phrase into its base position as in (60) below (Romero 1998, Fox 1999).

(60)   [How ~~many books~~] should Nina read [many books] this summer?

Interestingly, in the existential construction in (61), the amount wh-question can only receive the narrow-scope interpretation (should > how many) (Rullman 1995, Cresti 1995).

(61)   [How many books]₁ should there be _ on the table?

As required by (57), the post-copular position in (61) must be filled with an <e,t>-type element. This forces the restrictor of the wh-phrase to reconstruct deriving the narrow scope interpretation (Romero1998):

(62)   a. [How ~~many books~~]₁ should there be [many books]$_{<e,t>}$ on the table?

    b. For what n: there should be n-books on the table

It should be clear that if the Grammar allowed <e,t>-type traces, the dislocated wh-phrase would be able to be interpreted in its surface position with a wide scope reading,

binding an <e,t>-type variable, contrary to what we actually find in (61). Poole concludes that <e,t> traces do not exist; thus the wh-phrase must reconstruct into its base position.

An additional piece of evidence in favor of this conclusion comes from sentences with floating quantifiers in Japanese (Sauerland 1998: Section 6.1). In (63), the complement of the cardinal *san* 'three' undergoes scrambling (A-movement) to a TP-adjoined position (Sauerland 1998: 273). Such examples may either receive a *specific/partitive reading* or a *non-specific/cardinal reading*.

(63) [Urenokotta hon-o]$_1$ John-wa Mary-ni   [t$_1$ san-satu] ageta.
      left-unsold books-ACC   John-TOP Mary-DAT   three=CL   gave
      'John gave Mary three (of the) unsold books.'

Sauerland argues that on the non-specific interpretation, the moved complement of the cardinal quantifier is of type <e,t>. Therefore, these examples seem to parallel the Greek Topicalization sentences, in the sense that both involve movement of a property-denoting phrase.

Crucially, while A-movement generally obviates reconstruction for Condition C, the non-specific reading of (64) is blocked because of the intervening coreferential pronoun *kanozyo-ni* (Sauerland 1998: 273).

(64) [Mary-ga$_2$ sukina hon-o]$_1$ John-wa   kanozyo-ni$_2$ [t1 san=satu] ageta.
      Mary-NOM   likes books-ACC   John-TOP her-DAT   three=CL gave
      'John gave Mary three of the books she liked.' (partitive, *cardinal)

Sauerland concludes that the moved <e,t>-type complement (which gives rise to the non-specific/cardinal interpretation) is necessarily interpreted in its base position and triggers Condition C effects. If traces of type <e,t> were available, the moved NP would be interpreted in its landing position binding an <e,t>-trace without violating Condition C. Keeping in mind the conclusion of this section, namely that property-denoting traces do not exist in natural languages, I return to Greek Topicalization, for a principled explanation of the total-reconstruction analysis.

3.5.2 Total reconstruction in Topicalization

Greek Topicalization is a movement dependency which is interpreted through total reconstruction. However, in order to examine the source of total reconstruction in Topicalization, let us take a step back: (65) demonstrates the movement of a topic phrase to the left periphery without the total reconstruction step. This allows us to explore all the analytical options for the LF-representation of such a movement chain.

(65)   [$_{TopP}$ topic$_{<e,t>}$ [$_{TP}$ . . . t . . .]]

Given the semantic type of the moved topic, there are, in principle, three possible LF-representations for (75):

(66)   a. LF: [$_{TopP}$ topic$_{<e,t>}$ [$_{TP-<<e,t>t>}$ λT$_{<e,t>}$ . . . T$_{<e,t>}$ . . .]]

b. LF: [$_{TopP}$ topic$_{<e,t>}$ [$_{TP-<e,t>}$ λx$_e$ . . . x$_e$ . . .]]

c. LF: [$_{TopP}$ ~~topic$_{<e,t>}$~~ [$_{TP-t}$ . . . topic$_{<e,t>}$ . . .]]

In what follows I will argue that (66a) and (66b) are blocked for independent reasons. Specifically, I will show that these LF-representations cannot be translated by standard semantic mechanisms; hence Greek Topicalization resorts to total reconstruction (66c).

Let us start from the representation with the property-denoting trace in (66a), where the λ-binder inserted by *Predicate Abstraction* ranges over a property-type variable giving rise to a derived predicate of properties ($<<e,t>,t>$) at the CP level. Then the derived predicate is saturated by the dislocated topic phrase (see É. Kiss & Gyuris 2003). However, in the previous section I argued, following Poole (2017; 2018), that property-denoting traces are not available in natural languages. This essentially blocks the LF-representation in (66a) where Topicalization is mapped onto a property-denoting trace (T$_{<e,t>}$).

It should be noted that traces of a higher type (e.g., T$_{<<e,t>t>}$) are widely assumed to be implicated in the process of *semantic reconstruction* (see Cresti 1995; Rullman 1995; Lechner 1998 among others). Specifically, *semantic reconstruction* refers to the fact that a trace of a higher type allows the moved element to scope in its base position. On the other hand, *syntactic reconstruction* posits an actual copy in the base position of the moved phrase at the LF-level. Crucially, as Romero (1998) and Fox (1999) highlight, semantic reconstruction never induces Condition C effects, because Condition C

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requires the lexical content/copy of a moved phrase. Thus, reconstruction for Condition C has become a standard diagnostic for syntactic reconstruction (vs. semantic reconstruction) (for recent references see Keine & Poole 2018; Lechner 2019). Against this background, the fact that Greek Topicalization systematically exhibits constantly Condition C reconstruction effects argues against semantic reconstruction or property-denoting traces.

Having excluded property traces, I proceed to the LF-representation with λ-abstraction over individual variables (x_e), as in (66b) repeated here as (67):

(67) LF: $[_{TopP}$ topic$_{<e,t>}$ $[_{TP-<e,t>}$ λx_e . . . x_e . . .]]

λ-abstraction over x_e derives a predicate over individuals (<e,t>). Above, I omitted the last step of the derivation of (67) in which the derived predicate combines with the dislocated topic phrase. As the reader might have noticed, both constituents are of type <e,t>, thus none of them can apply to its sister constituent by *Function Application*. But the derivation may proceed by *Predicate Modification*, an operation that takes two sets and returns their intersection (Heim & Kratzer 1998). Therefore, the composition of the dislocated topic phrase (topic) with the derived predicate (indicated here as *comment*) results in a property-denoting constituent:

(68) ⟦TopicP⟧$_{<e,t>}$ = ⟦topic⟧$_{<e,t>}$ ∩ ⟦comment⟧$_{<e,t>}$

The problem with (68) is that it fails to assign to [TopicP], which in this case is a sentential constituent, a propositional semantic type.

The proposition-type of [TopicP] is independently justified by the fact that this constituent may be selected by the complementizer *oti* ('that') (see 69). Following Kratzer (2006), Moulton (2015) and others, I assume that the complementizer takes a proposition and returns a predicate. Therefore (67) is not a possible LF-representation for Greek Topicalization sentences.

(69) Ksero   *oti* [$_{TopicP}$ palto, aghorase   o Janis].
      know-1sg that   coat   bought-3SG   the John.
      'I know that John bought a coat.'

Moreover, there is vast empirical evidence showing that Greek Topicalization is not mapped onto individual variables. As argued in Section 3.4, a characteristic property of Greek Topicalization is that the topic phrase is restricted to narrow scope readings, that is, it is interpreted within the scope of subject QPs, modals and negation. This property of Topicalization clearly contradicts the LF-representation in (67) which predicts a wide scope reading for dislocated topic phrases.

An additional argument against the view that the copy of a Topicalized phrase translates into an individual variable at LF comes from the existential construction, introduced in the previous chapter (section 2.5). Recall that the existential impersonal verb *ehi* requires a property-denoting object (*pivot*). Moreover, this constraint is not restricted to overt pivots, but it extends to copies created by movement as well (Heim 1987). In other words, when movement targets the pivot of the existential construction it must leave a property denoting trace as in (70):

(70) XP$_{-1}$ . . . . . . *ehi* t$_{-1<e,t>}$

Against this background, the fact that Greek Topicalization may freely target the pivot of the existential construction (as illustrated by (71)) is one more piece of evidence that Greek Topicalization does not involve individual-type traces.[27]

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[27] Similar arguments can be constructed with *naming verbs* and *change-of-color verbs* (see Poole 2017 and the references therein). If I am right that the *name argument* and the *color term* in (i) and (ii) respectively must be of type <e,t>, then the fact that Greek Topicalization can target these positions shows that it maps onto a property-denoting trace. This is also the case with other secondary-predication constructions (see iii) (A.Roussou p.c.). Clitic-resumption in these cases is excluded.

(i) [Jani]$_{<e,t>}$, onomasa ton skilo mu <Jani>$_{<e,t>}$.
     John named-1SG the dog my
     'I named my dog John.'

(ii) [Prasino]$_{<e,t>}$, evapsa to musi mu <prasino>$_{<e,t>}$.
      green dyed the beard my
      'I dyed my beard green.'

(iii) [Arhigho tis omadhas]$_{<e,t>}$ ekseleksan ton Jani <arhigho tis omadhas>$_{<e,t>}$.
       captain the team elected-3SG the John
       'They elected John captian of the team.'

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(71) [Potirja], ehi   <potirja> pano sto   trapezi.
     glasses has-3SG   on   to-the table
     'There are glasses on the table.'

To conclude, out of three theoretically possible LF-representations for Greek Topicalization (66a-c), the two of them are blocked by the Grammar. More specifically it has been shown that the LF-representations with an individual or a property denoting trace are excluded for independent reasons. As a consequence, Greek Topicalization resorts to total reconstruction as in (66c) which is the only well-formed – hence interpretable by the semantic component – LF-representation. This essentially means that for LF-purposes there is only one copy, the lower one, and since there is no Op-variable dependency here, the copy in the lower position does not fall within the restrictions of copies as traces and therefore can remain of type <e,t>. This also has implications as to what effect topicalization has on the interfaces: PF spells out the high copy, but LF interprets the low one.

3.6. The lack of clitics in Topicalization

At this point, let us turn to the lack of clitics in Topicalization. In the previous chapter it was shown that the presence of a resumptive clitic in Topicalization chains leads to strong ungrammaticality (see 82).

(72) *[Palto], to   aghorase   o   Kostas.
      coat   CL   bought-3SG the   Kostas
      'As for a coat, Kostas bought one.'

In the present thesis, I argue that the distribution of resumptive clitics is regulated by *ReMIV* (Resumption Marks Individual Variables):

(83)   Resumption Marks Individual Variables (*ReMIV*):
       Traces of A'-movement are interpreted as individual-type variables *iff* they are associated with a resumptive clitic.
       (A'-traces are interpreted as variables of type *e* ↔ A'-traces are associated with clitic-resumption)

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ReMIV roughly states that resumptive clitics arise only when an A'-trace is interpreted as a variable of type *e*. How does ReMIV account for the fact that Topicalization excludes resumptive clitics? In this chapter we concluded that Topicalization necessarily undergoes total reconstruction, which means that the property-denoting topic is interpreted only in the trace position. From this it follows that the trace position in Topicalization chains is filled with a property-denoting phrase, rather than an individual-type variable. Hence, resumptive clitics, which according to ReMIV require individual variables, are excluded from Topicalization chains.

3.7. Previous studies on Topicalization

The existing literature on Greek Topicalization is very restricted. It has been a common assumption in the previous studies that Topicalization should be viewed as a twin construction to CLLD (Dimitriadis 1994; Panagiotidis 2002; Alexopoulou & Kolliakou 2002). In particular, it is argued that Greek CLLD and Topicalization share the same syntactic structure, with the only difference being that in Topicalization the resumptive clitic is phonologically empty (Dimitriadis 1994; Panagiotidis 2002). The following paragraphs focus on a certain number of claims in the literature about the derivation of Topicalization in Greek.

Panagiotidis (2002) argues that Topicalization involves a base-generated topic phrase at the left periphery. The base-generated topic phrase is licensed by an anaphoric element in the argument position. Panagiotidis (2002), following an idea found in Dimitriadis (1994), argues that this anaphoric element is a null (indefinite) clitic. Note that this leads to a unification of the topic dependencies in Greek (CLLD with Topicalization) in a straightforward way. Panagiotidis develops a pronominal analysis for Greek (overt/definite and covert/indefinite) clitics, which is discussed below (see Chapter 5, for a discussion on the nature of the clitic items in Greek). For now, it suffices to say that the new empirical data (reconstruction, island sensitivity etc.) render the base-generation analysis problematic.

Alexopoulou & Folli (2019) argue for a movement analysis of Topicalization which is in line with the island sensitivity of this construction. If I am not mistaken, Alexopoulou & Folli (2019) propose a unified analysis of Topicalization and CLLD in Greek: the topic phrase A'-moves to the left periphery. This movement however, according to the authors, gives rise to an anaphoric element in the launching site, rather

than a copy/trace. This is attributed to the 'anaphoric' (i.e., non-quantificational) nature of the moved element (see Lasnik & Stowell 1991). This state of affairs results to a coreference relation between the dislocated topic phrase and the in-situ anaphoric element (the authors refer to Lasnik & Stowell's (1991) term 'anaphoric dependency'). As far as I understand the details of this analysis, it appears to be at odds with the reconstruction properties of Topicalization, starting from the Condition C effects (under reconstruction) (see section 3.2). Most crucially, the fact that Greek Topicalization obligatorily undergoes total reconstruction does not stem from any assumption in Alexopoulou & Folli's analysis.

3.8. Conclusions

In this chapter I investigated the syntactic derivation and the LF-representation of Greek Topicalization. I proposed a movement analysis of Topicalization, according to which the property-denoting topic phrase moves to spec,TopP at the left periphery (section 2.2, Chapter 2).

What is special however in Greek Topicalization is that, the topic phrase must undergo total reconstruction, i.e. only the lower copy is interpreted at LF. The totally reconstructed topic phrase derives scope reconstruction effects as shown in section 3.3.1. Additional evidence for the total-reconstruction analysis of Topicalization comes from data with Late Merge of adjuncts and anaphor-binding in long-distance dependencies.

The interpretation of reconstructed property-denoting topics necessarily involves an existential closure operator. In section 3.4.3, I argued that the existential closure operator sits in the extended VP-domain, below the subject position. This ensures the narrow-scope readings of Topicalized phrases.

Section 3.5 offered a principled account for the total reconstruction analysis of Topicalization, arguing that the fact that Topicalized phrases must totally reconstruct is directly related to their semantic type. Finally, in section 3.6., I briefly discussed the lack of clitics in Topicalization chains and I argued that this is exactly what one should expect given that resumptive clitics mark individual variables (ReMIV).

Chapter 4: Greek CLLD: movement of individuals

4.1. Introduction

This chapter focuses on Greek *CLLD (Cliic Left Dislocation)*: a topic-marking construction which involves a clitic-resumed topic phrase, dislocated to the left periphery of the sentence. Recall that in chapter 2 we saw that CLLDed phrases are constrained by an Individual Condition which states that CLLDed phrases are of type *e*.

(1)   CLLD: [TopP [topic]*e* [TP . . . *(CL) . . .]]

Consider (2), an example of CLLD in Greek (Panagiotidis 2002: 76)

(2)   [To   palto], *(to)   aghorase   o   Kostas.
          the   coat   CL   bought-3SG   the   Kostas
          'As for the coat, Kostas bought it.'

Let me start with some background information on this construction. The term *clitic left dislocation* – CLLD has been widely known since Cinque's (1990) study on the types of the A'-dependencies in Italian and English. Cinque observed that Italian CLLD, in contrast to other A'-dependencies (e.g., wh-questions) is insensitive to *weak islands* (e.g., extraction out of a wh-question). This led Cinque to a base-generation analysis of Italian CLLD according to which the left-dislocated topic phrase is externally merged ('base-generated') at the left periphery and binds a pronominal clitic that occupies the argument position (see also Rizzi 1997). In this context, CLLD has been considered a resumptive dependency, in the sense that at the foot of this (A') construction, we find a resumptive pronominal element, instead of a gap.

Recall from Chapter 1 though, that here I am making use of a pre-theoretical description of resumption. More precisely, in Greek, a resumptive dependency involves a left-dislocated phrase whose φ-/case features are doubled by a clitic item. However, the *resumptive clitic* is not necessarily a pronoun that occupies the argument position of

the dislocated phrase. Instead, it may well be a non-argument element, which is ancillary to a movement chain (see for instance Aoun et al. (2001); Boeckx (2003)). In this sense, resumption does not exclude movement (see section 1.3.2). This short introductory note leads us to the two main points of controversy in the literature of Greek CLLD:

    a.   Does CLLD involve movement?

    b.   b. What is the nature of the clitic element in CLLD?

In this chapter I focus on question (a) and other relevant questions which are mainly concerned with *the nature of the chain* which is formed by CLLD: Is CLLD a movement or a base-generation dependency? If it is a movement dependency, what type of movement does it involve (A, A', a mixed A/A' movement chain)? I also investigate the syntactic and the semantic properties of CLLD and how these are related to its LF-representation.

Question (b) will have to wait until chapter 5. This is because the nature of resumptive clitics (question b) heavily depends on the analysis of resumptive dependencies (question a). To clarify, in most base-generation approaches to CLLD, clitics are considered pronominal elements (Tsimpli 1995; Philippaki et al. 2004). On the other hand, a movement analysis of CLLD excludes this possibility (see Angelopoulos & Sportiche (2021), as well as the discussion in the next chapter).
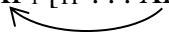
Anticipating the discussion in chapter 5, in this thesis I argue that resumptive clitics mark individual variables (ReMIV), hence resumption indicates that a movement chain is semantically interpreted as an individual variable binding chain. It will be shown that this suggestion fits well with the syntactic properties of CLLD (e.g., lack of WCO effects, surface scope reading). Moreover, this proposal is compatible with a movement analysis of CLLD. More specifically I will argue that resumptive clitics start as definite articles which are associated with the copy of the topic phrase in its base position (cf. Uriagereka 1995 for a 'Big-DP approach'). In this chapter though, I restrict myself to the syntactic properties and nature of the CLLD-chain, leaving the nature and the role of the doubling clitic aside.

Let me briefly present the main positions with respect to question (a). Italian CLLD has been analyzed as a binding dependency (Cinque 1990). This was the standard analysis for most resumptive dependencies in many languages at that time (see for instance McCloskey 1990; Sharvit 1999; for resumptive relative clauses in Irish and

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Hebrew respectively). In this spirit, Greek CLLD received a base-generation analysis as well (see Tsimpli 1990, 1995; Anagnostopoulou 1994; Iatridou 1995; Panagiotidis 2002; Philippakii-Warburton et al. 2004 among others), as in (3a).[1] On the other hand, a number of studies suggest a movement analysis (Agouraki 1993, Grohmann 2003, Kupula 2014, Angelopoulos & Sportiche 2021), roughly as in (3b).[2]

(3)   a. [$_{TopP}$ XP$_1$ [$_{TP}$ . . . pro$_1$ . . .]]

        b. [$_{TopP}$ XP$_1$ [$_{TP}$ . . . XP$_1$ . . .]]

Base-generation analyses usually evoke the following three properties of CLLD: (i) CLLD chains are relatively insensitive to locality restrictions, (ii) the dislocated phrase obligatorily has a wide-scope reading, (iii) no WCO effects are detected. On the other hand, the line of argumentation that underlies a movement analysis is mainly based on the reconstruction properties of CLLD. It seems that both sides have strong arguments in their favor, so either analysis should consider the points that are raised by the opponent as well. In this study I argue for a movement analysis, which also accounts for the "base-generation effects" of CLLD.

The second point which is under debate (and to which I return in Chapter 5) is the nature and the role of the clitic in the CLLD dependency (compare among Panagiotidis 2002; Grohmann 2003; Philippaki-Warburton et al 2004 and Angelopoulos & Sportiche 2021). As explained above, the answer to this question is largely determined by the nature of the derivation one assumes for CLLD. For instance, a movement account for CLLD severely restricts the options about the nature of the clitic: it can only be a functional, non-argument element which is peripheral to the topic-phrase movement (4).
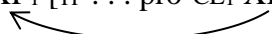
(4)   [$_{TopP}$ XP$_1$ [$_{TP}$ clitic . . . XP$_1$ . . .]]

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[1] Iatridou (1995) argues for a restricted base-generation analysis. In particular, she maintains that a CLLDed phrase is base-generated at the left periphery (weak island insensitivity) but for long-distance CLLD (across a CP), Iatridou puts forth a mixed chain analysis: the topic phrase is base generated at the local left periphery and then A'-moves from CP to CP. This analysis accounts for the *strong island* effects (cf. 4.4).

[2] Angelopoulos & Sportiche (2021) claim that CLLDed-phrases A-move to an A-position in the middle field before landing to their left-peripheral A'-position (cf. Grohmann 2003; Kupula 2014).

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A movement derivation would be incompatible with a *pronominal/referential* clitic (pro-CL$_1$). In (5), the copy-XP and the pronominal clitic would compete for the same argument (theme) position, thus violating the θ-criterion. For now I leave aside the accounts that assume that a movement copy may turn into a referential clitic pronoun (Harizanov 2014; Baker & Kramer 2018; for a different view). I get back to these accounts in chapter 5.

(5)   *[$_{TopP}$ XP$_1$ [$_{TP}$ . . . pro-CL$_1$ XP$_1$ . . .]]

Before we proceed, I should remind the reader of what we have learnt about Greek CLLD so far. CLLD is unanimously considered a topic-marking strategy (see Tsimpli 1990; Iatridou 1995; Anagnostopoulou 1994). Following the discourse – syntax mapping as established in Rizzi (1997; 2006), the CLLDed phrase surfaces as the specifier of a Topic Phrase in the left periphery. What is more, in section 2.3 (we come back to this in chapter 6), it was shown, in detail, that Greek CLLD is restricted to topic-phrases of type *e* (Individualhood Condtion on CLLDed phrases).

4.2. CLLD involves A'-movement

This section argues that CLLD is derived by A'-movement. The movement approach to Greek CLLD has been heavily based on the reconstruction properties of this construction. Condition C violation under reconstruction is a strong piece of evidence towards this direction (Grohmann 2003; Kupula 2014; Angelopoulos & Sportiche 2021). Recall that Condition C is violated by an R-expression which finds itself in the c-command domain of a coreferential item.

(6)   *[Tis fotoghrafies tu   Kosta$_1$]$_2$, pro$_1$ tis estile   sti   Maria.
          the   pictures   the   Kostas   CL   sent-3SG to-the Mary
        'Kostas sent Mary the pictures of himself.'

According to the movement analysis, the CLLDed phrase leaves a copy within the VP, as in (7):

(7)   *[tis fotoghrafies tu Kosta$_1$] pro$_1$ tis estile sti Maria <tis fotoghrafies tu Kosta$_1$>

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What causes the ungrammaticality in (6) is the fact that the R-expression *tu Kosta* within the lower copy of the CLLDed phrase is c-commanded by the coreferential null subject pronoun *pro₁*, a typical case of Condition C violation under reconstruction (Ceccheto 2000). In conclusion, the Condition C effects indicate a movement chain:[3]

(8)   CLLD: [TopP [XP topic] [TP . . . [XP topic] . . .]]

In (8) though, the clitic is missing. Given the presence of the copy within the VP, the question is what position the clitic occupies and which role it fulfills. As I explained above, it definitely cannot be a pronominal element in an argument position, unless we allow a referential pronoun and a full copy to share the same argument position. A discussion on the role of clitics in resumptive dependencies is offered in chapter 5.

   I will now proceed to some additional properties of CLLD which indicate a movement derivation. The reader is encouraged to look back at section 3.2 on the movement properties of Topicalization, for some background on the following syntactic-semantic diagnostics: reconstruction for pronominal QP-binding, anaphor DP-binding, idiom interpretation. This section also presents *neg-word* (negation word) licensing (Negative Concord) in CLLD after reconstruction.First, CLLD licenses *reconstruction for pronominal-binding*: In (9), the pronoun *tu* within the CLLDed phrase may be bound by the quantified DP *kanenas kathijitis* which is in a lower position (Anagnostopoulou 1997; Grohmann 2003; Angelopoulos & Sportiche 2021).

(9)   [Tus   fitites   tu₁]₂,   dhen   tus kalese   [kanenas   kathijitis]₁ t₂.
         the   students   his   not   CL invited-3SG   no   professor
        'No professor invited his students.'

Reconstruction for pronominal binding has been considered an undispuable evidence for a movement derivation (Grohmann 2003; Angelopoulos & Sportiche 2021): there must be a copy of the CLLDed phrase in the c-commanding domain of the quantified DP, as in (9'):

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[3] For an alternative explanation of the Condition C effects, which does not involve movement see Salzmann (2010).

(9') [Tus fitites tu1] dhen tus kalese [kanenas kathijitis]1 <tus fitites tu1>.

But below (see section 4.4.1) I show that there some movement-blocking contexts (e.g., strong islands), in which, however, pronominal binding is licensed (see section 4.4.1).

Second, CLLD allows *reconstruction for anaphor-binding*: Anagnostopoulou (1997: 155) demonstrates that an anaphor within the CLLDed constituent can be bound by a DP-antecedent in a lower position, as in the following example:

(10) [Ton eafto tu2]1, o Janis2 dhen ton frondizi t1.
      the   self   his   the   John   not   CL take-care-of-3SG
     'John doesn't take care of himself.'

The well-formedness of this example is immediately explained once we assume a movement derivation and a copy of the CLLDed phrase below the antecedent in the subject position.

(10') [ton eafto tu2], o Janis2 ton frodizi <ton eafto tu2>.

The exact conditions for anaphor-binding should not concern us here (see Anagnostopoulou & Everaert 1999, Angelopoulos & Sportiche 2022).[4] (10) is compatible with a movement derivation of CLLD, whereas this is not so obvious for a base-generation analysis which only assumes a pronominal variable (pro1) in the object position.

Finally, CLLD, like Topicalization, licenses *reconstruction for idiom interpretation*s (Brame 1968). The sentence in (11) is ambiguous between a literal and an idiomatic interpretation:

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[4] Cecchetto (2000: 8) notes the possibility of a DP-internal antecedent in the form of a PRO, which means that the anaphor gets bound within the DP and the interpretation site of the topic phrase (surface/reconstruction position) is irrelevant to the anaphor-binding effect.

(11) Hono   ti   miti   mu.
      put/bury-1SG the   nose   mine
        a. Literal meaning: I put my nose somewhere
        b. Idiom: meddle

The same holds for (12b), where part of the idiom is displaced by CLLD.

(12) a. Dhen prepi na afinis ton patera su na honi ti miti tu padu.
         'You shouldn't let your father to meddle in everything.'

      b. [Ti miti   tu]$_1$,   ti   honi   t$_1$ ki   o   dhikos-su   pateras!
          the nose   his   CL   meddle-3SG   and   the your   father
         'Your father meddles too!'

The availability of the idiomatic interpretation in (12b) supports a movement derivation: at LF, the copy of the CLLDed phrase within the VP is interpreted along with the verb and the idiomatic expression arises. Given a base-generation derivation of (12b), the verb 'honi' takes as its complement a pronominal variable ([$_{VP}$ honi pro$_1$]'). This would not suffice for the idiomatic interpretation, which requires the lexical information in (11) as a constituent.

  The label *negative concord* (NC) refers to the phenomenon found in many languages, where two negative words result to a single logical negation (Giannakidou 2000; Zeijlstra 2004). For instance, in Greek a negative word co-occurs with a sentential negation particle (see Giannakidou 2000 Greek as a strict NC variety):

(13) Dhen ipa   tipota.
      not   said-1SG   nothing
      'I didn't say anything.'

Kupula (2014) observes that negative words, like 'kanenas' (nobody) (NPI, for Kupula 2014) may undergo CLLD (I return to the distribution of CLLDed neg-words in chapter 6).[5]

(14) [Kanenan], dhen ton simferi   na mini   anerghos.
      nobody   not   CL   benefit-3SG to stay-3SG unemployed
      'Nobody benefits from being unemployed.'

At the surface structure, the CLLDed negative word *kanenan* in (14) appears to c-command the sentential negation. It is a consensus however that neg-words are licensed by being c-commanded by the sentential negation marker at LF.[6] This means that there must be a copy of the CLLDed phrase below the sentential negation at LF. These data do not immediately follow given a base-generation derivation. A movement derivation (14') on the other hand provides us with the desirable LF-representation. CLLDed neg-words are examined in detail in chapter 6.

(14') [Kanenan], dhen ton simferi <kanenan> na mini anerghos.

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[5] A. Roussou (p.c.) among others finds sentences with CLLDed neg-words degraded (see also Alexopoulou 2009). I find (14) fine but I think that it would be improved with an NP-restrictor e.g., *kanenan jatro* (no doctor). I return to the distribution of CLLDed QPs in chapter 6 (a relevant discussion can be found in section 2.3.). Furthermore A. Roussou notes that to the extent that (14) is fine, this may be related to the fact that 'kanenan' is an object experiencer. Indeed, as Anagnostopoulou (1999) has shown, *dative experiencers* exhibit a special behavior with repsect to clitic doubling/resumption. In chapter 6, the discussion extends beyond experiencer-CLLD QPs.

[6] Examples like (i) may at first seem problematic since the subject neg-word c-commands the negation marker *dhen*:

(i) Kanenas dhen   efije.
    nobody   not   left
    'Nobody left.'

(i) may be taken as evidence for the VP-internal Subject hypothesis according to which *kanenas* starts from the spec,VP position, below the sentential negation marker. Additionally, we may posit a null negation operator at the top of the tree. In particular, Zeijlstra (2004) argues that in many languages (Greek included), the markers that are associated with negative sentences (the so-called negative markers e.g., *dhen* in (14)) are not true negative operators. Rather they are non-negative elements that agree with a null negative operator.

An obvious prediction of the movement analysis is that Greek CLLD must be sensitive to syntactic islands, and especially strong islands which, cross-linguistically, block any type of movement (see section 3.2). Indeed, many authors share the view that CLLD may not cross strong islands (Iatridou 1995; Anagnostopoulou 1994; Dimitriadis 1994; Alexopoulou & Kolliakou 2002; Philippaki – Warburton et al. 2004). The following examples come from Iatridou (1995:18).

(15) *[Ton Kosta]₁, sinadisa [island tin kopela pu ton idhe t₁].
        the Kostas met-1SG the girl that CL saw-3SG
      'I met the girl who saw Kostas.'

(16) *[Tin efimeridha]₁, apokimithike [island dhjavazodas tin t₁].
        the newspaper fell-asleep-3SG reading-GER CL
      'He fell asleep reading the newspaper.'

(15) is an example of a relative-clause-island violation, while (16) involves an (gerund) adjunct island. One may take (15) and (16) as evidence for a movement analysis (see Cinque 1990; Anagnostopoulou 1994; for a different view), however in section 4.4, I show that the island sensitivity of CLLD is a much more complex issue.

To summarize, in this section I provided empirical data which support a movement derivation for Greek CLLD, along the lines of (15).

(17) CLLD: [TopP [XP topic] [TP . . . [XP topic] . . .]]

In chapter 2, I argued that CLLD is a topic-marking strategy, and that the CLLDed phrase is the topic of the sentence. This means that the CLLDed phrase occupies a spec,TopicP position, in the left periphery. Given the evidence provided in this chapter, CLLD involves movement, so there is a copy of the topic phrase in a lower position as illustrated in (17). More specifically, given the fact that CLLDed objects reconstruct below post-verbal subjects for anaphor-binding (see 10) and given the syntactic positions of postverbal subjects (see the relevant discussion in 3.4.1), we can conclude that CLLDed object-DPs are externally merged in the canonical object position (see Angelopoulos & Sportiche 2021). Futhermore, as Angelopoulos & Sportiche (2021) show an anaphor within a CLLDed direct object can be bound by an indirect object

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antecedent. This further supports the view that CLLDed objects move from their canonical object position.

(18)   [Tis   fotoghtafies tu eaftu tu$_1$] tis   estila   tu Kosta$_1$.
        the   pictures   the self his   CL   sent-1SG   the Kostas
        'I sent Kostas the pictures of himself.'

As we have seen, the existence of lower copies gives rise to a number of reconstruction effects. However, the exact LF-representation of CLLD at LF remains to be clarified. The obligatory presence of the clitic is one more open issue which is explored in section 4.5. The reader may have observed that I haven't discussed the WCO-insensitivity of CLLD, the Achille's heel of a movement analysis of resumptive constructions (see Cinque 1990; Iatridou 1995). My account for these facts is based on the analysis of the LF-representation of the CLLD dependency. I return to WCO effects (4.3.3) and parasitic gap licensing (4.3.4) below, once the LF-representation of CLLD is clarified. In the following section I explore the nature of the LF-chain formed by CLLD.

4.3. Greek CLLD at LF

The aim of this section is to explore the LF-representation of CLLD chains. More specifically, in this section I argue that CLLD movement chains are interpreted through *λ-abstraction*, which means that movement introduces a λ-operator (λ) binding the lower copy which, in CLLD, is interpreted as an individual-level variable.[7]

(19)   CLLD: [$_{TopP}$ [topic] λ$_1$ [$_{TP}$ . . . [topic]$_{1-e}$ . . .]]

It will be shown that the LF-representation in (19) is compatible with the syntactic and the semantic properties of CLLD and more crucially it accounts for the properties of CLLD which have been considered as evidence for a base-generation analysis.

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[7] In this thesis I argue that movement-copies turn into semantic variables through a trace-conversion mechanism (Fox 2002, 2003). I return to this issue in chapter 5.

4.3.1. Scope reconstruction

Let us have a look at the scopal behavior of CLLD as an attempt to delve into the LF-representation of this construction. Alexopoulou & Kolliakou (2002) argue that CLLD is strictly restricted to wide scope readings. They have in mind the following data ((20) and (21) from Alexopoulou & Kolliakou 2002: 222, 226, respectively):

(20)   [Ena komati], to   protine   kathe musikos.
        a   piece   CL   suggested-3SG   each   musician
        'A song, all musicians suggested.'

(21)   [Teseris kiries],tis   proskalesan   tris kirii.
         four   ladies CL   invited-3PL   three gentlemen
        'Four ladies, three gentlemen invited.'

The authors observe that the CLLDed DPs obligatorily receive a specific reading in (20) and a collective reading in (21). Both readings are connected to a wide scope reading of the CLLDed phrase: [∃>∀] and [4>3], respectively. Narrow scope readings for the CLLDed constituents are blocked. These results are experimentally confirmed in recent studies (Oikonomou et al. 2020; Oikonomou & Alexiadou 2020). As a matter of fact, the obligatory surface scope reading (i.e., the wide scope reading of CLLDed DPs) is what a base-generation analysis of CLLD would predict. According to the base-generation analysis, CLLDed phrases are externally merged high, thus they cannot reconstruct and scope below subjects. But does this mean that the scopal behavior of CLLD is incompatible with a movement analysis and the presence of a copy in the trace position? In what follows I argue that this is not true.

I suggest that CLLDed elements are never true scopal elements. Recall the discussion from Chapter 2 (section 2.3) and the Individual Condition on CLLDed phrases, which states that only individual denoting (≈referential) phrases undergo CLLD (see also chapter 6). A referential constituent cannot be a scopal element. In other words, the meaning of a phrase that denotes an entity (let's say a specific song, 'Yesterday' by The Beatles in (20)), is not affected by its interaction with a scopal element.[8] Let us see in

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[8] Relevant to this point is the discussion on the specific/wide scope reading of the clitic-doubled DPs in Romanian in Dobrovie-Sorin (1990: 384).

more detail how this idea applies to the example under discussion in (20). According to the Individualhood condition on CLLDed phrases, the CLLDed indefinite *ena komati* has an individual-level denotation (i.e., it is of type *e*) which is derived by a song-related choice function. This choice function applies to a set of songs and extracts a specific song from this set (Reinhart 1997; Winter 1997; Kratzer 1998). This means that the topic phrase denotes a specific song ('Yesterday', for example) which is probably known to the speaker but unknown to the hearer. This topic phrase moves to the left periphery, above the universal QP *kathe musikos* and leaves a copy below it. Now, whether we interpret the copy above the universal QP or the one below the QP, the semantic denotation of the indefinite topic phrase is the same: it keeps referring to the specific entity selected by the choice function (i.e., the song 'Yesterday'). In the same vein, in (21) the plural indefinite refers to a specific (non-atomic) individual. From this perspective, the wide scope readings that Alexopoulou & Kolliakou (2002) detect in Greek CLLD sentences are not cases of true scope interaction, rather they appear to be cases of *pseudo wide-scope* (see Kratzer 1998). As a conclusion, the evidence presented in (20) and (21) is totally compatible with the movement analysis of CLLD.

On a different note, recall that scope reconstruction indicates *total reconstruction*. According to the syntactic approach to reconstruction, a moved phrase scopes into a lower position as a result of the deletion of the high copy and interpretation of the low copy only (i.e., total reconstruction); see the next paragraph for a re-introduction of the relevant terms). While scope reconstruction phenomena proved very useful in the investigation of the syntactic properties of Topicalization, as we have seen the data in (20) and (21) are not conclusive on the LF properties of Greek CLLD. More concretely, we cannot argue for or against total reconstruction in CLLD, based on the scopal-behavior of CLLD. However, the next section provides empirical evidence for the absence of total reconstruction in CLLD.

On this occasion, allow me to reintroduce the reconstruction terminology used in the present thesis:

a. <u>Obligatory vs. Optional reconstruction</u>: A movement dependency involves two copies of the same phrase, one in the launching site and one in the landing site. Obligatory reconstruction means that the low copy cannot be ignored by LF, hence both the high and the low copy are interpreted. Optional reconstruction means that the low copy can be ignored by LF.

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- o Obligatory reconstruction: $XP_1 \ldots \ldots XP_1$
- o Optional reconstruction: $XP_1 \ldots \ldots (XP_1)$

A standard way to examine whether a movement dependency shows obligatory or optional reconstruction is Reconstruction for Condition C. If Condition C effects are detected under reconstruction, it means that the moved phrase cannot avoid reconstruction, i.e., it obligatorily reconstructs. In general, A'-moved elements obligatorily reconstruct, while reconstruction of A-moved elements is only optional (see Sauerland 1998: 2.3 among others). This assumption is associated with the well-documented finding that A-movement bleeds Condition C (see Takahashi & Hulsey 2009 and the references therein).

b. <u>Total reconstruction</u>: When a moved element undergoes total reconstruction, only its lower copy is interpreted (by deletion/neglection of the higher copy). This kind of reconstruction is necessary in cases of scope reconstruction.
- o Total reconstruction: $\cancel{XP_1} \ldots \ldots XP_1$

In these terms, CLLDed phrases obligatorily reconstruct into a lower position. As evidence for obligatory reconstruction of CLLDed objects into their external-merge position consider (22). (22) demonstrates a case of reconstruction for Condition C since the R-expression *tu Kosta* within the CLLDed object cannot be coindexed with the epithet in the postverbal subject position. This shows that CLLDed objects A'-move from and they obligatorily reconstruct into the canonical object position

(22)   *[Tis fotoghrafies tu Kosta$_1$]   tis estile [o malakas]$_1$ sti   Maria.
       the pictures   the Kostas   CL sent   the asshole   to-the Mary
    'The asshole sent the pictures of Kostas to Mary'

I return to the details of the movement chain of CLLDed phrases in more detail below, where I discuss whether these phrases move to the left-periphery through a middle-field position (see Angelopoulos & Sportiche 2021). The following section examines whether CLLD undergoes total-reconstruction or not.

4.3.2. CLLDed phrases do not undergo total reconstruction

In this section I argue that CLLD chains are semantically interpreted through λ-abstraction (see 19), excluding total reconstruction. To start with, in the syntactic literature, movement chains have been interpreted as dependencies between an operator in the landing site of the moved phrase and a variable in the trace position (Chomsky 1977, 1995). Therefore, in (23) the wh-phrase functions as an operator binding a variable x in the trace position (a version of this analysis which is compatible with the copy-theory of movement is discussed below).

(23)   a. [Which student]$_1$ did Mary meet t$_1$?
        b. [Which student-x] did Mary meet x

Following the standard assumptions in the semantic literature (Heim & Kratzer 1998), I assume that semantic binding is performed via a *λ-operator*. Hence, the binding relation between the wh-operator and the variable in the trace position in (23) is mediated by a λ-binder:[9]

(23')   [Which student] λx did Mary meet x

As stated above, this section argues that this is the process followed for the interpretation of CLLD chains as well (24). More specifically I assume that the high copy of the CLLDed phrase is associated with a λ-binder, while the low copy is interpreted as a semantic variable as in (24'). In the following paragraphs I examine the LF-representation in (24) in more detail and I modify (24') where needed.

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[9] The coindexation between a moved phrase and a λ-binder is secured by the following assumption on the insertion of the λ-binder. The moved phrase $α$ is separated from its index ($_1$), which index then is turned to a λ-binder by the predicate abstraction rule: For any index n: $[\![n \, [_β \ldots n \ldots]]\!]^g = λx[_β \ldots]g^{[n \rightarrow x]}$ (see Heim & Kratzer 1998).

(i) $[\![\, [α_1 \, [_β \ldots] \,]]\!]^g$ →

(ii) $[\![\, [α \, [1 \, [_β \ldots] \,]]\!]^g$ →

(iii) $[\![\, [α \, [λx \, [_β \ldots] \,]]\!]^{g[1 \rightarrow x]}$

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(24)   [To   palto], to agorase   o Kostas.
         the   coat   CL bought-3SG   the Kostas
         'The coat, Kostas bought.'

(24')   [TopP-t [To palto]e [TP-<e,t> λxe to aghorase o Kostas xe]]

Let us first see how (24') is supposed to work. By assuming that *x* is an individual variable, abstraction over this variable gives rise to a 'derived predicate' of type <e,t> (λx. Kostas bought x). Subsequently, the derived predicate combines with the left-dislocated topic phrase through *function application*. More specifically, the individual denoting topic saturates the derived predicate, and the result is a constituent of type *t*.

An obvious problem of (24) concerns the variable (*x*) in the trace position which raises both theoretical and empirical problems. From a theoretical point of view, according to the *internal merge* version of movement and the *copy theory of traces* adopted in this thesis (Chomsky 1995, 2001, 2021), the trace position of a movement chain is occupied by a full copy, rather than a plain variable (see Chapter 1). On the empirical side, in section 4.2, we saw that reconstruction for Condition C, pronominal/anaphor binding and idiom interpretation indicates the presence of a copy of the topic phrase in the trace position of CLLD-chains. As explained, the reconstruction behavior of CLLD cannot be accounted for with a plain or a pronominal variable in the trace position. Having said that, movement chains should be considered as dependencies between two copies of the moved phrase:

(25)   [TopP [To palto]1 [CP to aghorase o Kostas [to palto]1]]

However, now a different problem arises, as it is not clear how (25) is semantically interpreted. Putting aside the compositionality problems that the double instance of the moved phrase causes, the semantic analysis of movement chains through λ-abstraction, requires a variable to be bound by the λ-operator. Therefore, it is not clear how a full copy – the foot of the movement chain – is interpreted as a variable at LF.

To reconcile the syntactic with the semantic analysis of movement chains, Fox (2002, 2003) proposed the *trace conversion* rule, a mechanism which attaches a semantic variable to copies in the trace position. Fox's trace conversion rule plays a critical role in my analysis of resumptive clitics; thus I return to this mechanism in more

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detail in the next chapter, which focuses on resumptive clitics. For now, I resort to a simplified representation of movement copies as in (26).

(26)   [$_{TopP}$ [To palto]$_e$ [$_{TP-<e,t>}$ λx to aghorase o Kostas [to palto, x]$_e$]]

As a result, CLLDed chains are now semantically interpreted without problems: the predicate derived by λ-abstraction (*λx. Kostas bought the coat x*) applies to the left-dislocated topic phrase. At the same time, the trace position contains the lexical material of the moved phrase, giving rise to several reconstruction effects.

The alert reader may have noticed that (26) essentially blocks a total reconstruction analysis for CLLD. In particular, given that the higher copy of the topic phrase is required to saturate the derived predicate, total reconstruction of the topic phrase (i.e., the deletion of the higher copy of the topic phrase) would leave the derived predicate unsaturated (see 27).

(27)   *[$_{TopP}$ ~~[To palto]~~$_e$ [$_{CP-<e,t>}$ λx to aghorase o Kostas [to palto, x]$_e$]]

The rest of this section aims to provide empirical evidence for the lack of total reconstruction in CLLD. Recall that a standard diagnostic of total reconstruction is reconstruction for inverse scope readings. However, as we saw in section 4.3.1, data for scope reconstruction in CLLD are by definition unavailable, since CLLD is restricted to referential, non-quantificational topics which derive 'pseudo-wide scope readings'. In what follows I turn to sentences with *Late Merge of adjuncts* and *anaphor-binding in long distance dependencies*.

The phenomenon of adjunct Late Merge has been discussed extensively in the previous chapter in connection with the total reconstruction analysis of Topicalization (see section 3.3.2). Let us have a look at the main points of this discussion which concluded that total reconstruction blocks Late Merge of adjuncts (see Takano 1995; Heycock 1995). To start with, the fact that pied-piped adjuncts systematically obviate Condition C under reconstruction (see (28)) has been explained as an instance of *late* (countercyclic) *merge*.

(28)   [Which claim [that John$_1$ made]]$_2$ was he$_1$ willing to discuss t$_2$?

(from Heycock 1995: 557)

According to this analysis, the pied-piped relative clause-adjunct may enter the derivation after the wh-phrase has reached its surface position (Lebeaux 1988; Chomsky 1995; see Sportiche 2019; Chomsky 2020, for the technical issues of this mechanism):

(28')   [Which claim [that John$_1$ made]] was he$_1$ willing to discuss \<which claim\>?

$$\uparrow$$
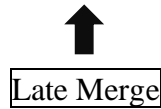
Late Merge

Nevertheless, as Takano (1995) and Heycock (1995) observe, adjunct Late Merge is in some cases blocked. For instance, in the VP-preposing example in (29), the pied-piped adjunct is forced to reconstruct, triggering Condition C effects:

(29)   *[Criticize a student [that John$_1$ taught]], he$_1$ said Mary did.

(from Takano 1995: 332)

Given independent evidence that preposed-VPs totally reconstruct, it is concluded that total reconstruction renders Late Merge of adjuncts impossible (Takano 1995; Heycock 1995; Sportiche 2016).

Against this background, if we are right that CLLDed phrases do not totally reconstruct, adjunct Late Merge must be allowed in CLLD. Indeed, this point has been independently illustrated by Angelopoulos (2019a) and Angelopoulos & Sportiche (2021). These findings are confirmed by the present study through pairs of Topicalization and CLLD sentences (see section 3.3.2). One of these pairs is repeated below for convenience reasons:

(30)   [Tis   fotoghrafies   pu   enohopiun   ton   proedhro$_1$]$_2$,   pro$_1$ dhen
        the   pictures   that   incriminate-3PL   the   president   not
        theli   na pro$_1$ tis   vlepi   t$_2$ kan.
        want-3SG   to   CL   see-3SG   even
        'He does not want even to look at the pictures that incriminate the president.'

(31) *[Fotoghrafies pu enohopiun ton proedhro₁]₂, pro₁ dhen

    pictures that incriminate-3PL the president not

    theli na pro₁ vlepi t₂ kan.

    want-3SG to see-3SG even

    'He does not want even to look at pictures that incrinate the president.'

My claim here is that CLLD is interpreted through λ-abstraction and Late Merge is allowed (30), while Topicalization is interpreted through total reconstruction and adjunct Late Merge is blocked (31).

The proposed dichotomy between Topicalization and CLLD with respect to total reconstruction is expected to have specific effects in anaphor-binding as well. Consider first the representation that the total reconstruction analysis of Topicalization (32) and the λ-abstraction analysis of CLLD (33) predict for long-distance dependencies:

(32) *Total reconstruction analysis of Topicalization*

    [$_{CP1}$ [$_{TopP}$ ~~[topic]~~ . . . [$_{CP2}$ ~~[topic]~~ . . . [topic] . . .]]]

(33) *λ-abstraction analysis of CLLD*

    [$_{CP1}$ [$_{TopP}$ [topic] $λ_2$ . . . [$_{CP2}$ [topic]$_2$ $λ_1$ . . . [topic]$_1$ . . .]]]

Briefly, the long-distance Topicalization chain in (32) involves movement of the topic to the left periphery of the matrix clause (CP1) through the left periphery of the embedded clause (CP2). Therefore, we need (at least) three copies of the topic phrase. However, under the assumption that Topicalization mandatorily undergoes total reconstruction, only the lowest copy will be interpreted at LF. On the other hand, CLLD involves two instances of λ-abstraction, one for each movement step, and total reconstruction is avoided. As a result, the LF-representation of the long-distance CLLD chain in (33) contains all the three copies of the topic phrase,

The structures in (32)-(33) derive interesting predictions with respect to reconstruction for anaphor binding. More precisely, given that Greek anaphors must be locally bound, an anaphor inside the topic phrase in (32) can only be bound by an antecedent in the embedded clause (CP2). An antecedent in the matrix clause (CP1) will be too far away from the anaphor (Heycock 1995; see also section 3.3.3). (33) is expected to show a significantly different behavior. All the copies of the topic phrase

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are available at LF. Hence an anaphor within the topic phrase can be bound by an antecedent either in the matrix clause or in the embedded clause.[10] Let us focus on the predictions for anaphor binding in Topicalization/CLLD long-distance chains with an <u>antecedent</u> in the matrix clause, as in (34) and (35).

(34)   *Long-distance Topicalization:*
       *[CP1 [TopP ~~topic~~]. . . <u>antecedent</u>. . . [CP2 ~~topic~~ . . . [topic] . . .]]]

(35)   *Long-distance CLLD:*
       [CP1 [TopP [topic]. . . <u>antecedent</u>. . . [CP2 [topic] . . . [topic] . . .]]]

In the following I provide the relevant minimal pairs. The only available (gender matching) antecedent for the topic-internal anaphor is underlined.

(36)   a. *[Katighories ja ton eafto tu$_2$]$_1$, lei   <u>o Kostas$_2$</u> t$_1$ oti   dhen
          accusations   for the self his   say-3SG the Kostas   that   not
          dhehete   ute   i Maria t$_1$.
          accept-3SG   either the Mary

       b. [Tis katighories   ja   ton eafto tu$_2$]$_1$, lei   <u>o Kostas$_2$</u> t$_1$ oti
          the accusations   for   the self his   say-3SG the Kostas   that
          dhen tis dhehete   ute   i Maria t$_1$.
          not CL accept-3SG   either the Mary

       'Kostas says that Mary does not accept (the) accusations against himself
        either.'

---

[10] Relevant to this is the distinction between the *positive* and *negative* binding conditions, for pronominal binding reconstruction and reconstruction for Condition C, respectively. Anaphor binding is a positive Binding Condition in the sense that if *any* of the copies satisfies Condition A, this is sufficient for the derivation to proceed (see Cecchetto 2000:108; Guillot & Malkawi 2009).

(37) a. ?*[Minisi kata tu eaftu tu$_2$]$_1$, lei   o Kostas$_2$ t$_1$ oti

       charges against the self his say-3SG the Kostas   that

       katethese   i   Maria t$_1$.

       pressed-3SG   the Mary

    b. [Ti minisi   kata   tu eaftu tu$_2$]$_1$, lei   o Kostas$_2$ t$_1$ oti

       the charges   against   the self   him say-3sg the Kostas   that

       tin katethese   i   Maria t$_1$.

       CL pressed-3SG   the Mary

    'Kostas says that Mary pressed (the) charges against himself.'

The data in (36) and (37) confirm the predictions that are laid out in (34) and (35), respectively, supporting the central assumption of this section that CLLD, in contrast to Topicalization, does not undergo total reconstruction.

Given the representation for CLLD proposed in this section and more specifically the conclusion that CLLDed phrases do not totally reconstruct, a note is in order with respect to *reconstruction for pronominal variable binding*. Above, I provided an example of CLLD (repeated below) which shows that a pronominal variable within CLLDed phrases can be bound by a quantificational item in a lower position (see Anagnostopoulou 1994; Grohmann 2003; Angelopoulos & Sportiche 2021).

(38) [Tus fitites   tu$_1$]$_2$, dhen tus kalese   [kanenas kathijitis]$_1$ t$_2$.

     the   students his   not   CL invited-3SG   no   professor

     'No professor invited his students.'

This finding now needs further discussion since it is often assumed that reconstruction for pronominal binding indicates total reconstruction (e.g., Angelopoulos & Sportiche 2021). The mainstream view is that reconstruction for pronominal binding is a case of *scope reconstruction* (see Fox 1999; Hulsey & Sauerland 2006; Sportiche 2017 among others; but see Sharvit 1999; Sauerland & Elbourne 2002 for a different perspective). For scope reconstruction, the higher copy of the moved QP is totally ignored at LF, as in (39') (Fox 1999: ex.2a, 7):

(39)   [Someone from New York]$_1$ is very likely t$_1$ to win the lottery.

(narrow scope: likely > ∃)

(39')   ~~[someone from NY]~~ is very likely <someone from NY> to win the lottery

If reconstruction for pronominal binding is subsumed under scope reconstruction, the following example (from Fox 1999: ex.6b) must involve total deletion of the higher copy at LF as in (40')

(40)   [His$_2$ father]$_1$ seems to every boy$_2$ t$_1$ to be a genius.

(40')   ~~[His father]~~ seems to every boy$_2$ <his$_1$ father> to be a genius.

Returning to our original CLLD example, recall that the movement of the CLLDed phrase 'to palto' triggers λ-abstraction over individual variables, resulting in a predicate of type <e,t> (see 42). At this point, the derived predicate applies to the CLLDed topic phrase, which is of type e, and as a result, the semantic component interprets the left-dislocated phrase in the trace position, without total reconstruction.

(41)   [To   palto], to aghorase   o   Kostas.
          the   coat   CL bought-3SG   the Kostas
        'Kostas bought the coat.'

(41')   [$_{TopP}$ [To palto]$_e$ [$_{TP-<e,t>}$ λx to aghorase o Kostas x$_e$]]

To illustrate, consider the abstract representations in (42-43), with a moved phrase XP$_1$ and the domain out of which XP$_1$ has moved, [YP. . . t$_1$] which is of type <σ,τ> (an arbitrary semantic type). Given these representations, the semantic type of the dislocated phrase determines how XP and YP will be composed with each other. If XP is of type <<σ,τ>τ> as in (42), XP applies to YP, hence YP functions as an *argument* (in brackets) saturating XP. (43) derives the wide scope reading of XP. On the other hand, given the σ-type of XP, now it is the function YP that applies to the argument XP, deriving the narrow scope of XP.

(42)   [[XP]$_{1-<<\sigma,\tau>\tau>}$ ([YP . . . t$_1$]$_{<\sigma,\tau>}$)]   →   wide scope of XP

(43)   [([XP]$_{1-\sigma}$) [YP . . . t$_1$]$_{<\sigma,\tau>}$]   →   narrow scope of XP

As we have seen, CLLD sentences follow (43) which derives the narrow scope reading of left-dislocated topic phrases. Even if we failed to give narrow scope data of CLLDed phrases, due to their individual (≈referential) denotation, the semantic structure in (43) interprets the high copy of the topic phrase (and everything within it) into the trace position. But, is this enough for the binding reconstruction effect to arise?

Let us now consider again the CLLD example with reconstruction for pronominal binding, repeated below as (44) and the simplified illustration of its semantic computation. Recall that in (44) the pronoun *tu$_1$* within the CLLDed phrase gets bound by the negative quantifier in the postverbal subject position.

(44)   [Tus   fitites   tu$_1$]$_2$,   dhen   tus kalese   [kanenas   kathijitis]$_1$ t$_2$.
        the   students   his   not   CL invited-3SG   no   professor
        'No professor invited his students.'

(45a) demonstrates that the movement of the individual denoting topic phrase gives rise to λ-abstraction which results in a derived predicate of type <e,t> at the level of CP. In (45b), the derived predicate applies to the topic phrase (the brackets indicate that the topic-phrase is the argument that saturates the derived predicate), thus the topic phrase along with the pronominal variable are placed within the scope of the negative-QP as in (45c).

(45)   a. [$_{DP}$ Tus fitites tu$_1$], [$_{TP}$ λx dhen tus kalese   [kanenas kathijitis]$_1$ x]$_{<e,t>}$
        b. ([$_{DP}$ Tus fitites tu$_1$]$_e$), [$_{TP}$ λx dhen tus kalese [kanenas kathijitis]$_1$ x]$_{<e,t>}$
        c. [$_{TP}$ dhen tus kalese [kanenas kathijitis]$_1$ [$_{DP}$ tus fitites tu$_1$].]$_{<e,t>}$

However, as we will see, (45) cannot derive the binding reconstruction effect (thanks to E. Poole, personal communication, for the discussion on this point). The problem with (45) is that it is not consistent with an inherent property of λ-calculus, namely the fact that substitution is *capture-avoiding*. In essence, this restriction disallows free variables to get bound after substitution. If we look carefully at (45b), the left-dislocated topic-

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phrase contains the free pronominal variable *tu₁*. After substitution though, this variable finds itself within the scope of the negative quantifier and gets bound by it. Although this binding relation is required for the bound reading, it violates the restriction described above. In the face of this problem, the proposed analysis of CLLD does not seem able to derive pronominal binding reconstruction. Moreover, an alternative analysis with a skolem-function variable ($f_{<e,e>}$) rather than an individual variable in the trace position would go against ReMIV.

Interestingly, the binding reconstruction effect in CLLD is straightforwardly derived with total reconstruction of the topic phrase (see Angelopoulos & Sportiche). (46) does not involve λ-abstraction/substitution anyway, and this issue does not arise in the first place.

(46)   [T̶u̶s̶ ̶f̶i̶t̶i̶t̶e̶s̶ ̶t̶u̶₁̶] dhen tus kalese kanenas kathijitis]₁ [tus fitites tu₁]

Nevertheless, (46) is at odds with the empirical findings and the conclusions of this section. Most crucially though, (46) would disconfirm ReMIV which predicts that resumptive clitics are always associated with a λ-bound individual in the trace position of an A'-movement chain. As a conclusion, reconstruction for (pronominal/anaphor) binding in CLLD seems to be problematic for the ReMIV generalization, unless additional assumptions are made. I will have to leave this issue for future consideration.

4.3.3. Lack of WCO

As mentioned above, this diagnostic has always been problematic for movement accounts of CLLD and resumptive dependencies more generally. Sensitivity to WCO is an undeniable indication of A'-movement. Accordingly, the absence of WCO effects strongly suggests a base-generation derivation (McCloskey 1990; Cinque 1990; among others). Along these lines, Iatridou (1995) shows that CLLD is insensitive to WCO and argues for a base-generation analysis (see fn.11 below for a note on the referentiality of CLLDed phrase and how this may affect the WCO-sensitivity of this construction).

(47)   [Ton Kosta]₁,   ton   aghapa   [i   mitera   tu₁] t₁.
        the   Kostas   CL   love-3SG   the   mother   his
        'His mother loves Kostas.'

I have already referred to the (complexity of the) phenomenon of WCO in Chapter 3, highlighting the heterogeneity of the accounts proposed for it (see Koopman & Sportiche 1982; Ruys 2000; Büring 2005 among others). At that point, a theoretical discussion on the deeper mechanics of these effects was not necessary. Nonetheless, in order to explain the absence of WCO effects in Greek CLLD, more needs to be said. Reference is often made to the WCO phenomenon at three distinct levels of analysis: as *a diagnostic test*, *a descriptive generalization* or *a theory for WCO*.

At the surface, WCO is often employed as *a diagnostic test* for A'-movement chains. Consider the following well-documented contrast between A'-movement chains (a wh-question) and A-movement chains (a raising construction), with respect to WCO (see Safir 2017 and references therein)

(48)   a. *[Which boy]$_1$ did [his$_1$ mother] see t$_1$?

    b. [Everyone]$_1$ seems [to his$_1$ mother] to t$_1$ be smart.

Given this contrast, it has been a standard assumption that WCO sensitivity indicates A'- movement.

The following subject-object asymmetry is characteristic of the phenomenon called WCO (from Büring 2005: 164).

(49)   a. Who$_1$ phoned [his$_1$ uncle]?

    b. *Whom$_1$ did [his$_1$ uncle] phone?

The contrast in (49) inevitably leads to *a descriptive generalization* along the lines of (50), retrieved from Büring (2005: 165) (see also Reinhart 1983; Lasnik & Stowell 1991; Ruys 2000).

(50)   An NP in a derived position can semantically bind only those pronouns which it
        c-commands already from its base position.

The wh-phrase in (49b) moves from the object position. Thus, *whom* cannot bind the subject-internal pronoun from its base (external-merge) position, and as (50) predicts, it cannot do so from its surface position either.

At a theoretical level, several studies attempted to reach an *explanatory theory of WCO* based on the contrasts reported above. See for instance Koopman & Sportiche's (1982) *Bijection Principle*; Safir's (1996) *A'-consistency*; Ruys's (2000) *Scope theory*; Büring's (2005) *Binding rule (with a WCO restriction)*; to name a few. The plethora of WCO-accounts indicates the complexity of this phenomenon.

In order to explain the insensitivity of CLLD to WCO, it seems necessary to focus on the syntax-semantics aspect of this effect. Here I follow Sauerland (1998) and Ruys (2000) who independently argued that WCO-effects reflect a type-mismatch between the λ-binder and the intervening pronominal variable. More specifically, these authors mention that while *A'-movement* chains like wh-questions and restrictive relative clauses involve λ-abstraction over a choice function variable ($\lambda f_{<<e,t>e>}$), *A-movement* like passivization and raising constructions involves λ-abstraction over individual variables (λ_e).

(51)   a. [XP] $\lambda f_{<<e,t>e>}$ . . . . . . $f_{<<e,t>e>}$ . . . (e.g., wh-question)

        b. [XP] λx_e . . . . x_e . . . . (e.g., raising)

More on the representation in (51a) is provided in chapter 7 which focuses on wh-question in Greek. As a result, what is at stake when it comes to WCO is the semantic type of the λ-binder involved. A WCO configuration contains an intervening co-indexed pronominal element, which cannot get bound by the λ-binder due to a mismatch in their semantic types. As demonstrated in (52), the intervening pronoun (under the standard assumption that pronouns are invariably of type *e*) can be bound by λx_e, but not by $\lambda f_{<<e,t>e>}$.

(52)   a. *[XP] $\lambda f\text{-}_{1<<e,t>e>}$ . . . pronoun-$_{1e}$ . . . $f\text{-}_{1<<e,t>e>}$ . . .

        b. [XP] $\lambda x\text{-}_{1e}$ . . . . pronoun-$_{1e}$ . . . . . $x\text{-}_{1e}$ . . . . .

The line of argumentation that we will follow here, in order to explain the lack of WCO effects in Greek CLLD now becomes obvious. In the previous section I argued that Greek CLLD dependencies follow the structural pattern in (52b). A topic phrase of type *e* moves and leaves a trace/variable of type *e* to be bound by the inserted individual-variable λ-binder. This representation offers a straightforward account for the fact that intervening pronouns do not trigger WCO-effects in CLLD sentences.[11] An alternative analysis of the WCO-insensitivity of CLLD has been recently proposed by Angelopoulos & Sportiche (2021). These authors suggest a syntactic account according to which, the topic phrase, on its way to the left periphery performs an A-movement step across the intervening pronoun in the subject position. This analysis is examined in section 4.6 below and it is shown to be problematic in various ways.

As explained above, WCO-insensitivity has been considered for years a challenge for a movement analysis of resumptive dependencies, cross-linguistically. Here we proposed a solution to the WCO puzzle in Greek CLLD. We will return to WCO in chapter 7, where gap/resumptive wh-questions are investigated.

4.3.4. Parasitic gaps

Licensing of parasitic gaps has been considered a diagnostic for movement dependencies (see Culicover & Postal 2001). In the following example which comes from Engdahl (1983: ex.1), the parasitic gap (*p.g.*) in the adjunct CP is dependent on the trace created by the wh-movement of *which articles*.

(53)   [Which articles]$_1$ did John file t$_1$ without reading *p.g.*?

---

[11] The cases of Greek CLLD we have seen so far involve referential topic phrases. This might allow us to consider an alternative explanation spelt out by Ruys (2004: 134), referring to English Topicalization examples brought to light by Lasnik & Stowell (1991). Ruys wonders whether the coindexation between a referential topic-phrase and the intervening pronoun signals a *semantic binding relation* or an *accidental coreference* relation. Under an accidental coreference construal, the intervening pronoun is a free pronoun which refers to the topic phrase under an assignment function, thus WCO, a condition on pronominal variable binding is irrelevant. Although one could follow the accidental coreference approach to the WCO-insensitivity of CLLD (given that this construction is restricted to referential topic phrases), this analysis does not extend to the WCO-insensitivity in other resumptive dependencies such as resumptive wh-questions and resumptive restrictive relatives (see Chapter 7), since wh-phrases cannot be assumed to be referential under any consideration.

Sentences with parasitic gaps can be formed in Greek as well (Iatridou 1995:13), however I think that they are fully acceptable only for some speakers (%).

(54) %[Pjo   arthro]$_1$ arhiothetises t$_1$ [horis   na dhjavasis *p.g.*]?
         which paper   filed-3SG   without   to read-3SG
         'Which paper did you file without reading?'

Iatridou (1995: 14) shows that Greek CLLD does not license parasitic gaps (see Cinque (1990) for this point on Italian CLLD). This, as she notes, is not expected under a movement analysis of CLLD. Indeed, the lack of parasitic gaps in CLLD sentences (along with the lack of WCO effects) is standardly mentioned as an argument for a base-generation analysis.

(55) *[Afto to arthro]$_1$ i   Maria to   arhiothetise   t$_1$ [horis   na
         this the   article the   Mary CL   filed-3SG   without   to
         dhjavasi p.g.$_1$].
         read-3SG
         'Mary filed this paper without reading it.'

Grohmann (2003) suggests an account for (55) which is compatible with a movement analysis (see also Angelopoulos & Sportiche (2021)). More specifically, he argues that CLLDed phrases firstly undergo A-movement to some position in the middle field of the sentence – hence above the adjunction position of the clausal adjunct – and then move to the left periphery. It is a well-known fact that A-movement does not license parasitic gaps. Indeed as (56) (from Engdahl 1983: ex.31) shows, A-movement does not license parasitic gaps:

(56) *[John]$_1$ was killed t$_1$ by a tree falling on *pg*.

In section 4.6, I will argue against an A-movement step in Greek CLLD, hence I will consider an alternative account for the lack of parasitic gaps in CLLD which takes into account the LF-representation of this construction.

Nissenbaum (2000), following Chomsky's (1986) idea of Chain Composition, proposed that parasitic-gap licensing involves the semantic rule of *predicate*

modification which combines two constituents of the same semantic type. In the cases at hand, predicate modification combines the clausal adjunct and the vP, both being derived predicates: the former by a null operator movement (see Chomsky 1977), the latter by object movement to the edge of vP. van Urk (2015) adopts the core of Nissenbaum's analysis of parasitic gaps, with some modifications though. Consider again (53), where a parasitic gap is dependent on the trace of the wh-phrase. Following Sauerland's (1998) and Ruys' (2000) syntax-semantics mapping for movement, he argues that an A'-movement is translated as binding of a choice function variable while an A-movement chain is mapped onto an individual variable (see chapter 7 for more information on the syntax-semantics mapping for wh-movement).

(57) a. [XP] $\lambda f_{<<e,t>e>}$ . . . . . . $f_{<<e,t>e>}$ . . . (A'-movement)
      b. [XP] λx_e . . . . x_e . . . . (A-movement)

The null operator (NO) movement to the left edge is standardly assumed an A'-movement. Accordingly, the clausal adjunct involves abstraction over a choice function variable. Analogously, the successive cyclic wh-movement of the object creates sets of choice functions:

(58) [Which articles]$_1$ did John t$_1$ [$\lambda f_{<<e,t>e>}$ file t$_1$] [NO$_2$ $\lambda f_{<<e,t>e>}$ without reading t$_2$]

Since the two derived predicates are of the same semantic type ($<<<e,t>e>t>$), predicate modification and parasitic licensing proceed without problems.

What remains to be answered is why Greek CLLD (see (55)), as well as A-movement (see (56)), does not allow parasitic gaps. Following van Urk's (2015) analysis, I argue that A-movement and CLLD exclude parasitic gaps for the same reason. They both give rise to derived predicates of type <e,t>, as in (57a) which is then incompatible with the clausal adjunct ($<<<e,t>e>,t>$), as predicate modification requires constituents of the same type. As the reader can see, van Urk's (2015) analysis fits perfectly with our assumptions about the LF-representation of CLLD.[12]

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[12] A. Roussou notes that (55) becomes fully grammatical with a clitic (*to*) instead of a parasitic gap:

(i) [Afto   to   arthro] $_1$ Maria   to   arhiothetise [horis   na   to$_1$ djavasi
      This   the   paper   the Mary   CL   filed-3SG   without to   CL   read-SUBJ.3SG

To sum up, in this section I investigated the representation of CLLD movement-chains at LF and I argued that they involve λ-abstraction over individual variables, excluding total reconstruction. Crucially, the proposed *λ-abstraction analysis of CLLD* accounts for a number of properties that have been assumed as evidence for a base-generation analysis of CLLD, such as the lack of WCO-effects and parasitic gaps. As for the systematic wide-scope reading of CLLDed phrases, I argued that this is in fact an instance of *pseudo-wide scope* in the sense that CLLDed phrases are individual-denoting phrases, thus they do not give rise to scopal ambiguities in the first place.

4.4. Island-sensitivity of CLLD

An obvious prediction of the movement analysis of CLLD is that these chains must be sensitive to syntactic islands (Ross 1967/1986; Chomsky 1973; Cinque 1990). Contrary to the predictions (and the dominant view in the literature, see section 4.2) though, we will see CLLD seems to be insensitive to strong islands. A deeper examination of these cases will resolve this paradox and will provide further support to the proposed analysis.

It has been a standard assumption in the literature that Greek CLLD chains, on a par with Italian CLLD (see Cinque 1990; Cecchetto 2000), may not cross a strong island boundary (Iatridou 1995; Anagnostopoulou 1994; Dimitriadis 1994; Alexopoulou & Kolliakou 2002; Philippaki – Warburton et al. 2004). The following examples come from Iatridou (1995: 18).

(59) *[Ton Kosta]$_1$, sinadisa [$_{island}$ tin kopela pu ton idhe t$_1$].
      the Kostas met-1SG the girl who CL saw-3SG
      'Kostas, I met the girl who saw him.

'Mary filed this paper without reading it.?'

As far as I can see the grammaticality of such examples is trivial, because this clitic _to_ may well be construed as a non-resumptive pronoun. Hence this pronoun is construed as a bound/free variable and its index denotes binding/accidental coreference without being part of the movement dependency. The following example shows that a CLLDed phrase may corefer with the possessive pronoun into the clausal adjunct. As a conclusion these sentences should be kept apart from the pg-sentences discussed above.

(ii) [Afto to arthro]$_1$ I Maria to djavase [horis na kseri ton sighrafea _tu_$_1$]

'Mary read this paper without knowing its author?'

(60) *[Tin   efimeridha]₁, apokimithike [island   dhjavazodas tin t₁].

      the   newspaper   fell-asleep-3SG   reading-GER CL

      'The newspaper, he fell asleep reading it.'

(59) is an example of a relative-clause-island violation, while (60) involves an (gerund) adjunct island. Interestingly though these examples receive various grammaticality judgments by native speakers. For instance, Tsimpli (1990) provides CLLD examples with island-violation reported as grammatical. For example, (61) is a well-formed (according to Tsimpli 1990) chain across a relative clause, while in (62) the CLLD chain crosses an adverbial adjunct (see also Spathas 2005).

(61) [Afto to vivlio]₁, ghnorisa [island   ton   sighrafea pu   to eghrapse t₁].

      this   the book   met-1SG   the   author   that CL wrote-3SG

      'This book, I met the author who wrote it.'

(62) [To   Jani]₁, i Maria efije [island   molis   ton   idhe   t₁].

      the   John the Mary left-3SG   as-soon-as   CL   saw-3SG

      'John, Mary left as soon as she saw him.'

Recall also that CLLD is traditionally considered a resumptive dependency, due to the presence of the clitic. The phenomenon of resumption has received different analyses, but the fact remains that resumptive dependencies, cross-linguistically, tend to be immune to the intervention of a strong island (see Ross 1967/1986 on resumptive relatives in English; Borer 1984b on Hebrew resumptive relatives; McCloskey 1990 on Irish resumptive relatives; Aoun et al. 2001 on resumptive topicalization in Lebanese Arabic; De Cat 2007 on French CLLD). It is thus worth investigating further the island sensitivity of Greek CLLD.

A note of clarification is in order here. In addition to CLLD and Topicalization, Greek has one more topic-marking strategy, known as *Hanging Topic Left Dislocation* (henceforth HTLD) (Tsimpli 1990; Anagnostopoulou 1997; Grohmann 2003). HTLD is very similar to CLLD: (i) hanging topics occupy a left peripheral position (possibly the spec,TopP), and (ii) a clitic is involved. However, as Anagnostopoulou (1997: 154*ff*) argues, CLLD and HTLD must be kept apart on the basis of the different properties that these two constructions display. A characteristic property of HTLD is that it allows

(though it does not require) case-mismatch between the hanging topic and the clitic item. Thus while (63a) can be either a CLLD or a HTLD, (63b) can only be a HTLD.

(63) a. [Ton   Ghalo],   i   Maria ton   simpathi poli.
          the.ACC   ghalo.ACC   the   Mary   CL.ACC   likes-3SG much

       b. [O   Ghalos],   i   Maria ton   simpathi poli.
          the.NOM   ghalo.NOM   the   Mary   CL.ACC   likes-3SG much
          'The French man, Mary likes him very much.'

Crucially, Anagnostopoulou (1997: 155-156) shows that Greek HTLD is not affected by the intervention of an island. Hanging topics are thus base-generated at the left periphery.

(64) [I   Maria],   htes   gηnorisa [island ton   antra pu   tin
       the.NOM Mary.NOM   yesterday met-1SG   the   man   that   CL.ACC
       pantreftike].
       married-3SG
       'Maria, yesterday I met the man who married her.'

<div align="right">(modified from Anagnostopoulou 1997: 155)</div>

This information is crucial for the issue under examination in this section in the following sense: it can be argued that the examples from Tsimpli (1990) are not true CLLD sentences. Rather, they may well be 'undercover HTLD', whose island immunity is an already known fact (see Kupula 2014). With this objection in mind, we should make sure that the sentences that we examine below are true CLLD sentences.

Anagnostopoulou (1997) presents a thorough comparison between CLLD and HTLD and shows that HTLD, in contrast to CLLD, may not appear in embedded contexts (see also Anagnostopoulou 1997: ex4a):

(65) a. *Nomizo oti   [i   Maria],   tin   idha.   (HTLD)
          think-1SG that   the   Mary-NOM   CL.ACC   saw-1SG

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b. Nomizo   oti   [ti   Maria],   tin   idha.

    think-1SG that   the   Mary-ACC   CL.ACC   saw-1SG

'I think I saw Mary.'

In addition, Anagnostopoulou (1997: ex.9a) demonstrates that reconstruction for pronominal QP-binding is excluded from HTLD sentences. Compare between HTLD (66a) and (66b).

(66)   a. *[I   tihi   tou]₁, [kathe ftohos]₂ [tin]₁ ekane   pijenondas

      the   luck-NOM his   every   poor   CL   made-3SG going-GER

      stin   Ameriki.

      to-the States

   b. [Tin   tihi   tou]₁, [kathe ftohos]₂ [tin]₁ ekane   pijenondas

      the   luck-ACC his   every   poor   CL   made-3SG going-GER

      stin   Ameriki.

      to-the   States

   'The poor made their luck/fortune by going to the States'

The sentences I provide below involve either embedded topics or sentences with reconstruction for pronominal QP-binding. As a result, the following sentences cannot be instances of HTLD. In (67) and (68), a CLLDed phrase escapes from a relative clause island:[13]

(67) Mu   ipan   oti   [ta   dhikeomata ton   zoon],   psifistike

     me   told-3PL that   the   rights   of   animals   was-voted3SG

     epitelus   o   nomos [island pu   ta   katohironi].

     at-last   the   law   that   CL   establish-3SG

    'They told me that as for the animal rights, a law has been passed at last, which establishes them.'

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[13] French CLLD can also violate strong islands (see De Cat 2007, Guillot & Malkawi 2009).

(68) [Ta   traghudhja   tu₁],   dhen   kseri   kanenas   sinthetis   [island ti
     the   song   his   not   know-3SG   no   composer   the

     sira   me   tin   opia   tha   ta   peksun].¹⁴
     order   with the   which   will   CL   play-3PL

     'His songs, no composer knows the order in which they are going to play them.'

(69) and (70) are examples of CLLD out of an adjunct island.

(69) Lene   oti   [tus   katharistes],   i   ipurghos   paretithike [island afu
     say-3PL   that   the   cleaners   the   minister   resigned-3SG   after

     tis   proselave].
     CL   hired-3SG

     'They say that as for the cleaners, the minister resigned after she hired them.'

(70) [Ta   traghudja tu₁],   kanenas   sinthetis   dhen   trelenete
     the   songs   his   no   composer   not   get-enthousiastic-3sg

     [island akughodas   ta proti   fora   sto   radhjofono.]
             listening-GER CL first   time   to-the radio

     'His songs, no composer gets enthusiastic listening to them, for the first time on
     the radio.'

Considering the grammaticality of these examples, we conclude that in these cases the CLLDed phrase is associated with its argument position through a dependency across a strong island boundary. However, it now seems that we are led to the following paradox: on the one hand, we showed that Greek CLLD is a movement chain. On the other hand, we saw that CLLD is insensitive to strong islands.¹⁵ These observations contradict each other, since strong islands block movement of any type. In other words,

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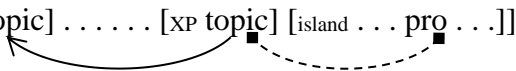
¹⁴ Thanks to N. Angelopoulos (p.c.) for providing me with relevant data.

¹⁵ Note that Cinque's paradox of Italian CLLD (Cinque 1990) is the mirror image of the paradox of the Greek CLLD. In Cinque (1990), Italian CLLD is considered a base-generation dependency: the CLLDed phrase externally merges at the left periphery and binds a pronominal element in the A-position. Italian CLLD obeys strong islands, even though no movement is involved. Cinque (1990) resolves this paradox by concluding that both movement and A'-binding chains are subject to strong islands.

CLLD can in principle be a movement chain or island insensitive but not both, given that these two properties exclude each other.
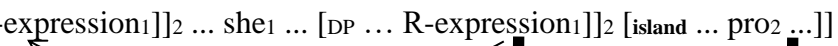
This paradox calls for further investigation. Here I will examine in some detail the structure of the CLLD sentences which cross a strong island. I will show that these structures are mixed syntactic chains: a movement chain, followed by a binding chain (see Iatridou 1995; McCloskey 2002; Sportiche 2018). In (71), the solid line represents the movement chain, while the dashed line illustrates a binding chain.

(71) [TopP [XP topic] . . . . . . [XP topic] [island . . . pro . . .]]

Leaving the details of this mixed chain aside, (71) would solve the problem at hand because extraction out of the strong island is avoided. As a result, CLLD is a movement chain, but in the face of an island boundary resorts to a (partial) binding dependency.[16] To be more precise, simple cases of CLLD are movement chains: a single clause CLLD involves A'-movement of the topic phrase to the left-periphery; long-distance CLLD involves spec,TopP to spec,TopP (or a spec,CP to spec,TopP) movement. However, the presence of an island boundary would block these movement derivations. I will argue then that when an island boundary intervenes, the movement starts from an island-external position, as in (62). Actually, (62) leads to a very specific prediction regarding Binding Condition C (violation):

(72) *[DP … R-expression$_1$]]$_2$ ... she$_1$ ... [DP … R-expression$_1$]]$_2$ [island ... pro$_2$ ...]]

(73) [DP … R-expression$_1$]]$_2$ ... [DP … R-expression$_1$]]$_2$ [island ... she$_1$ ... pro$_2$ ...]]

She stands for any free pronoun. In (72), the free pronoun intervenes in the movement chain. As a result, it c-commands a copy of the topic phrase and in case of coreference with a copy-internal R-expression, Condition C effects arise. In (73) the coreferential pronoun finds itself within the syntactic island. This means that *she$_1$* intervenes in a

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[16] Of course, this analysis seems to me to be reminiscent of older analyses (Obenauer 1984) according to which extraction out of an island domain always involves a null resumptive pronoun (see also Cinque 1990).

binding chain which ends up to a pronominal variable. Consequently, the free pronoun c-commands the pronominal variable and no Condition C effects are expected. In short, given the configuration in (72) and (73) and a free pronoun which refers to some topic-internal proper name, we get the following prediction: Condition C is violated when the free pronoun is out of the strong island and Condition C is bled with a free pronoun within the island. These predictions are borne out: (74), (75) are cases of CLLD out of a relative clause.

(74) *[Ta kalitera ergha tu Jani$_1$]$_2$ pro$_1$ ghnorizi [$_{island}$ tus pelates
the best paintings the John knows-3SG the clients
stus opius tha ta pulisun].
to-the whom will CL sell-3PL
'George's best paintings, he knows the people to whom they are going to sell them'

(75) [Ta kalitera ergha tu Jani$_1$]$_2$ ghnorizo [$_{island}$ tus pelates stus
the best paintings the John know-1SG the clients to-the
opius tha pro$_1$ ta pulisi].
whom will CL sell-3SG
'George's best paintings, I know the people to whom he is going to sell them'

(76) and (77) investigate the interaction between Condition C and adjunct islands.

(76) *[To skilo tis Marias$_1$], **pro$_1$** thimoni para poli [$_{island}$ otan ton
the dog the Mary get-mad-3SG very much when CL
afino na klei oli nihta].
let-1SG to cry-3SG all night
'Mary's dog, she gets mad when I let it cry the whole night'

(77) [To skilo tis Marias$_1$], thimono [$_{island}$ otan **pro$_1$** ton afini na
the dog the Mary get-mad-1SG when CL let-3SG to
klei oli nihta].
cry-3SG all night
'Mary's dog, I get mad when she lets it cry the whole night.'

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The interaction between a construal constraint (condition C) and a locality constraint (island sensitivity) indicates that CLLD-dependencies out of a strong island are not true instances of island violation. Rather, these sentences are mixed-chain dependencies as in (71). Of course, more needs to be said about this hybrid dependency, which is stipulated on the basis of the empirical facts, but a syntactic account for it is still missing. What is the island-peripheral position which the topic-phrase occupies before it moves? What is the nature of the binding chain that connects the island-internal pronominal variable with its antecedent? Why is the mixed-chain dependency available only when an island-boundary intervenes? See Iatridou (1995), McCloskey (2002), Sportiche (2018) for some suggestions. I will leave these issues for future research.

As a concluding remark, a CLLD chain is subject to Condition C in the syntactic contexts where movement is not blocked, while Condition C is bled where movement is blocked by the intervention of a strong island (see the contrasting pair (95)-(96) below and the relevant discussion which further supports this conclusion). This tells us that the Condition C violation under reconstruction is a reliable test for movement chains. This in turn suggests a movement analysis for the standard short-distance Greek CLLD cases examined so far. Before I close the discussion on the interaction between strong islands and reconstruction in CLLD, I would like to add one more point, with respect to reconstruction for pronominal QP-binding.

4.4.1. Island sensitivity and pronominal QP-binding

In section 4.2, we saw that CLLD allows reconstruction for pronominal binding. This effect involves a pronoun within a dislocated DP (= [$_{DP}$ ... pronoun$_1$]$_2$) which gets bound by a QP in a lower position. Some authors take the availability of this phenomenon to indicate total/scope reconstruction (Fox 1999, Sportiche 2016), however in section 4.3.2, I concluded that reconstruction for binding reconstruction does not require total reconstruction of CLLDed phrases.

Moreover, in section 4.2, we explained how, under the *copy theory of traces*, reconstruction for pronominal binding is assumed to indicate movement. However, a growing body of literature (see Guilliot & Malkawi 2006 for Jordanian Arabic; Guilliot 2007 for French; Rouveret 2008 for Welsh; Salzmann 2010 for Zurich German) suggests that this reconstruction effect may arise in the absence of movement as well. Assuming the mixed chain analysis for long distance CLLD dependencies across a

strong island boundary, it seems that we have formed an appropriate testing environment for these two views.

In (78), the solid arrows indicate movement, while the dashed arrows indicate a binding chain. In (78a), the **QP** intervenes in the movement chain. It c-commands the copy of the moved DP, thus reconstruction for QP-binding is expected to be normally obtained. (78b), where the **QP** is situated within the strong island, is the crucial environment that keeps the two hypotheses apart: under the view that reconstruction for pronominal binding requires movement, pronominal QP-binding in (78b) should be impossible.[17] On the other hand, pronominal binding is attested in sentences with the structure (78b) according to the hypothesis that resumptive pronouns (pro_2) alone license a pronominal QP-binding reading.

(78)   a. [$_{DP}$ … pronoun$_1$]$_2$ . . . **QP$_1$** . . . [[$_{DP}$ … pronoun$_1$]$_2$ [$_{island}$ . . . pro_2 . . .]]

b. [$_{DP}$ … pronoun$_1$]$_2$ . . . . . . [[$_{DP}$ … pronoun$_1$]$_2$ [$_{island}$ . . . **QP$_1$**. . . pro_2 . . .]]

Consider the relevant examples below. The pair in (79) demonstrates CLLD dependencies out of relative clause islands. It seems that pronominal QP-binding arises either with a **QP** outside the strong island (79) or within the strong island (80). These judgments, although subtle, support the claim that a resumptive pronoun (hence a true resumptive dependency) is sufficient for the pronominal QP-binding to arise. To put it differently, movement is not a necessary condition for pronominal QP-binding reconstruction (in line with Guillot & Malkawi (2009) among others).

(79)   [To prosopiko tis$_1$]$_2$ frodizi na anaferi **[kathe eteria]$_1$** [$_{island}$ to logho pu to$_2$ apolii].
    'Its staff, every company mentions the reason as to why it fires it.'

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[17] There is one caveat though which I consider below: it has been argued that in some cases movement out of a strong island is possible (see Sportiche 2018).

(80)   [To prosopiko tis₁]₂ frodizun na mathun i sindhikalistes [island to logo pu to₂ apolii
       [kathe eteria]₁].
       'Its staff, the trade unions get informed of the reason as to why every company
       fires it.'

The same point is reproduced, this time with CLLD out of an adjunct island. In (81) the
QP presumably binds the pronoun in the copy that occurs at the periphery of the adjunct
clause. Again, (82) shows that reconstruction for pronominal binding arises in the
absence of a movement chain, with a QP-binder within the adjunct island.

(81)   [Tin erghasia tu₁] dhen ksafniastike **[kanenas mathitis]₁** [island otan emathe oti
       tin₂ vathmolojisa me pede].
       'No student was surprised when he found out that I graded his assignment with a
       five.'

(82)   [Tin erghasia tu₁] ksafniastika [island otan idha oti dhen tin₂ efere **[kanenas
       mathitis]₁**].
       'I was surprised when I found out that no student brought his assignment.'

In conclusion, the above examples show that reconstruction for pronominal binding
does not require movement. However, this discussion will not be conclusive enough,
unless more experimental research (grammaticality judgments of a broader set of data)
is performed.

   While movement (in its copy-theory version) would immediately derive the
pronominal binding reconstruction, more needs to be said for a movement-free analysis
of pronominal binding under reconstruction. Guillot & Malkawai (2009) propose an
account which heavily relies on Elbourne's (2005) NP-deletion analysis of pronouns. As
a reminder, Elbourne (2005), following Postal (1969), argues that what surfaces as a
pronoun (*it*) is the definite determiner (*the*) whose NP-complement has been deleted
under identity with the antecedent (I return to this issue in the following chapter).

(83)   [DP the → it [NP]]

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Guillot & Malkawai (2009) propose that in resumptive sentences, a weak resumptive pronoun may preserve the PF-deleted NP for variable-binding purposes. Thus, I assume that resumptive pronouns (in bold), in movement-blocking contexts as in (82), may contain a null NP-complement.

(84)   [Tin erghasia tu$_1$]$_2$ … [$_{island}$ …dhen tin efere [kanenas mathitis]$_1$ **pro$_2$**].

 Let us assume for now, anticipating the discussion in Chapter 5, that the resumptive clitic (*tin*) is the definite determiner of the pronominal DP, which then attaches to the verb (see Chapter 5 on the big DP analysis of resumptive clitics which is based on the idea that clitics enter the derivation as definite articles).

(85)   [Tin erghasia tu$_1$]$_2$ … [$_{island}$ … [kanenas mathitis]$_1$ **[$_{DP}$ tin [$_{NP}$ <erghasia tu$_1$>]]**].

As (85) demonstrates, this representation of resumptive pronouns allows for pronominal binding reconstruction without assuming a movement dependency. This is because there is a copy of the NP-restrictor along with the definite determiner which qualifies as a resumptive pronoun. This explains how reconstruction for pronominal binding is possible within an island, a movement-blocking domain.

   Note that this analysis of resumptive items predicts reconstruction for Condition C as well. Nevertheless, as we saw in the previous section Condition C is systematically obviated in resumptive chains that cross strong islands. To account for these cases, Guillot & Malkawai (2009) propose that resumptive pronouns can be also construed as plain variables, without a lexical NP-complement.

(86)   [$_{DP}$ tin$_2$ [$_{NP}$]]

   As a conclusion, when movement is blocked, the dislocated phrase is associated with a resumptive pronominal element which occupies an A-position. The resumptive element can be interpreted either as a plain variable or as a phonologically reduced

definite description. The former is involved in Condition C obviation contexts, while the latter gives rise to the pronominal QP-binding reconstruction effect.[18]

Ideally, we would like to consider any instance of variable-binding reconstruction as product of a movement dependency, which naturally derives these effects. In this section I argued that in the presence of an intervening strong island boundary this option is not available, hence alternative ways of deriving these reconstruction effects are needed.[19] However, the generalization that islands uniformly block movement has been recently doubted by Sportiche (2020) who is based on cases of reconstruction within strong islands in French. I am now turning to his analysis. We will see that this analysis, as it stands, cannot be extended to Greek.

4.4.2. Island-violating movement and reconstruction?

In a recent manuscript, Sportiche (2020) puts forth a movement account for variable-binding reconstruction within relative clause islands. In other words, reconstruction effects within a strong island indicate movement (of the reconstructed phrase) out of it. Sportiche (2020) argues that there are reasons to believe that (French) CLLDed phrases may move across a strong island boundary, through an island (ZP-phase) edge position, as in (87). Given that, our account in (71) and the one proposed by Sportiche (2020) differ minimally, with respect to the nature (movement/binding) of the lower chain.

(87)   [$_{TopP}$ [$_{XP}$ topic] . . . . . . [$_{ZP-edge}$ [$_{XP}$ topic] Z [. . . [$_{XP}$ topic] . . .]]

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[18] The optionality of the NP-core of resumptive pronouns should remind us of the optional reconstruction of pied-piped adjuncts, which on the one hand may bleed Condition C (cf. "Late Merge of adjuncts") but on the other hand they allow reconstruction for pronominal binding. One way to test this analysis is to create a syntactic environment where reconstruction for QP-binding is also expected to trigger Condition C effects, as in (i) (as in Fox 1999 for example).

(i) [$_{DP}$ Ti [$_{NP}$ [$_{NP}$ fotoghrafia tu Jani$_1$] [apo to parti tis$_2$]]] ksafniastika [$_{island}$ otan pro$_1$ ipe [stin kathe dhimosioghrafo]$_2$ na min tin dhimosiefsi.]

   'The picture of John from her party, I was surprised when he told every journalist not to publish (it).'

We expect that pronominal binding cannot be licensed without triggering Condition C effects. Unfortunately I asked 3 speakers, and I received mixed judgments which do not point to one or the other direction, hence further research is needed.

[19] According to the discussion in chapter 1, resumptive pronouns in island-domains are classified as *intrusive resumptive pronouns*, which are beyond the scope of the present thesis.

Indeed, if we can prove (87) to be correct, there would be nothing strange with reconstruction within islands. In this section, though, I will argue that the Greek data show that a structure along the lines of (87) cannot be justified.

Sportiche (2020) subsumes the island locality restrictions to movement under Chomsky's (2001, 2008) *Phase-Theory* (see also Müller 2010). A standard assumption in this framework is that moving phrases can only escape from a phase by moving to its edge-domain. Crucially, for Sportiche the edge of the CP-phase corresponds to Rizzi's (1997) left-periphery which among other things comprises discourse-related (i.e., Focus/Wh and Topic) functional projections.[20]

(88)   [CP [WH [TOP C [TP]]]]

Leaving aside the adjunct islands, a relative clause is an island for *wh-movement* because the WH-projection of the CP-phase edge is already occupied by the relative pronoun. A CLLDed phrase, a topic phrase, freely moves out from sentences with a moved wh-phrase, through the escape-hatch of the Topic position:

(89)   [CLLDed-DP … [CP [WH wh-phrase [TOP < CLLDed-DP > C [TP ... <CLLDed-DP> ...]]]]]

The extraction of CLLDed phrases out of a relative clause (see (67), (68)) involves a Topic-position at the edge of the DP-phase as well, as an escape hatch. This account permits topic-phrases to violate Complex NP islands, while at the same time it disallows wh-movement across an (strong/weak) island-boundary.

One crucial aspect of Sportiche's account is related to the fact that several topic-marking constructions of other languages (e.g., Topicalization in English, Contrastive Topicalization in German) cannot escape from strong islands. (90) from Miyagawa (2017: 3) demonstrates the island-sensitivity of English Topicalization.

(90)   *[This book]1, I wonder who will read t1.

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[20] Above I have not been explicit enough with respect to the "island-peripheral" position of the topic phrase in my account (see 71). It is tempting to assume that the topic phrase is generated in a Top position in the left-periphery of the embedded clause, as in Sportiche (2020). But then we should explain why this position cannot be reached via movement.

Sportiche observes that the minimal difference between island insensitive dependencies (e.g., French/Greek CLLD) and island sensitive dependencies (e.g., English Topicalization) is the presence of the resumptive (clitic) item in the former. According to Sportiche, resumptive clitics are topic-markers which license the movement of topic-marked items to the Topic Phrase, at the CP-phase edge. Sportiche concludes that clitic-doubled topics may move to (or through) the escape-hatch Topic position and violate islands. On the other hand, a non-resumptive construction (i.e., a construction without a resumptive (clitic) item) such as English Topicalization does not have access to the escape-hatch topic position. It thus resorts to wh-movement.[21] In a relative clause however, the wh-position is already filled with the relative pronoun so there is no escape hatch for the Topicalized phrase in English and movement is blocked; hence the ungrammaticality. This account derives the contrast between island-insensitive, resumptive, topic dependencies on the one hand and non-resumptive topic/wh-dependencies on the other.

It should be noted that this analysis allows for CLLD-movement chains across strong islands. Hence, the reconstruction effects within islands are derived by the presence of a copy of the CLLDed phrase as in (87)). Given that, Sportiche's (2020) analysis aims to offer the simplest possible account for reconstruction effects inside strong islands. Nevertheless, the data from Greek CLLD and Greek Topicalization show that some aspects of Sportiche's account are not well-justified.

The most suspicious part of this analysis is the claim that only (clitic-)resumed phrases are truly topic-marked and that, by extension, only (clitic-)doubled-phrases can target the left-peripheral TopP. When it comes to Greek this claim seems to be extremely problematic. I have shown that Greek is equipped with two topic-marking strategies: CLLD, a resumptive construction, and Topicalization, a non-resumptive construction. Sportiche's (2020) account correctly predicts that Greek Topicalization, in contrast to CLLD, may not cross a strong island (see section 3.2., Chapter 3).

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[21] I leave aside some aspects of Sportiche's (2020) analysis which are not relevant to the criticism that follows.

(91) *[Palto]$_1$, o   Janis sinadise [$_{island}$ tin kopela pu   dhen forai   t$_1$
      coat   the   John   met-3sg   the girl   that   not   wear-3sg

      pote].

      never

      'John met the girl who never wears a coat.'

Note that in order to make sense of this fact, we need to assume that (a) topic-phrases in Topicalization are not properly topic-marked, and (b) left-dislocated topic-phrases in Topicalization do not occupy the spec,TopP position. However, in Chapter 2, section 2.2, I thoroughly examined the information-structure status of Greek Topicalization. Greek Topicalization shows all the phonological, syntactic, semantic and pragmatic properties that are associated with the topic-marking strategies cross-linguistically. I concluded that Greek Topicalization is a *bona-fide* topic-marking strategy. The claim that Topicalization does not involve the TopP in the left-periphery is *ad hoc*, in the sense that it only serves the island-sensitivity of this dependency.

More precisely, the well-established observation that multiple CLLDed phrases are allowed in languages like Italian, French and Greek has been attributed to the fact that the functional projection TopP is recursive (Rizzi 1997). Similarly, Sportiche (2020) argues that TopP licenses multiple specifiers therefore a TopP can host multiple topic phrases. In section 2.2. of Chapter 2, it was shown that Greek Topicalization allows multiple topic-phases in the left periphery. This means that Greek Topicalization, on par with CLLD, is syntactically encoded in Sportiche's TopP in the CP-phase edge domain.[22] Against this background, the island sensitivity of Greek Topicalization remains unaccounted for, given Sportiche's analysis. In addition, the claim that clitic-resumption itself is a topic-marking strategy is not unproblematic either. I return to this point in more detail in chapter 5. In short, I show that non-resumptive, topic-marking dependencies (e.g., Greek Topicalization) exist, as well as clitic constructions which are not topic-marking sentences (Clitic Doubling, resumptive wh-questions).

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[22] The fact that different types of topics are encoded in different positions *a la* Frascarelli & Hinterhölzl (2007) is irrelevant. First of all, the several types of topic- marking (*aboutness*, *contrastive* and *familiarity*) are orthogonal to the CLLD/Topicalization distinction in Greek. These different types of topic-marking do not affect the island insensitivity of CLLD. As predicted, the specific type of topic-marking cannot bleed the island-effects in Topicalization.

This section has shown that Sportiche's (2020) analysis fails to distinguish between CLLD and Topicalization in Greek, and this is problematic in the light of the fact that a CLLDed phrase can be found out of a strong island while this is not possible for a Topicalized phrase. As a matter of fact, I am not aware of any theory that would allow CLLDed phrases to violate islands while blocking island-violating Topicalization extraction. For this reason, I conclude that the CLLDed phrases out of strong islands are base-generated in some island-peripheral position binding a pronoun in the island-internal argument position. Even if we don't know much about the details of this complex dependency, we have strong empirical evidence for it. The crucial difference between a movement and a base-generation (binding) dependency lies in the nature of the foot of the dependency. The foot of a movement chain is a full copy thus it is subject to Condition C. A binding dependency involves a pronominal variable, thus Condition C is irrelevant. Against this background, I argued that the lack of Condition C reconstruction effects in the configuration in (92), with an island-internal antecedent (she$_1$), indicates the presence of a pronoun (pro$_2$), rather than a full copy, at the foot of the CLLD dependency:

(92)   [$_{DP}$ … R-expression$_1$]]$_2$ ... [$_{DP}$ … R-expression$_1$]]$_2$ [$_{island}$ ... she$_1$ . . . pro$_2$ ...]]

Nevertheless, there is a complication concerning this argument. Sportiche (2020) mentions some experimental studies (Adger et al. 2017; Stockwell et al.2020), which show that Condition C reconstruction effects weaken in longer dependencies. Indeed, this is what we find in Greek CLLD as well:

(93)   *[Ton jitona tu Kosta$_2$]$_1$, ton kalese pro$_2$ t$_1$ telika.
         'The neighbor of Kostas, he invited.'

(94)   ?[Ton Jitona tu Kosta$_2$] ipa stin Maria oti o Janis akuse oti ton kalese pro$_2$ t$_1$ telika.
         'The neighbor of Kostas, I told Mary that John has heard that he invited.'

Therefore, it seems to be the case that the lack of Condition C effects in CLLD across islands is a processing effect, rather than an indication of a base-generation/binding dependency. Sportiche (2020: 9) concludes "that an apparent lack of a Condition C

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effect in long distance cases is uninformative". Indeed, if the obviation of Condition C is just a processing effect, we lose the empirical basis of the mixed-chain in (92).

Below, I will attempt to control for the processing effects by providing a minimal pair with identical linear distance (measured in words) between the base and the surface position of the displaced phrase in order to explore whether the presence of an island-boundary affects the Condition C reconstruction.

(95)   [Tus pinakes tu Kosta$_2$]$_1$, <u>pro$_1$</u> <u>ksafniastika</u> [$_{island}$ <u>otan</u> <u>pro$_2$</u> <u>tus</u> <u>edhose</u> t$_1$ sto musio].
        'The paintings of Kostas, I was surprised when he gave them to the museum.'

(96)   ?*[Tus pinakes tu Kosta$_2$]$_1$, <u>pro$_1$</u> ematha [$_{CP}$ <u>oti</u> <u>pro$_2$</u> <u>tus</u> <u>edhose</u> t$_1$ sto musio].
        'The paintings of Kostas, I found out that he gave them to the museum.'

(95) involves a CLLD dependency across an adjunct island. (96) is a run-of-the-mill long-distance (successive cyclic) CLLD. Crucially the linear distance between the surface position and the argument position of the CLLDed phrase is equal in the two sentences. Measured in words, in both sentences <u>six</u> <u>words</u> (null pronouns included) intervene. The processing load in the comprehension of the CLLD chain in the two sentences is the same; however, Condition C effects are significantly stronger in (96). The contrast between (95) and (96) shows that the absence of Condition C effects in dependencies across strong islands is not merely a processing effect. Rather, it shows that such dependencies are not (and cannot be) movement dependencies.

4.4.3. Interim Summary

Summarizing, so far it has been argued that clitic-resumption constructions with left-dislocated topics are attested in the following forms:

(97)   CLLD: [CLLDed-DP] λ_1 . . . . . . CLITIC . . . [CLLDed-DP]$_1$

(98)   CLLD across islands: [CLLDed-DP] λ_1 . . . [island . . . CLITIC. . . pro$_1$]

(99)   HTLD: [HTLDed-DP]$_1$ . . . . . . CLITIC. . . pro$_1$

I argued that CLLD in Greek is a movement dependency as in (97). In the face of an island-violation, CLLD resorts to a pronominal binding (base-generation) structure, as in (98). The CLLDed DP is generated in some island-peripheral position. Greek is also equipped with Hanging Topic Left Dislocation (99), which is restricted to root syntactic environments. Crucially, (99) illustrates that no (semantic) binding relation is involved in HTLD. The topic phrase is base-generated in its surface position. The pronoun is related to the hanging topic by *'accidental coreference'*. Indeed, the lack of connectivity effects in HTLD speaks in favor of this analysis of HTLD. This idea is also found in Cinque (1997: 98): "The fact that the relation between the lefthand NP and the resumptive pronominal shows no syntactic connectedness nor is sensitive to island constraints might indicate that the rule responsible for the 'connection' is not a sentence grammar rule but a principle of discourse grammar […], in fact the same one which intervenes between a full NP and a pronominal in two adjacent sentences in discourse.". Cinque (1997) also discusses how the properties of HTLD are derived from a configuration such as the one in (99).

4.4.4. A note on weak island insensitivity of CLLD

Anagnostopoulou (1994) shows that Greek CLLD is not affected by weak islands (see also Cinque (1990)). Is this finding compatible with the claim that CLLD is a movement dependency? This is the topic of this section.

First of all, a CLLD chain which crosses a weak island (for example, an embedded finite interrogative sentence) results to a well-formed sentence (see (100)).

(100)   [To forema tis Marias], dhen ksero [$_{island}$ pu tha to valo].
      'Mary$_1$'s dress, I don't know where I will put it.'

Crucially however, the topic phrase shows strong disjoint reference effects with island-internal elements, as (101) demonstrates. In other words, the topic phrase reconstructs into the weak island for Condition C. This fact denotes that the topic-phrase properly moves from an island-internal position:

(101)   *[To forema tis Marias$_1$], dhen ksero [$_{island}$ pu pro$_1$ tha to vali].
      'Mary$_1$'s dress, I don't know where she$_1$ will put it.'

Syntactic islands are generally assumed to block movement. However, islands are divided into *strong* (absolute) and *weak* (selective) ones. As the labels *absolute* and *selective* in the parenthesis denote, *strong islands* (e.g., relative clauses, adjuncts) exclude movement of any sort, while *weak islands* (e.g., embedded wh-questions, factive complements) allow extraction under certain circumstances (see for instance Rizzi 1990; Cinque 1990; Manzini 1992; Szabolcsi & Zwarts 1997). The question that arises at this point is what licenses the CLLD movement chain across a weak island.

In the syntactic literature, weak island effects are standardly considered as *intervention effects* within Rizzi's (1990) Relativized Minimality. For instance, wh-island effects are detected when a wh-phrase (*who*) intervenes in the wh-movement chain (i.e., between the surface position and the base position) of some other moving wh-phrase (*when$_1$*).

(102)   *When$_1$ do you wonder <u>who</u> left t$_1$?

Within this framework (in more recent terms though), the grammatical instances of weak-island violation reflect the fact that "a more richly specified element can be extracted from the domain of a less richly specified element, but not vice versa" (Rizzi 2013: 178). This is how Starke's (2001) *featural approach* to intervention effects captures the contrast between (103) and (104) (from Rizzi 2013: ex27). In the following examples, *which problem* is assigned both a *Q feature*, being a question operator, and an *N feature* for its NP-restriction.

(103)   ?[Which problem $_{\{+Q, +N\}}$]$_1$ do you wonder [[<u>how $_{\{+Q\}}$</u>] to solve t$_1$]?

(104)   * [How $_{\{+Q\}}$]$_1$ do you wonder [[<u>which problem $_{\{+Q, +N\}}$</u>]$_1$ to solve t$_1$]?

For the CLLD extraction out of a weak island in (99), we can assume that the referential moved phrases are rich enough due to some [referentiality] feature, therefore they are not expected to be subject to weak island constraints in the presence of an intervener which lacks this feature. Against this background, a CLLDed phrase, being referential, may freely violate a weak island (see Rizzi 1990; Cinque 1990). However, it can be easily seen that the existence of such a syntactic feature and epsecially the assumption that it matters for the extraction out of a weak island is rather *ad hoc*.

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Weak islands have also received semantic accounts (É. Kiss 1993; Szabolcsi & Zwarts 1997). Without going into detail, these analyses argue that moved specific NPs and individual denoting phrases in general are not subject to weak island constraints. Given that CLLDed phrases denote individuals, (99) immediately fall within the predictions of these analyses. This line of approach receives further support from sentences with factive (weak) islands and the contrast between (105) (an individual denoting topic – CLLD, see Anagnostopoulou 1994: 135) and (106) (a Topicalized property-denoting nominal).

(105) Mu   ipe   oti   [ton Jani] harike   [island pu   ton   idhe].
      me   told-3SG that   the John was-glad.3SG   that CL   saw-3SG
      'She told me that she was glad that she saw John.'

(106) *Mu   ipe   oti   [thetika   apotelesmata] harike   [island pu
      me   told-3SG that   positive   results   was-glad.3SG   that
      idhe].
      saw- 3SG
      'She told me that, she was glad that she saw positive results.'

Interestingly, Cresti (1995), who is aware of these facts in Greek, argues that extraction out of a weak island involves an island-peripheral adjoined position as an escape hatch. However, this position is only accessible to elements of type *e* (1995: 119) (see also Frampton 1990).

This idea is based on the fact that certain wh-chains, which typically give rise to scope-ambiguities, are unambiguous when they cross a weak island boundary (Longobardi 1987). In (107) the wh-phrase is interpreted in its surface position (surface scope reading: how many>should), otherwise it reconstructs within the scopal domain of 'should' (inverse scope reading: should>how many).

(107) How many people do you think that I should talk to?

Nevertheless, the intervention of a weak island, as in (108), severely restricts the range of the possible interpretations. More concretely, (108) yields only the surface scope reading according to which the question asks about the cardinality of a specific set of

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people. In other words, in (108) the wh-phrase is restricted to the specific/wide scope reading. It should be clear that wide scope readings arise by binding chains with an individual variable.

(108)   How many people do you wonder [$_{island}$ whether I should talk to]?

For Cresti (1995), (108) involves movement through an island-peripheral position which only tolerates individual-denoting elements. Along these lines, the copy/variable in the escape hatch position is of type *e*. (109) necessarily leads to a surface scope reading.

(109)   [[How many people]$_1$ do you wonder [t$_{1-e}$ [$_{island}$ whether I should talk to t$_{1-e}$]]]?

Returning to the topic-marking dependencies in Greek, the facts presented above, especially the contrast between (105) and (106), are nicely captured by this account. (105) is an individual denoting topic phrase which crosses the weak island boundary through the adjoined escape hatch position. At the same time, the CP-adjoined position excludes property-denoting (topic) phrases, and as a result island extraction in (106) is blocked.

(105')   [Mu ipe oti [ton Jani]$_{1-e}$ harike [$_{escape\ hatch}$ **t$_{1-e}$** [$_{island}$ pu ton idhe t$_{1-e}$]]]

(106')   *[Mu ipe oti [thetika apotelesmata]$_{1-<et>}$ harike [$_{escape\ hatch}$ **t$_{1-<et>}$** [$_{island}$ pu idhe t$_{1-<et>}$]]]

To conclude, in this section, I argued that Greek CLLD, a movement dependency, can only apparently violate strong islands. When a strong island boundary intervenes, the CLLDed phrase externally merges at some island-peripheral position as the head of a binding chain which ends up to a pronominal foot. The foot of the chain is not subject to Condition C as expected. A problem that arises with this analysis is related to reconstruction for pronominal QP-binding. It has been recognized in the literature that some resumptive dependencies show reconstruction for pronominal QP-binding even in movement-blocking domains (i.e., islands) (see Guillot & Malkawai 2009, Salzmann 2010 a.o.). This observation extends to Greek CLLD as well. It has been proposed that

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this particular reconstruction effect is not a privilege of the movement dependencies (*pace* Sportiche 2018). For instance, Guillot & Malkawai (2009) suggested an *E-type pronoun* representation for resumptive pronouns which captures the island-internal pronominal binding effects. When it comes to weak islands, CLLD retains its movement (connectivity) properties. Following semantic approaches to weak-island extraction, I argued that what enables the extraction of a clitic-resumed phrase out of a weak island is its semantic type, and more specifically its individual-type denotation. Note that this analysis lends further support to the distinction between the CLLDed and Topicalized phrases in Greek, based on their semantic type.

4.5. Obligatory presence of clitics in CLLD (ReMIV)

This section discusses how the proposed analysis of Greek CLLD accounts for the obligatory presence of resumptive clitics in this construction. As can be observed in (110), when a definite topic-DP is left-dislocated it must be clitic-resumed, otherwise the sentence is ungrammatical (see section 2.6.3, Chapter 1 for some exceptions which are nevertheless tied to specific contexts).

(110) *[To   palto],   aghorase   o   Kostas.
         the   coat   bought-3SG   the   Kostas
       'Kostas bought the coat.'

The present thesis suggests that the distribution of resumptive clitics is regulated by *ReMIV* (Resumption Marks Individual Variables):

(111)   Resumption Marks Individual Variables (*ReMIV*):
        Traces of A'-movement are interpreted as individual-type variables *iff* they are associated with a resumptive clitic.
        (A'-traces: variables of type e ↔ clitic-resumption)

According to ReMIV, movement traces that are interpreted as variables of type e are always marked by a resumptive clitic. In section 4.3, we concluded that CLLD chains necessarily involve λ-abstraction over individual variables, and the derived predicate is

saturated by the individual-denoting topic phrase. Note that this line of analysis presupposes that the trace position in CLLD chains is occupied by (a copy which is interpreted as) an individual variable. Hence, ReMIV correctly predicts the obligatory presence of clitics in chains headed by individual-denoting topics, since a resumptive clitic is required to mark the individual variable in the trace position.

4.6. Intermediate middle-field (scrambling) movement

4.6.1. Introduction

In this chapter, we have established that Greek CLLD is an A'-movement dependency which raises the topic phrase to the spec,TopP, at the left periphery (the role of the clitic in the movement derivation is examined in Chapter 5). Nevertheless, many movement analyses of CLLD postulate one or more additional A-movement steps to the middle field of the clause structure. This A-step involves a case/φ-checking position (e.g., spec, AgrP for Panagiotidis 2002; spec,vP for Mavrogiorgos 2010). Alexiadou & Anagnostopoulou (1997), based on syntactic, interpretational and intonational evidence, suggest the unification of clitic constructions with scrambling constructions found in German, Hindi, Japanese and other languages (see also Sportiche 1996).

More relevant to the interests of the present thesis is the recent work by Angelopoulos & Sportiche (2021) who propose a scrambling-like A-movement step as an integral part of the CLLD dependency. In more detail, Angelopoulos & Sportiche (2021) postulate a number of A/A'-movement positions through which a CLLDed phrase moves to the left periphery. In fact, the intermediate A-movement steps are crucial for Angelopoulos & Sportiche (2021) to explain a number of facts about CLLD (e.g., lack of WCO), which are here explained in a different way (see Grohmann 2003 for a similar view; cf. Alexiadou & Anagnostopoulou 1997 who apply most of the diagnostics discussed below to Clitic Doubling in Greek; see Cecchetto 2000, for intermediate reconstruction effects in Italian CLLD).

At this point, let me make clear what is really at stake when discussing these approaches from the perspective of the present thesis. In this chapter, we argued that Greek CLLD is an A'-movement dependency. CLLD however does not show some crucial properties of A'-movement: it is restricted to surface scope readings (i.e., wide scope reading of the left-dislocated topic) and it never triggers WCO effects. For the present thesis, the special LF-behavior of CLLD is attributed to the semantic type of the

variable at the foot of the movement chain. In other words, we can make sense of the above observations only by assuming that CLLD movement is semantically interpreted as binding of an individual variable. For ease of reference, let us call this approach the *representational* view, (in the sense that it focuses on the *LF-representation* of CLLD sentences). On the other hand, for Angelopoulos & Sportiche (2021), the WCO-insensitivity of CLLD stems from an A-movement step of the topic phrase across the intervening pronoun (see the discussion below). This is the *derivational* view, since it focuses on the derivational history of these sentences. In what follows, I will focus on some points of controversy between the representational and the derivational view. Actually, I defend the representational view showing that the derivational approach to the WCO-insensitivity of CLLD is problematic in various ways. More specifically, I conclude that there is no true evidence for the A-movement step(s) of the topic phrase. In addition, Angelopoulos & Sportiche's (2021) system overgenerates, in the sense that it derives binding relations which are not actually obtained.

It should be stressed that nothing in the representational view really excludes a short A-movement step of the topic phrase. What is crucial here is whether or not the so-assumed movement step is non-trivial for the binding relations between the arguments: for the representational view, the A-movement step of the topic phrase (if such a movement step occurs) does not alter the binding/c-command hierarchy of the arguments; for the derivational view, the short A-movement step is non-trivial since it creates new binding possibilities for the topic-phrase. We will have to say more on this below.

4.6.2. Setting the scene

Before I start, allow me to lay out some standard assumptions about the base positions of the arguments in Greek. First of all, Greek is a VSO language, with the (main) verb raising to T (see section 3.4.1).[23]

(112)   [TP verb [vP subject [VP object]]]

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[23] Recall that, I have excluded the SVO order with the subject in an A-position (*pace* Roussou & Tsimpli 2006).

Alexiadou & Anagnostopoulou (1998, 2001), building on Philippaki-Warburton's (1985) work, explicitly argue that the subject remains in a vP-internal position. As shown in (112), the AgrOP can be avoided. Notice that, even within a system with middle field Agreement projections, in the absence of evidence for movement to the specifier position of these projections, we can assume a long-distance AGREE relation for case/φ-features checking (see Anagnostopoulou 2017). With respect to the (base) position of arguments of the verb in Greek, I follow Michelioudakis (2012) who suggests the following c-commanding relations, for constructions which involve indirect objects (I restrict myself to the DP-IndO, leaving aside PP-IndO) (see also Anagnostopoulou 2003).

(113) Subject > Indirect Object > Direct Object   (α > β = α c-commands β)

These c-commanding relations are derived from the following argument structure (cf. Michelioudakis).[24]

(114)
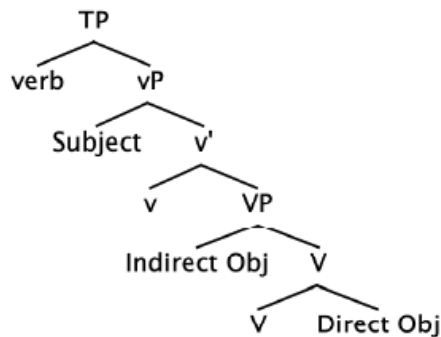
As (114) predicts, an indirect object may bind (into) a direct object but not the other way around (see also Angelopoulos & Sportiche 2021). The following examples from Michelioudakis (2012: 81) demonstrate this point:

(115) Edhiksa   [IndO tis Marias]₁   [DO   ton   eafto   tis]₁.
       showed-1SG   the Mary-DAT   the   self-ACC her
       'I showed Mary herself.'

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[24] Michelioudakis (2012) provides a detailed discussion on the base position of subject, direct and indirect objects in Greek. The analysis that I presume here is compatible with analysis he proposes.

(116) *Edhiksa   [IndO tu   eaftou   tis]1   [DO   ti   Maria]1.

showed-1SG   the   self-DAT   her   the Mary-ACC

'*I showed herself Mary.'

(117) illustrates the CLLD movement we have been assuming so far; clitic preposing is irrelevant and it is omitted. I return to this issue in chapter 5.

(117)
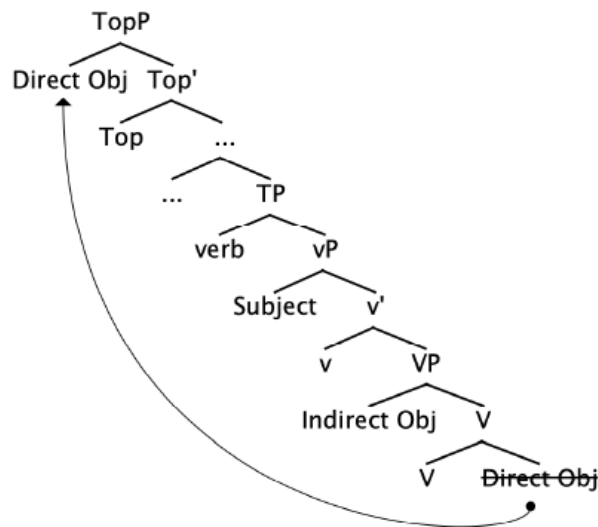
According to our proposal, assuming a basic argument structure as in (114), the only movement step that a direct object CLLD sentence performs is the A'-movement of the topic phrase (direct object) to the spec,TopP (117) (see also the last paragraph of 4.6.1). According to (117), the CLLDed direct object is expected to reconstruct below the subject and the indirect object. The following examples show that a CLLDed DP-internal pronoun may be bound by a QP in the subject (118) or the indirect object (119) position (Angelopoulos & Sportiche 2021).[25,26]

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[25] Crucially, Angelopoulos & Sportiche (see also Sportiche 2016) subsume pronominal binding reconstruction under scope reconstruction which is derived by total reconstruction. As a consequence, they conclude that a CLLDed phrase may but need not totally reconstruct in a lower position. In section 4.3.2, I argue against this thesis. Total reconstruction gives rise to scope reconstruction, a condition never found in Greek CLLD. Recall also the cases of CLLD extraction out of strong islands which nevertheless show reconstruction for pronominal QP-binding with an island-internal QP (section 4.4.2). These cases argue in favor of the view that pronominal binding reconstruction arises even in the absence of movement/total reconstruction.

(118) [Tin   erghasia   tu1],   dhen   tin   efere   [kanenas   fititis]1.
      the   assignment   his   not   CL   brought-3SG   no   student
      'No student brought his assignment.'

(119) [To   vathmo   tis1],   dhen   ton   ipame   [kamias   fititrias]1.
      the   picture   her   not   CL   told-1PL   no   student
      'We told no student her grade.'

In what follows I will reexamine the claims of additional movement steps of the doubled phrase and the relevant arguments. If an A-movement step is sufficiently justified, it should be added to our structure in (117) (see the last paragraph of 4.4.1, for a crucial note). My criticism to Angelopoulos & Sportiche (2021) is divided in two parts: in the first part (4.6.3) I ask whether there is true evidence in favor of the intermediate A-movement step(s) of the topic phrase. In 4.6.4, I provide evidence against their analysis. More specifically, I show that their system overgenerates, in the sense that it derives binding-relations which are not really attested.

4.6.3 Lack of evidence for intermediate A-movement steps in CLLD

Angelopoulos & Sportiche (2021) raise a number of issues concerning the syntax of French and Greek CLLD.[27] Angelopoulos & Sportiche (2021) observe that while Binding Condition C gives rise to disjoint reference effects between a CLLDed object and the subject, no such restriction is observed between CLLDed direct objects and indirect objects (120).

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[26] Accordingly, CLLDed indirect objects do not reconstruct below direct objects in-situ (see Angelopoulos & Sportiche 2021):

(i) *[Tu   mathiti   tis1],   dhen   tu   sistisame   kamia   kathighitria.
    The   student   her   not   CL.DAT   introduced-1PL   no   professor
    'We introduced no professor to her student.'

[27] Some of them, having to do with the reconstruction of CLLDed indirect objects, apply only to French, hence they will not be reviewed in the present thesis.

(120) [Tis   fotoghrafies   tu   Jorghu₁], i   Maria dhen tu   tis
      the   pictures   the   George   the   Mary   not   him   CL

      epestrepse.

      returned-3SG

      'Mary didn't return George's pictures to him.'

(120) is not expected under the analysis in (117). According to (117), CLLDed direct objects are generated in a position below indirect objects. Coreference between the CLLDed DP internal R-expression *tu Jorghu₁* and the pronominal indirect object *tu₁* should have triggered Condition C effects. This observation leads Angelopoulos & Sportiche (2021) to conclude that the CLLD dependency in (120) involves a short A-movement step of the direct object across the indirect object. A-movement is known from sentences like (121) to bleed Condition C (see Takahashi & Hulsey 2009 and the references therein).

(121)   [These pictures of John₁]₂ seemed to him₁ to be t₂ attractive.

In (121), there is no disjoint reference effect between 'John₁' within the raised subject and the pronoun 'him₁'. A number of accounts have been suggested for the absence of Condition C effects in these cases (Lebeaux 1991; Takahashi & Hulsey 2009; Sportiche 2016). For instance, Takahashi & Hulsey (2009) argue that t₂ in (123) does not contain a copy of the NP-restrictor of the moved phrase (recall also the term *optional reconstruction*). According to their 'Wholesale Late Merge' hypothesis, caseless NPs are allowed to late merge at some higher position, as long as they will be able to receive a case in the landing position. (122) illustrates how a Condition C violation is prevented in (121), under a Late Merge view of this phenomenon.

(122) [DP These [NP pictures of John₁]]₂ seemed to him₁ to <these >₂ be attractive.

As a result, movement to a case-marking position (A-movement) obviates Binding Condition C. In this context, Angelopoulos & Sportiche (2021) postulate a short A-movement step of the CLLDed direct object across the indirect object pronoun, bleeding

Condition C. This A-movement step targets an intermediate position above the VP and below the TP, indicated here as KP.[28]
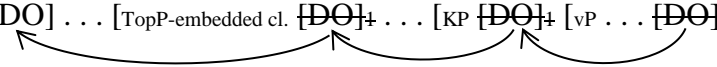
(123) [TopP [DO]1 . . . [KP ~~[DO]~~1 [vP [IndO] ~~[DO]~~1]]]

Presuming a Late Merge analysis (e.g. the Wholsale Late Merge analysis), (120) would proceed as follows: the direct object A-moves across the indirect object, allowing the NP-restrictor within the copy of the direct object to be late inserted, at the spec,KP position.

(124) . . . [KP [DO-DP tis fotoghrafies tu Jorghu1]2 [vP [IO-DP pro1] <tis>2]]

    In what follows I argue against this analysis. I provide three arguments against the claim that the absence of Condition C effects in (120) is due to an A-movement step of the indirect object across the direct object. It is demonstrated that, if we extend our empirical domain, the predictions of this hypothesis are not borne out. More specifically, in the long-distance CLLD sentences, the topic phrase starts from the embedded clause and raises to the left-periphery of the matrix clause. Consider the schematic representation in (125):

(125) [TopP, main cl.[DO] . . . [TopP-embedded cl. ~~[DO]~~1 . . . [KP ~~[DO]~~1 [vP . . . ~~[DO]~~1]]]]

            A'-movement   *A'-movement*   *A-movement*

The moved indirect object receives its case in the embedded clause, so there is no reason to assume a case-related A-movement step in the matrix clause. What (125) predicts is that, while Condition C effects are absent with coreferential indirect objects of the embedded verb, these effects reappear with a coreferential indirect object in the main clause. Theoretically, it is impossible for a moved phrase which starts from the embedded clause to A-move across an argument of the matrix clause (see 111). At any event, a chain with A-movement properties is highly unlikely to follow the A'-

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[28] Angelopoulos & Sportiche (2021) mention that K-positions may well be case-licensing positions (e.g. spec,AgrOP).

movement chain at the top of the embedded clause (126) (a case of improper movement):

(126)   [TopP, main cl. [DO] ... [DO] ... [TopP-embedded cl. [DO]$_1$ ... [KP [DO]$_1$ [vP ... [DO]$_1$]]]]

A'-movement   *A-movement*   *A'-movement*   *A-movement*
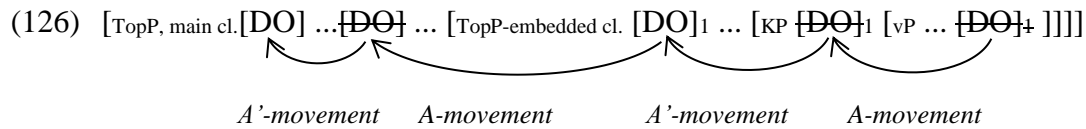
Having excluded a representation along the lines of (126), we may now focus on the predictions of Angelopoulos & Sportiche (2021) with respect to Condition C effects in long distance CLLD dependencies, as in (125). Recall that if Angelopoulos & Sportiche's (2021) hypothesis is on the right track, we expect a coreferential indirect object in the main clause to give rise to Condition C effects. Consider (127):

(127)   [To   vivlio   tu   Jani$_1$]$_2$ **tu$_1$**   ipa   oti   to   aghorasa   t$_2$.
        the   book   the   John   him   told-1SG   that   CL   bought-1SG
        'I showed him that I bought the book of John.'

In (127), the topic phrase with the index '2', is inserted as the complement of the embedded verb (see 't$_2$'), and it then moves to the left periphery of the main clause. However in its way to the matrix spec,TopP, it crosses the indirect object pronoun '**tu$_1$**' (him) in the main clause. This is a Condition C context, given the coreference between 'John' and the indirect object pronoun. However, speakers do not mention any disjoint reference effects in these sentences. Most crucially, speakers do not report any contrast between sentences with an intervening coreferential indirect object in the embedded or the matrix clause in long-distance CLLD.[29] As explained above, the assumption that the topic phrase A-moves from an embedded-CP-peripheral position to some KP-position in the matrix clause, above the indirect object would be severely problematic. It should be made clear that Angelopoulos & Sportiche (2021) do not argue in favor of such a movement step, but I cannot see how they could explain the obviation of Condition C in

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[29] I gave 9 native speakers seven (minimal) pairs of sentences where the one sentence of the pair contained an intervening pronoun which is supposed to be A-crossed by the topic phrase, as in (122); the second sentence contained an intervening pronoun in a higher clause, which is crossed by A'-movement of the topic as in (129). None of the speakers confirmed Angelopoulos & Sportiche's (2021) predictions.

(127). In conclusion, Angelopoulos & Sportiche's hypothesis fails to generalize to these cases.

Angelopoulos & Sportiche (2021: fn.43) recognize one more empirical problem in their hypothesis. As we have already seen, a CLLDed direct object phrase may freely contain an R-expression which is coreferential with the pronominal indirect object. If we nevertheless extend our empirical domain to *focus-fronting sentences* this observation is not met. An R-expression (*Jorghu₁*) within the focus-fronted phrase may not corefer with the indirect object, a standard case of Condition C.

(128) *[TO VIVLIO TU JORGHU₁]₂ **tu₁** epestrepse i Maria t₂.
    the book the George him returned-3SG the Mary
    'Mary returned George's book to him.'

(Angelopoulos & Sportiche 2021 fn.43)

Consequently, we end up with a contrast between CLLD and focus-fronting, with regard to the disjoint reference effects between the preposed direct object and an intervening indirect object.

(129) [To vivlio tu Jorghu₁]₂ **tu₁** to epestrepse i Maria t₂.
    the book the George him CL returned-3SG the Mary
    'Mary returned George's book to him.'

In order to explain this contrast along the lines of Angelopoulos & Sportiche (2021) we need to argue that while CLLDed phrases A-move to the low (case-related) KP position above the indirect object, no such movement is needed for the focus-fronted elements. The claim that focus-fronted phrases do not need to A-move to KP (which is arguably a case-assignment position) remains unjustified.

At this point, I would like to add some further data which seem not to converge with the Angelopoulos & Sportiche account for the Condition C-bleeding cases exhibited above.

(130) [Ta   lathi   tis   Marias₁   ke   tis   Elenis₂]₄   tis*₁/*₂/₃   ta
      the   mistakes   the   Mary   and   the   Helen   CL.DAT   CL

      ipodhiksame t₄.
      pointed-out-1PL

      'Mary and Helen's mistakes, we pointed out to her.'

In (130), the disjoint reference effects between an R-expression (Mary or Helen) within the CLLDed DP and the pronominal indirect object *tis* mysteriously reappear. If CLLDed direct objects A-move across the indirect object to KP (for case or any other reason), along the lines of (124), it is difficult to see why such coordinated CLLDed phrases do not move through this position too. The disjoint reference effects, mentioned for (130), show that no such A-movement occurs.

Such examples support an alternative explanation for the absence of Condition C effects with an indirect object intervener. A number of authors (Anagnostopoulou 1994; Angelopoulos & Sportiche 2021) acknowledge that the CLLD examples under discussion are structurally ambiguous, because of the dative/genitive syncretism in Greek. Here is how our prototypical example (120) is ambiguous: so far, we have been analyzing these cases as having a single topic phrase containing a genitive possessor-DP, as in (131). Crucially, in this case the indirect object pronoun 'tu-DAT₁' is a *free* pronoun (or it is associated with a free null pronoun). Simply put, 'tu-DAT₁' is not involved in any movement/A'-binding chain.

(131) [Tis   fotoghrafies   tu Jorghu₁],   dhen   tu₁   tis   epestrepsa.
      the   pictures   the George-GEN   not   CL.DAT   CL.ACC   return-1SG
      'I didn't return George's pictures to him.'

However, this is not the only way to look at (120). *Tu Jorghu* can also be construed as a dative *goal*-argument. Under this scenario, we have two clitic-resumed topic phrases at the left-periphery which means that *tu-DAT₁* is a *resumptive* element, rather than a free pronoun.

(132) [Tis   fotografies]   [tu Jorghu]₁,   dhen   tu₁   tis   epestrepsa.
      the   pictures   the George-DAT   not   CL.DAT   CL.ACC   return-1SG
      'I didn't return the pictures to George.'

(132), in contrast to (131), can be paraphrased with a PP/DP-construction.

(133) [Tis   fotografies]   [ston   Jorgho]1,   dhen   tis   epestrepsa.
     the   pictures   to-the   George   not   CL.ACC   returned-1SG
     'I didn't return the pictures to George.'

(131) involves a free pronoun and triggers Condition C for the reasons explained above.
(132) is a different story, since it involves a resumptive pronoun which doubles the
CLLDed indirect/dative object. Given this ambiguity, we should be careful when we
consider these examples. Both in Anagnostopoulou (1994: 128) and Angelopoulos &
Sportiche (2021: fn.35) one can find some strategy with which the authors claim that
they exclude the construal of (132). The point here is that with the CLLDed coordinated
DP in (130) this issue does not arise at all. If the coordinated DP were a separate topic
phrase it would be resumed by a plural resumptive pronoun *tus*.

(134) [Ta   lathi]2,   [tis   Marias   ke   tis   Elenis]1,   tus1
     the   mistakes   the   Mary-DAT and   the   Helen-DAT   CL-DAT.PL
     ta2   ipodhiksame.
     CL.ACC   pointed-out-1PL
     'We pointed out the mistakes of Elena and Mary to them.'

The contrast between (130) and (134) is clear: (130) unambiguously involves an
'accidental' coreference relation between the CLLDed internal possessor and the free
pronoun, violating Condition C; (134) involves clitic-resumption, thus Condition C is
irrelevant, and the sentence is grammatical. If we restrict ourselves to the contrast
between these two examples, we can conclude that the reason Condition C is bled in
examples like (131) is because speakers have also access to the alternative construal
(132).

To summarize, considering these three problematic areas (long-distance CLLD,
focus-fronting and CLLDed coordinated DPs), the 'intermediate A-movement step'
analysis for the absence of Condition C effects in (133) is empirically inadequate. More
specifically, this analysis is too weak in the sense that it does not predict the Condition
C effects in the focus-fronting cases in (130), nor in the CLLDed coordinated DPs in
(132). On the other hand, it is too strong, since it predicts Condition C effects in the

long distance CLLD cases as in (129), contrary to fact. The A-movement step that Angelopoulos & Sportiche (2021) postulate, is not fully supported empirically. Having said that, we can keep assuming that CLLD dependencies proceed, like other A'-dependencies, without additional A-movement steps to the middle field of clauses.

Crucially, for Angelopoulos & Sportiche (2021), the A-movement step of CLLDed DPs we rejected above, is directly associated with the well-documented absence of WCO effects in CLLD sentences. More specifically, since WCO is traditionally considered a reliable diagnostic for A'-movement chains, Angelopoulos & Sportiche argue that CLLD is WCO-insensitive because it involves an A-movement step in the middle field of the clause. Let's see how Angelopoulos & Sportiche's analysis works.

For expository reasons, I start this presentation with the example in (135), although the actual examples the authors have in mind are more complex (Angelopoulos & Sportiche 2021: ex61a). I return to their examples below.

(135) [Kapjon fititi]$_1$, ton proselave [i mitera tu$_1$] t$_1$.
   some student CL hired-3SG the mother his
   'His mother hired some student.'

(135) shows that, in contrast to other A'-dependencies, CLLD does not trigger WCO-effects. Consider for instance the focus-fronting sentence in (136) with the same word order and lexical material:

(136) *[KAPJON FITITI]$_1$, proselave [i mitera tu$_1$] t$_1$.
   some student hired-3SG the mother his
   'His mother hired SOME STUDENT.'

In order to account for the WCO-immunity of CLLD, the authors assume that at LF preverbal subjects reconstruct into their vP-internal position.[30] Now recall that the so-assumed KP positions which are targeted by A-movement are higher than the vP. Putting all the pieces together, we get the following configuration:

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[30] Angelopoulos & Sportiche (2021) maintain that there is an A-position for preverbal subjects in Greek (spec,TP), contrary to the predominant view in the literature.

(137)   . . .[$_{KP}$ [kapjo fititi]$_1$ [$_{vP}$ [i mitera tu$_1$] [$_{vP}$ proselave ~~[kapjo fititi]~~$_1$]]]

In (137), the topic DP *kapjo fititi* on its way to the left periphery performs an A-movement step to spec,KP, crossing the subject-DP which reconstructs into its external merge position, within the vP. Recall that A-movement does not trigger WCO-effects (see Safir 2017 and references therein):

(138)   [Everyone]$_2$ seems [to his$_1$ mother] to t$_2$ be smart.

In the same vein, according to Angelopoulos & Sportiche (2021), the A-movement step to spec,KP, with which the CLLDed DP crosses the subject, is WCO-immune. Following this line of reasoning, the absence of WCO in CLLD is claimed to be evidence for the A-movement step of the topic-DP to some middle field position (spec,KP).

Nevertheless, I have already shown in detail that the 'intermediate A-movement step' analysis derives stronger predictions for long-distance CLLD chains. By 'long-distance CLLD' I refer to the cases where a topic phrase is generated as an argument of the embedded verb and moves to the left periphery of the matrix clause as in (141).

(139)   [$_{TopP,\ main\ cl.}$[DO] . . . [$_{TopP\text{-}embedded\ cl.}$ [DO]$_1$ . . . [$_{KP}$ [DO]$_1$ [$_{vP}$ . . . [DO]$_1$]]]]

A'-movement   *A'-movement*   *A-movement*

This configuration keeps the embedded and the matrix clause separated from a structural point of view: the embedded clause involves an A-chain (according to Angelopoulos & Sportiche 2021), while no such chain is involved in the matrix clause (see the discussion on (126)). Clearly, Angelopoulos & Sportiche would predict that a coreferential pronoun within the matrix subject would give rise to WCO effects. (140) though disconfirms this prediction (see Spathas 2005 for the argument and relevant examples; more examples with WCO-insensitive CLLDed QPs are provided in Chapter 6) .

(140) [Kapjon fititi], ipe [i mitera **tu**] oti ton kakopiisan.
      some student said-3SG the mother his that CL abused-3PL
      'His mother said that they abused some student.'

The topic phrase 'kapjon fititi' starts as the complement of the embedded verb. As explained above, it cannot be the case that the topic phrase crosses the matrix subject with an A-movement. Given that, Angelopoulos & Sportiche's (2021) analysis would predict WCO-effects in (140), contrary to fact. Therefore, it seems that the 'A-movement step' analysis is seriously challenged if we extend our empirical domain to long-distance CLLD. In the present study we argued that CLLD dependencies involve λ-abstraction over individual variables, thus the λ-binder involved is compatible with the intervening pronominal variable.[31]

Let us now have a brief look at the actual examples mentioned in Angelopoulos & Sportiche (2021:ex61a):

(141) [Enan kalo skilo]$_1$ [o idioktitis tu$_1$] dhen tha ton ktipuse pote.
      a good dog the owner his not would CL beat-3SG ever
      'His owner would never beat a good dog.'

It is of crucial importance to note that (141) is a case of a CLLDed "free choice indefinite". I have discussed in depth these cases in section 2.6.2. Although these elements are compatible with an 'any DP' interpretation, it should be emphasized that these indefinites are not true free choice elements like 'whatever', 'whoever' etc. They are not specific indefinites either, in the sense that they do not refer to a specific entity the speaker has in mind. The presence of these elements seems to be depended on a modal licensor: in (143), the future particle *tha* plus the imperfective form of the verb expresses a modal conditional interpretation comparable to the English 'would'.

Crucially, Angelopoulos & Sportiche consider 'free choice indefinites' to be quantificational elements (but see Chapter 2, section 2.6.2., where I argue against this view). (142) illustrates Angelopoulos & Sportiche's analysis, according to which the

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[31] Long-distance CLLD, involves successive cyclic λ-binding (see Cresti 1995) In a nutshell, the intermediate trace (t2) on the one hand saturates the derived predicate of λ1, and it is further bound by λ2.

(i) [$_{TopP}$ [Kapjo mathiti] [$_{TP}$ λ2-*e* ipe [$_{subj-DP}$ i mitera tu2-*e*] [$_{CP}$ oti [$_{TopP}$ t2-*e* λ1-*e* [$_{TP}$ ton kakopiisan t1-*e*]]]

CLLDed free choice indefinite moves to the left-periphery through the spec,KP. As explained above, this A-movement step does not trigger WCO-effects:

(142) . . .[$_{KP}$ [enan kalo skilo]$_1$ [$_{vP}$ [o idioktitis tu$_1$] [$_{vP}$ ktipuse ~~[enan kalo skilo]$_1$~~]]]

However, it has been shown that this analysis fails to account for the WCO-insensitivity of long-distance CLLD chains. The topic phrase *enan kalo skilo*, in (143), originates in the complement position of the embedded verb and moves to the left periphery of the matrix clause. The topic phrase crosses the subject of the matrix clause which contains a pronoun with reference to the topic phrase.

(143) [Enan kalo   skilo]$_1$,dhen tha   mu   eleghe   [o   idhioktitis   tu$_1$]
       a   good dog   not   FUT   me   told-3SG the   owner   his
      na min   ton   agkikso   t$_1$.
      to not   CL   touch-3SG
      'A good dog, his owner would never tell me not to touch it.'

For the reasons clarified above, it cannot be the case that the topic phrase crosses the matrix subject with an A-movement. Given that, Angelopoulos & Sportiche's (2021) analysis inaccurately predicts WCO-effects in (145). It seems then that the WCO-insensitivity of (143) cannot be taken as evidence for an intermediate A-movement step of the left-dislocated topic.

In the present study, CLLDed 'free-choice indefinites' were analyzed on par with specific indefinites, as individual-denoting phrases derived by a choice function. The 'any' interpretation is licensed by the fact that the choice function binder finds itself within the scope of a modal operator ranging over worlds/situation. As a result, in (145) a different dog may be chosen (i.e., the choice function variable is assigned a different value) for each possible world. In this way, 'free-choice indefinites' fall into the Individual Condition on CLLDed phrases, which means that CLLD chains headed by these phrases should receive the analysis of standard cases of CLLD (λ-abstraction over individual variables), thus they are ntot expected to trigger WCO in the first place.

To recap, Angelopoulos & Sportiche (2021) provide two arguments for a short A-movement step in Greek CLLD: (a) the absence of disjoint reference effects between a CLLDed direct object and an indirect object in its canonical position and (b) the absence

of WCO-effects. In what preceded I showed in detail that the analysis proposed by Angelopoulos & Sportiche is empirically insufficient. It was demonstrated that the so-assumed A-movement step does not actually solve any of the two problems. Given that, I conclude that the assumption of a short A-movement step for CLLDed phrases is not empirically justified.

4.6.4. Evidence against the intermediate A-movement step of the topic phrase

In this subsection I discuss some problems of Angelopoulos & Sportiche's (2021) claim that CLLDed phrases move to the left-periphery through an A-position in the middle-field of clauses. I first focus on the assumption that a direct object topic phrase may A-move across the subject in spec,vP (see 144) recall that with this assumption the authors attempt to explain the WCO-insensitivity of CLLD. Let us explore the consequences of this assumption.

(144) . . .[$_{KP}$ [object-topic]$_1$ [$_{vP}$ [subject] [$_{vP}$ verb [object-topic]$_1$]]]

(144) represents Angelopoulos & Sportiche's hypothesis that object DP-topics A-move across the subject-DP which has reconstructed to the spec,VP. A-movement is WCO-immune because it extends the binding possibilities of the moved phrase. More specifically, the CLLD-object is assumed to be able to bind into the subject after it moves to an A-position above spec,vP. (146) is expected to work for anaphor binding as well. Namely, (144) predicts that CLLDed objects may function as antecedents for anaphors in the postverbal subject position (see Cecchetto 2000: 106). In other words, the ungrammatical example (145) would be grammatical if the LF representation in (144) were available.

(145) *[Ton Kosta]$_1$ ton   aghapai [o   eaftos   tu]$_1$.
          the Kostas-ACC CL.ACC loves-3SG the   self-NOM his
        'Himself loves Kostas.'

Note that the lower copy of the object does not violate Condition C, since A-movement typically obviates it (Takahashi & Hulsey 2009). It seems that something more needs to be said in order to exclude these problematic cases.[32]

The hypothesis that a CLLDed object A-moves across the subject in spec,VP gives rise to one more prediction. Recall that the copies derived by A-movement are invisible to Binding Condition C. Therefore it is predicted that an R-expression within a CLLDed direct object may freely corefer with the subject obviating Condition C. This prediction however is falsified by (146):

(146)   *[Ti   jineka   tu Jani₂], [o   malakas]₂   dhen tin aghapai.
           the woman   the John the   asshole   not   CL   love-3SG
           'The asshole doesn't love John's wife.'

In (146) the epithet *o malakas* refers back to *tu Jani*. Recall that preverbal subject-epithets reconstruct to their base position (spec,vP).[33] The CLLDed object is assumed to

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[32] Indeed Angelopoulos & Sportiche (2021: fn.12) point to Charnavel & Sportiche's (2020) analysis of anaphor binding: the antecedent is firstly merged with the anaphor. This step, and the fact that the anaphoric expression and its antecedent start as a single constituent, guarantees the obligatory coreference between them. The antecedent then subextracts and moves to its theta-position. See in (i) a standard case of a direct object anaphor which is bound by the subject-antecedent:

(i) . . . [vP John [v loves [himself John]]]

This line of analysis ensures that the anaphor must be lower in the thematic hierarchy than its antecedent. Consequently, in (146) the CLLDed theme-DP *ton Kosta* cannot be construed as the antecedent of the agent-DP (cf. *Himself loves John').

Note however that the movement analysis of anaphor-binding seems to be at odds with dative anaphors. For Angelopoulos & Sportiche (2020), in contrast to Anagnostopoulou & Evaraert 1999) dative-anaphor binding is possible in Greek. (ii) is modified from Angelopoulos & Sportiche (2022: ex13).

(ii) ?… pro₁ erikse mia teleftea matia [tu eaftu tis]DAT-₁ ston kathrefti.

    'she gave one last look at herself in the mirror.'

Dative anaphors are not expected under the *movement analysis of anaphor binding* "as movement from within datives is typically excluded: dative DPs are islands blocking any kind of movement out of them" (Angelopoulos & Sportiche 2022: 9). It seems then that further assumptions are needed with respect to the structure of the complex constituent with the anaphor and its antecedent (*i.e.* [tu eaftu tu – Janis] in the indirect object position, so as to allow the antecedent to sub-extract.

[33] Here, for the sake of the argument, I follow Angelopoulos & Sportiche's assumption that preverbal subjects occupy spec,TP. They also assume that subjects may totally reconstruct in their base spec,vP

perform a short A-movement step to KP and from there to the left periphery. With this A-movement step, the topic phrase crosses the epithet. Since A-movement-copies are immune to disjoint reference effects, we should expect that (146) would be grammatical. This prediction however is not borne out.

To wrap up, Angelopoulos & Sportiche (2021), in order to explain the WCO-insensitivity of CLLD, argue that CLLDed objects perform an A-movement step across the spec,vP. CLLDed objects are thus able to bind into subjects from this intermediate A-position. However, in this section we showed that this hypothesis makes wrong predictions with respect to Condtion A and Condition C. I conclude that an account for the WCO-insensitivity of CLLD along these lines should be abandoned. More generally, it has been shown that the assumption that the CLLDed phrase A-moves higher than the position where the subject is (or may be) interpreted is not on the right track.

One more argument that Angelopoulos & Sportiche put forth in favor of the short A-movement step of topic phrases comes from the interaction between a CLLDed direct object and the indirect object, in terms of reconstruction for Condition C. Recall that in order to explain the acceptabiity of (120), repeated here as (147), they argue that CLLDed direct objects are generated below the surface position of indirect objects moving to some intermediate A-position (KP), across indirect objects. This movement step eliminates the Condition C effects.

(147) [Tis   fotoghrafies tu Jorghu$_1$],   dhen tu$_1$ tis   epestrepsa.
       the   pictures   the George-GEN not   CL.DAT   CL.ACC   return-1SG
          'George's pictures, I didn't return to him.'

Here I further explore the hypothesis that the CLLDed direct object A-moves across the indirect object (recall that in 4.6.3. I gave three arguments against this analysis).

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position. Given these assumptions, in (146) we cannot use a pronominal subject, because A-moved pronouns generally fail to (totally) reconstruct. Note that in the present thesis we assume that the only A-position for subjects in Greek is the spec,vP. Having said that, it would suffice to give an example with a postverbal pronoun/epithet-subject:

(i) *[Ti jineka tu Jani$_2$], dhen   tin aghapai   aftos$_2$/ [o   malakas]$_2$.
     the woman the John   not   CL love-3SG   he   the   asshole
     'He/the asshole doesn't love John's wife.'

Following the line of argumentation of the previous paragraphs, if there is an A-position for CLLDed direct objects above the surface position of indirect objects, a CLLDed direct object is expected to be able to bind into an indirect object (see Angelopoulos & Sportiche 2021: ex66 and the relevant discussion; actually the authors reach a slightly different conclusion. I present a weaker version of their analysis for reasons of clarity, but the critisicm concerns their actual analysis as well). The following example of improper anaphor binding falsifies this prediction. In (148), the CLLDed direct object may not be construed as the antecedent/binder of the indirect object anaphor:

(148) *[Ti   Maria]₁,   tin   edhiksa   [tu   eaftu   tis].
          the   Mary-ACC   CL   showed-1SG   the   self-DAT   her
        'I showed Mary to herself.'

In this subsection I showed that the analysis that Angelopoulos & Sportiche (2021) propose overgenerates: if we assume the intermediate A-positions of CLLDed phrases and the interaction between the arguments in terms of reconstruction we can see that this system derives binding relations which are not really attested. Given the analysis of Angelopoulos & Sportiche (2021), it is expected that: (i) CLLDed objects may bind into subject, (ii) CLLDed objects may bind into indirect objects, (iii) CLLD of direct objects bleeds Condition C with a coreferential (epithet) subject. None of these predictions is borne out. To conclude, this section provided evidence against an A-movement step in CLLD. As explained above, it is still possible that the CLLDed direct object performs a short movement step (e.g., for locality reasons, given that vPs are phases), but this step does not extend the binding possibilities of CLLDed phrases and more generally it does not affect the binding relations between the arguments of the verb. For this reason, the WCO-insensitivity of CLLD cannot be attributed to an A-movement step of topic phrases.

4.7. Conclusions

Summarizing the results of the investigation of Greek CLLD, the analysis that I am proposing is concerned with the derivation that underlies CLLD chains, as well as with the LF representation (reconstruction properties) of these sentences.

Greek CLLD has been assumed a theoretically problematic area, in my view, for two reasons:

a. On the one hand, CLLD involves (resumptive) *clitics*, which in traditional grammars, are considered pronominal elements. This led many authors to a pronominal-binding (base-generation) analysis of CLLD (e.g., Tsimpli 1990; Philippaki – Warburton et al. 2004). On the other hand, the left-dislocated topic phrase bears the *case* that is assigned to the argument position. This favors a movement analysis, under the assumption that the case is actually assigned to the low copy of the topic phrase.

b. From a syntactic point of view, CLLD shows some properties which are characteristic of a movement chain (e.g., reconstruction effects), while at the same time it behaves like a base-generation dependency (e.g., wide scope reading, WCO-insensitivity).

In this chapter, I suggested a movement analysis of Greek CLLD. At the same time, the LF-representation that I proposed (the foot of CLLD chain is semantically interpreted as an individual variable) captures the "base-generation" properties of Greek CLLD.

I proposed a movement analysis of CLLD – which targets the spec,TopP – heavily based on its reconstruction properties. First of all, CLLD (under reconstruction) is subject to the Binding Condition C in addition to a number of other reconstruction effects such as pronominal QP-binding, anaphor DP-binding, reconstruction for idiomatic interpretations etc. An interesting piece of evidence in favor of a movement analysis comes from strong island intervention. More specifically, it was shown that an intervening strong island boundary systematically affects the Condition C sensitivity of CLLD.

I also investigated the representation of CLLD at the syntax-semantics interface and I concluded that it always involves λ-abstraction over individual variables, excluding total reconstruction. Briefly, λ-abstraction over individual variables gives rise to a derived predicate of type <e,t> which applies to the dislocated topic phrase. Recall that in chapter 2 I independently argued that CLLDed phrases must be of type *e* (Individualhood Condition on CLLDed phrases). Crucially, this LF representation may explain the main "base-generation" properties of CLLD, namely the wide scope reading of the CLLDed phrase, the lack of WCO effects as well as the fact that CLLD excludes parasitic gaps. It should be noted that the proposed LF-representation of CLLD along

with the ReMIV assumption that individual-denoting traces are always marked by resumptive clitics, captures the obligatory clitic-resumption in CLLD sentences.

Last, I showed that the claim that CLLD involves an A-movement step in the middle field of the clause is not empirically justified. To this end, it seems that the peculiar syntactic behavior of CLLD (i.e., the fact that it shows a mixed (A/A') set of properties), follows from its LF (syntax-semantics interface) representation (representational view), rather than from a specific syntactic derivation (derivational view). For instance, WCO-insensitivity is derived from the existence of a λ-binder of type e, rather than from an A-movement step across a co-indexed intervening pronoun.

CLLD has been classified as a resumptive dependency because of the presence of a resumptive clitic that doubles the dislocated phrase. Compare between Topicalization (Chapter 3) and CLLD in Greek: both are topic-marking dependencies, however only the latter involves a (resumptive) clitic. Consequently, Topicalization is a *non-resumptive dependency*, while CLLD is a *resumptive dependency*. In the '90s (see McCloskey 1990; Cinque 1990; Anagnostopoulou 1994), resumptive dependencies were assumed to involve a binding dependency between the dislocated phrase which is externally merged (base-generated) in an A'-position and a pronominal variable. In Greek, the pronominal variable is in some studies identified with the resumptive clitic (see Tsimpli 1995; Philippaki-Warburton et al. 2004). As clarified in the introduction, in this thesis I am making use of the term 'resumptive/ion' in a descriptive fashion. The term 'resumption' refers to the presence of an element which is somehow associated with the displaced phrase and the dependency that this phrase heads. However, this does not exclude a movement dependency. As previous studies suggested, resumptive clitics are not incompatible with movement dependencies (see for instance Sportiche's (1996) CliticP analysis; Uriagereka's (1995) Big DP analysis; see Aoun et al. (2001) for the term "apparent resumption"). As a matter of fact, in this chapter I developed a movement analysis for CLLD, therefore what remains to be specified, is the role of the resumptive clitic in these movement dependencies. This is the goal of the next chapter.

Chapter 5: Resumptive clitics and clitic constructions

5.1. Introduction

This chapter focuses on Greek clitics, which are an integral part of resumptive constructions in Greek.[1] Although, clitics have been extensively investigated in the previous literature (see Philippaki-Warburton 1977; Theofanopoulou-Kontou 1986; Joseph 2003; Philippaki – Warburton & Spyropoulos 1999; Terzi 1999a, 1999b; Condoravdi & Kiparsky 2002; Panagiotidis 2002; Mavrogiorgos 2010 among others), the present study focuses on resumptive dependencies, so I am mainly interested in the investigation of clitics as far as their function as resumptive elements is concerned.[2]

In the previous chapter, I investigated the syntactic structure of CLLD and I concluded that it is an A'-movement dependency, which, nevertheless, does not show all the standard properties of A'-movement chains. In particular, CLLD is restricted to surface scope readings and is insensitive to WCO. These properties have been attributed to the LF-representation of CLLD: CLLD exclusively involves λ-binding of an individual variable. Furthermore, a characteristic property of CLLD is that clitics are obligatory. In chapter 4, I explained how the obligatoriness of clitics in CLLD is captured by *ReMIV* (Resumption Marks Individual Variables), according to which copies that are interpreted as individual variables are always marked by a resumptive clitic:

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[1]   In Greek, strong pronouns are excluded from CLLD, being restricted to HTLD, as in (i) (from Anagnostopoulou 1997: 153).

(i) Ton Petro,   ton   nostalgho   afton   poli.

   The Peter,   CL   miss-1SG   him   much

   'Peter, I miss him a lot.'

[2]   Some studies, based on the morpho-phonological properties of clitics, argue in favor of either an affixal (e.g., Joseph 2003) or a word (Philippaki-Warburton & Spyrolpoulos 1998) status of clitics. See however, Mavrogiorgos (2010: 2.2.3, on Greek clitics) and Nevins (2011: 4.4) who argue that one cannot really decide whether an item is an affix or a word based on its morpho-phonological behavior. It is worth noting that the lexicalist (affixal) view is to a large extent restricted to morpho-phonological arguments, in contrast to the syntactic approach which is mainly based on syntactic arguments (Mavrogiorgos 2010: 2.2.3).

(1)   Resumption Marks Individual Variables (*ReMIV*):

Traces of A'-movement are interpreted as individual-type variables *iff* they are associated with a resumptive clitic.

However, up to this point, ReMIV has been presented as a purely descriptive generalization without any explanatory force. In particular, ReMIV does not offer a deeper understanding for the correlation between individual-denotıng copies and resumptive clitics. One of the goals of this chapter is to fill this gap. Towards this direction, in section 5.2., I work out an analysis of clitics as definite articles. More specifically, I conclude that resumptive clitics are inserted in movement dependencies as definite articles (semantic iota-operators) by the trace conversion rule (Fox 2002). This analysis of resumptive clitics derives ReMIV without further assumptions. This issue is discussed in section 5.2.3. In the second part of this chapter (sections 5.3-5.6), I go through the standard literature on clitics, and I investigate the relevant accounts for their nature and the syntax of clitic resumption (for instance the base-position of clitics, how they reach their surface position and whether and how clitic items can be reconciled with a movement dependency). Crucial for this thesis are the predictions of these accounts with respect to the LF representation of resumptive (clitic) constructions.

5.2. *ReMIV*: Resumptive clitics mark individual variables

The previous chapter focused on CLLD, an A'-movement dependency which obligatorily involves clitic resumption. In (2) and (3) a clitic item, in bold, resumes the topic-DP. As can be seen, the φ-/case-features of clitics match those of the topic phrase. Recall though that the scope of the present thesis is restricted to accusative clitics, resuming a direct-object topic.

(2)   [Ta   dhora],   *(ta)   edhosa   tu Kosta.
        the   presents-3PL.N.ACC   CL-3PL.N.ACC   gave-1SG   the Kostas
        'I gave the presents to Kostas.'

(3) [Tu   Kosta],   *(tu)   edhosa ena   dhoro.
     the   Kostas-3SG.N.DAT   CL-3SG.N.DAT   gave-1SG a   present
     'I gave a present to Kostas.'

Regarding the surface position of the clitic, it has been argued that Greek clitics attach to the verbal element that occupies the T-head position: the auxiliary verb, if there is one, or the main verb which moves to T. I return to this issue in more detail below.

In the present thesis, the obligatoriness of clitics in CLLD follows from ReMIV (see section 4.5), according to which, resumptives indicate individual variables in trace positions. Put this way, this proposal clearly suggests that a resumptive clitic is syntactically associated with the trace position rather than with the moved phrase. A standard observation which points towards this direction is that a clitic does not need to be adjacent to its associate. In the long-distance CLLD example (4a), the topic phrase is situated in the left periphery of the matrix clause, while the clitic element remains in the embedded clause, close to the trace position. As a matter of fact, the clitic cannot move along with the topic phrase to a matrix-CP position, because it needs to be in the same clause with the trace position (4b).[3]

(4) a. [CP-1 [Ta dhora], i Maria ipe [CP-2 oti **ta** edhoses tu Kosta]].

     b. *[CP-1 [Ta dhora], i Maria **ta** ipe [CP-2 oti edhoses tu Kosta]].

     'The presents, Mary said that you gave (them) to Kostas.'

These data show that resumptive clitics are associated with the trace position, which is what the proposal of this section predicts.

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[3] As Anagnostopoulou (1994: 89) notes, this keeps CLLD and *Germanic Contrastive Left Dislocation* (CLD) apart. In the following long-distance CLD example from Dutch, the resumptive d-pronoun *die* follows the dislocated phrase in the matrix clause (like relative pronouns):

(i) [CP-1   Jan$_1$,   die$_1$ dacht ik [CP-2   dat Piet   zei   [CP-3   dat hij gezien had t$_1$]]]
           John   him thought I   that Peter said   that he   seen   had
     'John, I thought that Peter said that he had seen.'

This suggests that, although both constructions involve resumptive elements of category D, the analysis that I am going to propose for CLLD does not extend to Germanic CLD.

In this section I adopt the hypothesis that clitics are generated as definite determiners in a thematic position (Uriagereka 1995; Boeckx 2003 among others). Building on this claim, I propose that the resumptive clitic in movement dependencies is the overt realization of the definite determiner/iota-operator which is required for the trace-conversion of the copy of the moved phrase (Fox 2002). It should be noted that if this analysis is on the right track, the presence of resumptive clitics (and probably resumption in general) offers direct evidence that Trace Conversion is syntactically realized as well (Fox 2002; Poole 2017).

5.2.1. Interpretation of copies

LF-representation of CLLD
Chapter 4 highlighted the special LF-behavior of CLLD. Based on a number of reconstruction effects (especially reconstruction which leads to a Condition C violation), we concluded that CLLD is an A'-movement dependency. In other words, there is a copy of the object topic phrase in the canonical object position (more accurately, in some position below the subject).

(5)   *[Tis fotoghrafies tu Kosta$_1$]$_2$, pro$_1$ tis estile   sti   Maria.
          the   photos   of Kostas   CL sent-3SG to-the Mary
        'He sent pictures of Kostas to Mary.'

Nevertheless, CLLD does not show the standard properties of A'-movement chains. It is not subject to WCO, and it is restricted to wide scope readings. (6) gives us a taste of WCO-insensitivity in CLLD.

(6)   [Kanenan vulefti]$_1$, dhen ton dhiegrapse   [to   koma   tu$_1$].
          no   PM   not   CL deleted-3SG the   party   him
        'No PM was deleted by his political party.'

To account for these apparently contradictory properties, we argued that CLLD is an A'-movement dependency which translates as a type-*e* variable binding chain at LF, as in (7) (see Sauerland 1998; Ruys 2000). The reader is referred to Chapter 4 for the discussion on how this LF-chain derives the aforementioned properties.

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(7)   CLLD: [$_{TopP}$ [DP topic] λ-1 [$_{TP}$ . . . [DP topic]e-1 . . .]]

The fact that CLLD is restricted to topic phrases of type *e* (*Individual Condition on CLLDed phrases*, see Chapter 2 and Chapter 6) guarantees that CLLD-chains exclusively involve individual denoting variables. As explained above, a topic phrase of type *e* will necessarily leave a type-*e* variable back in its base position.

Trace Conversion Rule (Fox 2002)

A standard assumption is that copies which are interpreted as type-*e* variables undergo a conversion operation. It should be kept in mind that the *copy theory of traces* (Chomsky 1995) appeared as a principled solution to many of the theoretical (e.g., traces violate the inclusiveness condition) and empirical (reconstruction through LF-lowering) challenges for previous movement theories. However, as Fox (1999; 2002) observed, the movement chains that the copy theory derives do not correspond to well-formed LF-representations. For one thing, while a movement chain is in most of the cases interpreted as an operator – variable chain, it is not clear how full copies can be semantically interpreted as variables. In addition, actual copies of wh-phrases in the object position will lead to compositionality problems (see (8) for a representation of a sentence like '*which book did you read?*', and under the assumption that wh-phrases are of type $<<e,t>t>$).

(8)   [$_{CP}$ [wh-phrase]$_{<<e,t>t>}$ [$_{CP}$ . . . [$_{VP}$ verb$_{<e,<e,t>>}$ [wh-phrase]$_{<<e,t>t>}$]]]

In (8), the verb fails to take an object of type *e*. On the other hand, the transitive verb fails to saturate the $<e,t>$ argument of the wh-phrase. Recall that QPs in object position, in order to avoid a type-clash, undergo 'quantifier raising' (QR) leaving an individual variable in their base position.

   Fox (2002) proposed a mechanism for the interpretation of movement chains, which dispenses with both problems presented above. Fox's Trace Conversion Rule is a two-step rule for the interpretation of copies derived by movement. Suppose that the wh-phrase *which book* in (9) is a copy derived by a wh-movement chain, as in (8).[4]

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[4]   Different versions of the Trace Conversion Rule have been suggested since then (see Pasternak 2020 for a review); Most of them favor a semantic rather than a syntactic rule for trace conversion (e.g. Fox

(9)   a. [DP which [NP book]]

b. [DP which [NP book & λy.y=x]]   (by variable insertion)

c. [DP THE [NP book & λy.y=x]]   (by determiner replacement)

d. 'the book x'   (informal paraphrase)

Thus, the copy comprises a variable which is bound by the λ-binder associated with the moved phrase (Heim & Kratzer 1998). Moreover, the copy is now interpreted as a definite description of type *e*, as the informal paraphrase in (9d) indicates (I return shortly to the semantic denotation of the constituent in (9c)). (10a) illustrates the LF-representation of the wh-question 'which book did you read?' under trace conversion, and (10b) its paraphrase (see Fox 2002: 67) (see Chapter 7, for an alternative analysis of wh-questions).

(10)   a. [CP Which book [CP λx [CP you read [DP THE [NP book & λy.y=x]]]]]

b. Which is the book x, such that you read the book x?

Semantic denotation of the copy and the indexed determiner (Elbourne 2005)

So far, we haven't paid much attention to the semantic denotation of the converted copy. To begin with, Fox (2002: 67) argues that (9d) is motivated by the existence of analogous definite descriptions in several languages, such as the one in (11) from Greek.

(11)   O   prothipurghos   Kirjakos   Mitsotakis.

the   Prime-Minister   Kiriakos   Mitsotakis

'The Prime Minister Kiriakos Mitsotakis.'

Fox argues that these DPs should be analyzed along the lines of (9), with *variable insertion* (12a) and *predicate modification* (12b). The definite determiner takes the complex NP and returns an individual.

2003; Elbourne 2005; Moulton 2015; Pasternak 2020). Although a syntactic rule is rejected, in essence, in these accounts "the semantics interprets quantificational DPs at lower merge sites as if some syntactic alteration had taken place" (Pasternak 2020: 14); therefore, the essence of the rule demonstrated above remains untouched; Fox & Johnson (2016) develop an account that goes around the trace conversion rule.

(12)   a. [DP ⟦the⟧ [NP ⟦prime-minister⟧ & λy.y=Kiriakos Mitsotakis]]

b. ⟦the⟧(λy.[prime-minister(y) & y=Kiriakos Mitsotakis])

c. the unique individual that is Prime Minister and identical to Kiriakos
Mitsotakis

Elbourne (2005) actually develops an analysis of copies which dispenses with a syntactic operation for variable insertion.[5] Let's see how this can be achieved.

Independently of the interpretation of copies, Elbourne (2005) argues that we need a richer argument structure for the definite determiner. More concretely, the examination of bound definite descriptions as the one in (13) (from Elbourne 2005: 77) suggests that definite determiners take two arguments: an index and an NP (see also Fox 2003).

(13)   Mary talked to [no senator]$_1$ before [the senator]$_1$ was lobbied.

A D-associated index is what enables the binding of the definite description 'the senator'. A definite description is thus assigned the structure [THE$_1$ NP]. The semantic denotation of the indexed determiner THE$_n$ is given in (14a) (from Fox 2003) and (14b) depicts how [DP the senator]$_1$ is interpreted along these lines.[6] For the sake of completeness, (15) illustrates the binding relation between [no senator] and the bound definite description [the senator]. Note that in (15) (adjusted from Elbourne (2005: 151)) the QR of 'no senator' gives rise to a λ-binder (λ1).

(14)   a. ⟦ THE$_1$⟧ = λP. ⟦the⟧(P & λy.y = 1)

b. [DP the$_1$ [NP senator]] = ⟦THE$_1$⟧(⟦senator⟧) = ⟦the⟧(⟦senator⟧ & λy.y =1)

(15)   a. [no senator] λ1 . . . before ⟦the⟧(⟦senator⟧ & λy.y = 1) was lobbied

b. 'There is no individual 1, such that 1 is a senator and Mary talked to 1 before
the unique 1 such that y = 1 and y is a senator was lobbied'

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[5]   Elbourne explicitly argues against such an approach, which he calls "Add a variable to the NP", on empirical grounds (2005: 151-2).

[6]   Elbourne (2005:153) gives the following denotation for ⟦THE⟧ (slightly modified here):

(i) λP . λg : g ∈ D$_{<e,t>}$ & ∃!x[P(x) = 1 & g(x) = 1] . ιx[P(x) = 1 & g(x) = 1].

Moreover, there is a hidden assumption in (13) which can now be explicitly expressed with (14b) in place: the index is originally assigned to the determiner, and it extends to the whole DP by inheritance.

This denotation of definite determiners has been proved very useful for the interpretation of 'trace-converted' copies (see Fox 2003; Elbourne 2005; Johnson 2012 among others). The variable which is associated with the copy-phrase is provided for free by the (indexed) definite determiner and there is no need for a separate 'variable insertion' operation. As a result, when movement takes place, the determiner of the copy is replaced by the indexed definite determiner ⟦ THEn⟧ (where n must be the index of the moved phrase) (see fn.4, for the debate whether this is a syntactic or a semantic operation).

(16) a. [Which book]$_1$ did you read [which book]$_1$?

   b. Which book λ1 did you read [$_{DP}$ THE$_1$ [$_{NP}$ book]]

   c. Which is the book 1, such that you read the book 1?

Returning to Greek CLLD, given that the copy of the clitic-resumed topic is always of type *e* (hence no compositionality problems arise), it is a legitimate question to ask whether an indexed determiner is really needed. Recall, however, that the indexed determiner, apart from the semantic type of copies, also takes care of the insertion of a variable, a necessary part of the LF-representation of CLLD. Hence, the copy of the topic-phrase is headed by an indexed trace as in (17) and (18).

(17) a. [To palto]$_1$,   to aghorase   o Kostas [$_{DP}$ THE$_1$ [$_{NP}$ palto]].

         the coat   CL bought-3SG   the Kostas

          'Kostas bought the coat.'

   b. [To palto], λ1 to aghorase o Kostas ⟦the⟧(⟦palto⟧ & λy.y =1)

(18) a. [Mia   kokini fusta]$_1$,   tin   psahno   [$_{DP}$ THE$_1$ [$_{NP}$ kokini fusta]].

          a   red   skirt   CL   look-for-1SG

          'A (specific) red skirt, I've been looking for it.'

   b. [Mia kokini fusta], λ1 tin psahno ⟦the⟧(⟦kokini fusta⟧ & λy.y = 1)

Note however, that it is not clear what the function of the resumptive clitic is. In (17) and (18) resumptive clitics co-occur with the trace conversion determiners. In the next section I will argue that resumptive clitics *are* the trace conversion determiners.

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5.2.2. Resumptive clitics as a trace-conversion definite determiners

Empirical evidence for Trace Conversion and resumptive items
Even though a trace conversion rule, and more specifically the insertion of an indexed determiner, seems to be a necessary theoretical tool for the interpretation of movement chains, a natural question to ask is whether there is any empirical evidence for the insertion/presence of a definite determiner associated with the copy. Interestingly Johnson (2007, 2012) and Pasternak (2020) raise the very same question however they reach a different answer. Johnson (2007: 20) mentions that "the existence of cases that are just what would be expected if the determiner were pronounced" can be found, referring to certain resumptive dependencies in Lebanese Arabic (see below). Pasternak (2020: 11) does not share this view as the following passage shows: "I am unaware of any evidence for the existence of an overt counterpart to trace conversion, nor of trace conversion affecting overt structure." Nonetheless, he highlights the theoretical necessity of such a (semantic) mechanism. In this section I argue that empirical evidence for the (syntactic) determiner replacement does exist, and this comes from the clitic constructions in Greek.

Johnson (2007, 2012) is concerned, among other things, with the phonological realization (i.e., the pronunciation) of a movement chain. In a derivation with two copies of the same moving DP, (typically) the low copy must be removed, for linearization purposes (Nunes 2004). The point that Johnson raises however is that after trace conversion, the two copies do not share the same D-head, as the D-head of the low copy will be replaced by an indexed definite determiner. Therefore, one should expect that only the NP-core of the low copy undergoes PF-deletion, as in (19). However, such a structure is never found in English *(*Which student did you met the?)*.

(19) [DP which [NP student]]1 . . . [DP THE1 [NP student]]

However, Johnson, following Elbourne (2005: section 3.5.3), argues that a reminiscent of such a sentence can be found in the so-called resumptive languages (e.g., Hebrew, Irish, Lebanese Arabic), where one finds a resumptive pronoun in the expected gap position (see also Boeckx 2003: 2.2.2). The following example comes from Aoun et al. 2001: 381) and illustrates a Lebanese Arabic resumptive topic-marking sentence:

(20) təlmiiz-a$_1$ lkəsleen   ma   baddna   nχabbi [wala maʕallme]$_1$ ʔənno

student-her   the-bad   NEG   want-1PL tell-1PL no   teacher   that

huwwe$_1$ zaʕbar   b-l-faħs.

RESUMPTIVE-ITEM   cheated-3SG   in-the-exam

'Her bad student, we don't want to tell any teacher that he cheated on the exam.'

These sentences are known as resumptive dependencies, due to the presence of the resumptive item *huwwe* (in bold). What arises as a resumptive item is a pronoun rather than a definite determiner but this is not a real problem: Elbourne (2005) argues that what arises as a pronoun, is an indexed definite determiner which lacks an overt NP-complement ([DP the$_1$ [NP] → [DP it$_1$]).[7] Under this consideration, the resumptive pronoun *huwwe* is considered to be the definite determiner which has replaced the D-head of the copy (as part of the Trace Conversion operation) (see also Boeckx 2003; Rouveret 2008). The deletion of the NP-core of the copy (see (19)) forces the definite determiner to be spelt-out in the form of a pronoun.

What are the predictions of such an analysis? We predict that while the dependency involves a pronominal form, it gives rise to *reconstruction effects* which is a characteristic property of movement. This is exactly what we observe in (20), where the pronominal inside the dislocated DP co-varies with the QP in the embedded clause (a.k.a. reconstruction for pronominal QP-binding) (Elbourne 2005; cf. Rouveret 2011; Guillot & Malkawi 2009; Salzmann 2010 for an alternative analysis of the interaction between reconstruction and resumption). The crucial question at this point is whether clitics in Greek CLLD (and in other resumptive dependencies) should be analyzed on a par with the Lebanese Arabic resumptive pronouns.

The Greek clitic as the indexed determiner of the trace conversion rule:
Let us see how such an analysis would proceed for a Greek CLLD sentence (see (21)).

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[7] Actually, the determiner takes a phonologically null NP ONE. Relevant to this, is the assumption that the so-called D-pronouns (i.e., the bound pronouns in *Donkey sentences*) involve an elided NP-complement: [DP it$_1$ [NP donkey]].

(21)　　[To　palto]$_1$,　　to aghorase　　o　　Kostas.

　　　　the　　coat　　CL bought-3SG　　the　　Kostas

　　　　'Kostas bought the coat.'

We have argued that Greek CLLD is a movement dependency; that is, it contains two copies of the topic phrase (22a). The low copy has to be converted and more specifically its D-head must be replaced by an indexed determiner (*to$_1$* in 22b).[8] In (22c) the NP-part of the copy phrase is PF-deleted, as is standardly assumed for movement chains. PF-deletion however does not affect the indexed determiner *to$_1$* which is expected to appear in the trace position (22d). Hence, what remains a mystery is the surface position of the clitic item which clearly leaves the object position. Let us assume for now that the overt D-head needs to move to its surface position to attach to another lexical item, for morpho-phonological reasons. I discuss this issue below. The final PF-representation of (21) is provided in (22e).

(22)　　a. [To palto]$_1$, aghorase o Kostas [to palto]$_1$.

　　　　b. [To palto]$_1$, aghorase o Kostas [$_{DP}$ TO$_1$ [$_{NP}$ palto]].

　　　　c. [To palto]$_1$, aghorase o Kostas [$_{DP}$ TO$_1$ [$_{NP}$ palto]].

　　　　d. [To palto]$_1$, aghorase o Kostas [$_{DP}$ TO$_1$].

　　　　e. [To palto]$_1$, to$_1$ aghorase o Kostas.

The reader may have observed that in Greek, as in many Romance languages the definite article is homophonous to the 3rd person clitic item (Postal 1969; Uriagereka 1995; Corver & Delfitto 1999; Marchis & Alexiadou 2013 among others). Compare the clitic paradigm with the definite article paradigm in Greek in the following table (Tsimpli & Stavrakaki 1999; Panagiotidis 2002; Anagnostopoulou 2003; Roussou & Tsimpli 2006).[9]

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[8] See Poole (2017: 158ff) for the view that Trace Conversion takes place at the "narrow syntax", within the *Multidominance framework*.

[9] The "*homophony pattern*" (below I argue that clitcs are definite articles; hence this is not *homophony* in the technical sense of the term) for the accusative clitics/definite articles illustrated in Table 1 extends to the dative forms, with some exceptions though. The pattern of homophony between the indirect object 3rd person clitics and the dative definite articles is interrupted when it comes to plural forms (*tus*-V vs. *ton*

Accusative Case	masculine		feminine		neuter	
	singular	plural	singular	plural	singular	plural
3rd person clitic	to(n)	tus	ti(n)	tis[10]	to	ta
Definite article	to(n)	tus	ti(n)	tis	to	ta

Table 1. 3rd person accusative clitics – definite articles

As noted elsewhere (e.g., Uriagereka 1995), the morphological resemblance between definite articles and clitic/weak pronouns provides strong support to Postal's (1969) hypothesis that pronouns are derived out of definite articles. In conclusion, resumptive clitics in Greek seem to be much the same as the resumptive items in Lebanese Arabic and in other languages.[11] In particular, clitics in CLLD are indexed determiners inserted

NP). Interestingly, in Cypriot Greek the form *tus* (*tus* NP) is productively used as definite article for plural masculine indirect objects (see Sitaridou & Terkourafi 2009):

(i) [*Tus*   ipalilus],   edoka   *tus*   adhia   mia eftoma.

the.DAT employees gave-1SG CL.DAT leave one week

'I gave the employees a week-off.'

In any case, recall that the dative clitics fall beyond the goals of the present study.

[10] There is a complication with respect to the feminine plural accusative clitic forms with imperatives (I thank N. Angelopoulos and D. Michelioudakis for pointing out this to me and for the discussion). In this context, we need the enclitic form *tes* instead of the standard clitic form *tis* (kita *tes* (look.IMP at them) vs. *tis* kitao (I am looking at them). The *tes*-form is not found in the paradigm of the definite article in Standard Modern Greek. It is however found in the Cypriot Greek variety. As a result, the clitic-article resemblance for the feminine plural accusative forms holds in this dialect, as in (i):

(i) *Tes* kuvedes ais'   *tes*.

the talk   let.IMP-2SG CL

'Cut the chit chat.'

In addition, in Cypriot Greek the clitic form *tes* is not restricted in the enclitic contexts. Therefore, Cypriot Greek shows a strong pattern of morphological resemblancebetween definite determiners and the clitics through the form *tes*.

(ii) En *tes* idha.

'I didn't see them.'

[11] It should be stressed that this analysis of Greek clitics is not just restricted to doubling/resumptive clitics, but it also includes clitics which are associated with free pronouns, like '*ton idha*' (I saw him.). While in this study I focus on resumptive clitics, as far as I can see the proposed analysis (clitics as

by the trace conversion rule which is independently required for the interpretation of movement copies as individual-level variables. This derives the effect of ReMIV, that the appearance of a resumptive clitic marks an individual denoting variable at the foot of a movement chain. In the next two sections I discuss the predictions of this analysis, as well as some issues that require further discussion.

Before we proceed, recall that the present thesis is restricted to direct object (DO) resumption and accusative (DO) clitics.[12] As a matter of fact, in the introduction of this thesis I implied that DO and IndO resumptive clitics should be kept separated, under the labels *grammatical* and *intrusive* resumptives respectively, based on the observation that IndO-clitics in Greek do not pose specificity effects (see for instance Anagnostopoulou 1999; Alexopoulou 2006). On the other hand, if I am not mistaken, Ind-O clitics in *topic-marking dependencies* (i.e., IndO-CLLD) show the same distributional and semantic effects observed in DO-clitic resumption. See also the previous footnote, on the morphological resemblance between IndO clitics and dative definite articles. Having said that, whether Ind-O clitics should be treated as definite articles or as agreement markers should be considered more carefully in a future occasion.

5.2.3. Some predictions of ReMIV

Reconstruction effects and obviation of WCO
The line of analysis taken here, reconciles movement with resumption (see also Aoun et al. 2001; Boeckx 2003 among others). As explained above, given this state of affairs we

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definite articles) is totally compatible with any analysis (of non-resumptive clitics) which takes clitic items to be D-elements (e.g., Panagiotidis 2002).

[12] E. Anagnostopoulou (p.c.) asks whether this account of direct object clitics suggests that cliticization is not a uniform phenomenon in the sense that different types of clitics (e.g., indirect object clitics, partitive clitics found in other languages) should be treated otherwise. For example, it has been argued that direct object clitics differ from their indirect-object (IndO) counterparts which are markers for (indirect object) agreement (see Süner 1988; Sportiche 1996). If we follow this path, this proposal predicts that IndO clitics are not definite determiners, which means two things: (i) IndO do not pose specificity effects, (ii) they are not homophonous to definite articles (cf. previous footnote). Anagnostopoulou (p.c.) then points to Bleam's (1999) observation that in Spanish, Ind-O clitics are not homophonous to definite articles and that Spanish Ind-O clitics do not pose specificity effects either. These two properties led Bleam to the conclusion that Ind-O clitics are agreement markers rather than definite articles.

expect that clitic constructions (e.g., CLLD) show reconstruction effects. In Chapter 4, we examined in great detail this issue and we showed that CLLD shows a wide range of reconstruction effects: *reconstruction for Condition C* (see (1)), *reconstruction for pronominal QP-binding*, *reconstruction for anaphor-binding* and for *idiom-readings*.

Regarding the systematic obviation of WCO in CLLD (see section 4.3.3), we argued that WCO effects reflect the inability of an operator to bind an intervening pronominal variable.

(23)　a. *[Which boy]$_1$ does his$_1$ mother love?

　　　b. *[XP]$_1$ . . . . [DP [pronoun]$_1$] . . . . t$_1$

Following Sauerland (1998), and Ruys (2000), I argued that this happens because of a semantic-type mismatch between the binder and the pronominal variable. More specifically, the WCO-inducing dependencies involve a λ-binder of choice function variables (of type $<<e,t>e>$), as in (24a) (see chapter 7). Hence these operators may not bind an individual variable, such as a pronoun (see 24b).

(24)　a. [XP] $\lambda f_{<<e,t>e>}$ . . . . . . $f_{<<e,t>e>}$ . . . . . . (e.g. wh-question)

　　　b. *[XP] $\lambda f_{<<e,t>e>}$ . . . . . . [DP [pronoun]$_e$] . . . . . . $f_{<<e,t>e>}$ . . .

According to this line of analysis, CLLD, as well as other WCO-insensitive dependencies (A-movement) must be seen as dependencies which involve a binding chain of individual variables (25a). This way, the λ-binder can bind an intervening pronoun without problems (25b).

(25)　a. [XP] λx_e . . . . . . x_e . . . . . . 　　　　　(e.g., CLLD, A-movement)

　　　b. [XP] λx_e . . . . . [DP [pronoun]$_e$] . . . . . . x_e . . .

This analysis converges with the conclusions of the previous sections, that clitics signal a type *e* denotation of the low copy, through the Trace Conversion Rule.

Distribution of resumptive clitics
In the introduction of this thesis, I made clear that the distribution of resumption in Greek is not a straightforward issue, as the following complex pattern reveals:

a. Resumptive clitics are in some cases <u>obligatory</u>: for example, with a left-dislocated topic phrase of type *e*

(26)   [To palto]*ₑ*, *(**to**) aghorase o Kostas.
       'Kostas bought the coat.'

b. Resumptive clitics are in some cases <u>excluded</u>: for example, with a left-dislocated topic phrase of type <e,t>

(27)   [Palto]_{<e,t>}, (***to**) aghorase o Kostas.
       'Kostas bought a coat.'

c. Resumptive clitics are in some cases <u>optional</u>: for example, in which-questions

(28)   [Pia jineka] (**ti**) dhagose o Patroklos?
       'Which woman did Patroclus bite?'

An efficient analysis of resumption should be able to make sense of this distributional pattern. As we will see below, ReMIV predicts quite successfully the distribution of these items in A'-dependencies. Basically, this analysis argues that clitic dependencies are interpreted as individual-variable binding, and that a clitic marks the presence of a trace-converted copy which is interpreted as an individual denoting variable at LF. Let's see how this analysis deals with each aspect of the distributional puzzle of the resumptive clitics.

a. *The resumptive clitic is in some cases <u>obligatory</u>*: As explained above, when a topic-phrase of type *e* moves to the left periphery, it will necessarily leave behind a copy/variable of type *e* (see section 4.5). This copy undergoes trace conversion, which means that the D-head will be replaced by an indexed determiner. In Greek, this determiner undergoes cliticization, after its NP-complement is PF-deleted. This is the analysis we assigned to CLLD, which I think however extends to other cases as well.

   One well-known case with obligatory clitic-resumption is the *non-restrictive relative clauses* in Greek ((29) comes from Alexopoulou 2006: ex10a).

(29) O   ethnikos   imnos,   pu   *(ton) eghrapse o Solomos ine
      The   national   anthem, that CL   wrote-3SG the Solomos is-3SG
      spudheo   piima.
      important poem

      'The national anthem, which Solomos wrote, is an important poem.'

If Potts (2002) is right that *appositive relatives* need to attach to an individual referring expression (see also Constant 2014), the fact that the clitic is obligatory in (29) is analyzed on *a par* with CLLD sentences.[13] The individual denoting head of the appositive clause is associated with a type-*e* variable in its base position. This variable is overtly marked by the presence of the clitic.

*b. The resumptive clitic is in some cases _excluded_*: In chapter 3 we dwelt on these sentences (under the term *Topicalization*). Following Poole (2017, 2019) we argued that type <e,t> expressions do not undergo Trace Conversion. As a matter of fact, Poole (2019) shows convincingly that a moving phrase, being unable to leave a well-formed trace/variable in its base position, it must undergo total reconstruction, i.e., it must be interpreted (only) in its base position. Relevant evidence for total reconstruction in Topicalization was given in Chapter 4 (availability of Late Merge, limited binding options of reconstructed anaphors). Hence, a Topicalization sentence is roughly represented as follows at LF:

(30) [XP]$_1$ . . . . [XP]$_1$

From the present study's perspective, the exclusion of individual variables predicts the exclusion of the clitics. As a conclusion, the present analysis successfully accounts for

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[13] It has been proposed that *restrictive relatives* and *non-restrictive (appositive) relatives* should be kept apart based on their quantificational force. Restrictive relatives are grouped together with other *quantificational A'-dependencies*, while appositive relatives are considered *anaphoric* (non-quantificational) A'-dependencies (Lasnik & Stowell 1991, Rizzi 1997, Tsimpli 1999, Alexopoulou 2006). See also Tsimpli 1999, Alexiadou & Anagnostopoulou 2020 on the obligatory presence of clitics in the so called 'tough construction' and other '*Null Operator Constructions*', which are also classified as anaphoric dependencies.

the incompatibility of the clitics with Topicalization sentences (see section 3.6, Chapter 3).

c. The resumptive clitic is in some cases <u>optional</u>: This essentially means that *which*-questions are only optionally interpreted as individual variable binding. Gap and resumptive wh-questions are examined in Chapter 7, so I have to postpone the discussion of these predictions until then. To anticipate, we will see that while both gap and resumptive wh-questions are in general available (with the referentiality/d-linking degree of wh-phrases being the crucial factor facilitating clitic-resumption), only resumptive wh-questions show the properties that are related to individual variable binding chains (WCO-insensitivity, restricted to wide scope readings).

All in all, the proposed analysis of clitics seems to make some predictions which are crucial to the analysis of resumptive dependencies. For this reason, it seems that we have sufficient evidence that this analysis is towards the right direction. Nevertheless, as we will see now, there are a number of issues that need further discussion.

5.2.4. And some problems

The semantics of the Greek definite article

A crucial assumption of the proposed analysis is that resumptive clitics are definite articles which are introduced by the Trace Conversion Rule in the form of an indexed determiner. Hence, we assumed that clitics involve the standard "iota" semantic denotation of definite determiners. The idea that Greek clitics are nothing else than definite articles has been around for many years (see for instance Panagiotidis 2002; Marchis & Alexiadou 2013 for the definite article in Greek) and it has been recently reintroduced by Alexopoulou & Folli (2019). However, as we will see, the idea that definite articles are semantically analyzed as iota-determiners has been called into question by many authors.

While it is a quite standard assumption that English definite articles are semantically interpreted as iota operators (see Partee 1987; Heim & Kratzer 1998), many authors have argued that definite articles in Greek should not be treated this way (see Roussou & Tsimpli 1994; Kyriakaki 2011; Lekakou & Szendrői 2012, 2014; Alexiadou & Marchis 2013; Alexopoulou & Folli 2019). Alexopoulou & Folli (2019) concentrate on

the following nominal cases from Greek which indicate that Greek and English definite determiners involve a different syntactic structure (see also Alexiadou et al. 2007): Definite articles (obligatorily) co-occur with demonstratives (31) (Androutsopoulou 1995), with weak personal pronouns (32) (Alexiadou et al. 2007), and crucially with other definite articles, in polydefinite structures (33) (Androutsopoulou 1995; Kolliakou 2003).

(31) Afto   *(to) vivlio.
      this   the   book
      'This (*the) book.'

(32) *(To) vivlio mu.
      the   book   my
      '(*The) my book.'

(33) To kokinoto   podhilato to   kenurjo.
      the   red   the   bicycle   the   new
      'The new (*the) red (*the) bicycle.'

Based on these data, previous studies proposed a new status for Greek definite articles without iota-semantics; rather they argue that semantic definiteness (iota-OP) is derived at a higher *Definiteness/iota* projection headed by a covert iota operator (Kyriaki 2011; Lekakou & Szendrői 2014; see Alexiadou et al. 2007; Marchis & Alexiadou 2013, for a split DP-layer analysis).[14] It should be stressed however that even if articles themselves are not iota-operators, it cannot be denied that they are "reflexes of a phonologically null operator that scopes over the Greek DP and contributes an iota operator" (Lekakou & Szendrői 2014: 214). This probably means that at any event, whenever a DP involves a null operator for the iota-semantics, it also contains a definite article. From this perspective, this objection does not affect the proposed analysis of

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[14] Notice that in Greek, unlike English or Italian, proper names are accompanied by definite articles e.g., *o Kostas* (= the Kostas). On the basis of these data, the definite article has been characterized as expletive (Androutsopoulou 1995; Roussou & Tsimpli 1994), a view that is not adopted in the present study (see Kyriaki 2011). More recent studies suggest a property-denotation for proper names and that *e*-type denotations of verbs are derived (Matushansky 2009).

resumptive clitics as definite articles. Resumptive clitics as definite articles presuppose the semantic definiteness required for the conversion of traces, either as true iota-operators or as markers of a covert iota-operator. Therefore, for simplicity reasons, I disregard this issue in what follows and I assume that clitics are definite articles which encode iota-semantics. Resumptive clitics are definite articles which are inserted for the conversion of copies in the trace position.

Surface position of the clitics

Obviously, the surface position of resumptive clitics does not follow from any assumption of the proposed analysis. Given the analysis we have been arguing for, one should expect resumptive items to occupy the trace position, that is, the position that hosts the trace-converted copy. To illustrate, while we should expect (35b), we get (35c).

(34) [To   palto]₁,   to aghorase   o   Kostas.
        the   coat   CL bought-3SG   the Kostas
      'The coat, Kostas bought.'

(35)   a. [To palto]₁, aghorase o Kostas [DP TO1 [NP palto]]].
        b. [To palto]₁, aghorase o Kostas *to*.
        c. [To palto]₁, *to* aghorase o Kostas.

In principle, there are at least two ways to deal with this clitic displacement. The first one – for ease of reference, call it *the syntactic approach* – is to assume a movement step which is motivated by some syntactic feature on the clitic. The clitic then targets a host to be adjoined to (see Kayne 1975). An alternative account along these lines is to argue that the clitic targets a functional projection and it forms a phonological unit with its host due to their linear adjacency. Such accounts have been mainly shaped within the *Big-DP approach* to clitic doubling, according to which, the clitic and the doubled DP start as parts of the same "Big DP constituent". I return to the Big DP-hypothesis in more detail in section 5.5.

Nevertheless, we can also look at the clitic displacement from a totally different perspective: the clitic needs to attach to a host, due to its morpho-phonological deficiency (Cardinaletti & Starke 1999; see Mavrogiorgos 2010 on the deficiency of

Greek clitics). Allow me to expand a bit on this speculative but intriguing approach. Let us assume that English *it* and Greek *to* share a common (derivational) history: both elements are bare definite articles, in the sense that they start as definite articles (essentially D elements), which lack an overt NP-complement. It seems however that neither English (36a) nor Greek (36b) allows the spell-out of these bare definite articles without further modification.

(36)   a. *I   saw   [DP *the* [NP Ø]]
       b. *pro   idha   [DP *to* [NP Ø]]

Let us assume a feature [B] on these items ([*the/to[B]*]) ([B] for 'Bound', which is visible to a PF-filter preventing an XP[B] from forming a separate phonological unit, see Bošković (2001: 80ff)). It can be argued then that a different mechanism is employed in each language in order to license the structures in (36). In English, a PF-mechanism turns *the* into *it*, arguably a less deficient form which can stand on its own. This seems to be close to what Elbourne (2005: 66) has in mind who suggests that pronouns "have the semantics of definite articles with φ-features […], but a low-level morphological process spells them out as *the* when they take a phonologically realized NP as complement."[15]

(37)   I saw [DP *the[B]* [NP Ø]] → I saw [DP *it* [NP Ø]]

In Greek, the deficient clitic form [*to[B]*] is maintained, however it needs to be attached to some host. A movement mechanism is then employed which moves the clitic to its host. The [B]-feature can now be checked.

(38)   pro idha [DP *to[B]* [NP Ø]] → pro *to[B]*-idha [DP ~~*to[B]*~~ [NP Ø]]

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[15] In terms of *late insertion* (see Halle & Marantz. 1993) it could be argued that the exponent of [DP the [NP Ø]] is [it].

This line of analysis paves the way of a unified account for two seemingly unrelated phenomena.[16] Of note is the fact that the movement chain in (38) is triggered by a feature which is visible to a PF-filter ([B]). For this reason, in what follows I propose that the movement illustrated by (38) takes place at the interface between Syntax and Phonology (i.e., PF-movement). There is an additional reason for this decision though. Recall that the clitic in (34) is an iota-operator which is needed for the trace conversion of the copy of the moved phrase. This means, that the clitic needs to be interpreted in the trace position. As a consequence, clitic-displacement causes a PF/LF mismatch: at PF, the clitic is phonologically represented attached to the T-head; at LF the clitic is interpreted in the trace position. This mismatch is expected if we assume that the clitic moves on the phonological branch of the derivation, since this movement is not visible to LF.

It should be noted however that the previous section has provided evidence suggesting that the clitic (as a definite article) is not itself a iota-operator, but it is merely a syntactic marker for a covert iota-operator in a higher position. Following this path, clitic-displacement at syntax would not affect the position where the iota-operator is interpreted (recall we want it to be interpreted in the trace position). As cliticization is not at the heart of the present thesis, I leave it open whether clitic is a iota-operator which moves at PF or a syntactic marker for definiteness moving at Syntax. For the sake of the discussion, in the following I follow the first option.

For the clitic-status of the stranded determiner *to* I presume a morphophonological mechanism which has been widely used for the clitic items of different languages in the recent literature, called *morphological merger* (*m-merger*), (see Matushansky 2006; Nevins 2011; Harizanov 2014; Kramer 2014; Baker & Kramer 2018). Matushansky (2006), dealing with the insisting problems of *head-movement* (c-command condition: the higher copy must c-command the lower copy; extension condition: the head must

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[16] The following issue arises at this point: while the Greek bare definite article *'to'* arises as a resumptive element (e.g. in CLLD,(i)), this is not the case for the English bare article *'it'* (e.g. 'English Topicalization', (ii)). I return to this issue in Chapter 8.

(i) To   vivlio,   *to*   aghorasa.

    The   book   bought-1SG

(ii) The book, I bought _.

'English Left Dislocation' sentences (*The book, I bought **it***), being a base-generation construction, should be left out of this comparison.

target the root of the tree), proposes a unified view for phrasal/head movement. As illustrated below, according to this view, head-movement is decomposed into movement of a head *β* to a specifier position (39a), followed by a re-bracketing which leads to the the *morphological merge* of head *β* in a specifier position with a head *α*:

(39)

a.   b.
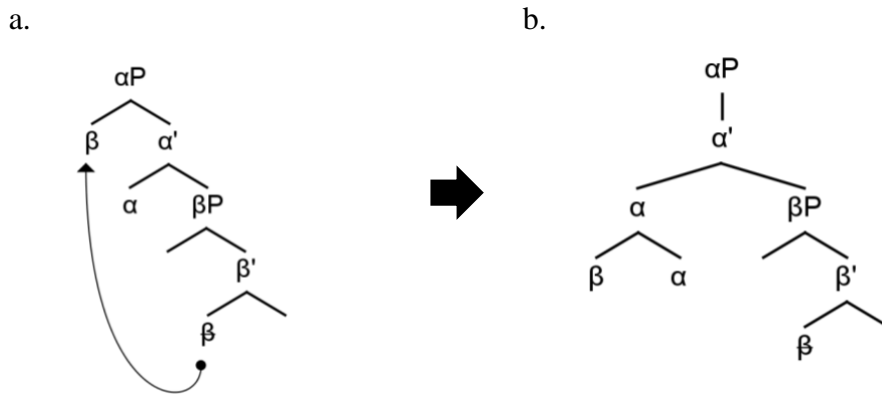
Turning to cliticization, Matushansky (2006) analyzes clitic items as pronominal elements which are both D-heads and D-maximal projections (D/DP) which merge in argument positions. Clitics then move as maximal projections next to their host, to the specifier of the TP. What licenses the m-merge of the D/DP clitic with its host is the fact that nothing intervenes between the clitic-head and the T-head. In other words, in the absence of a pied-piped complement in the moved DP, m-merge freely applies to the D/DP pronoun and the T-head.

(40)

a.   b.
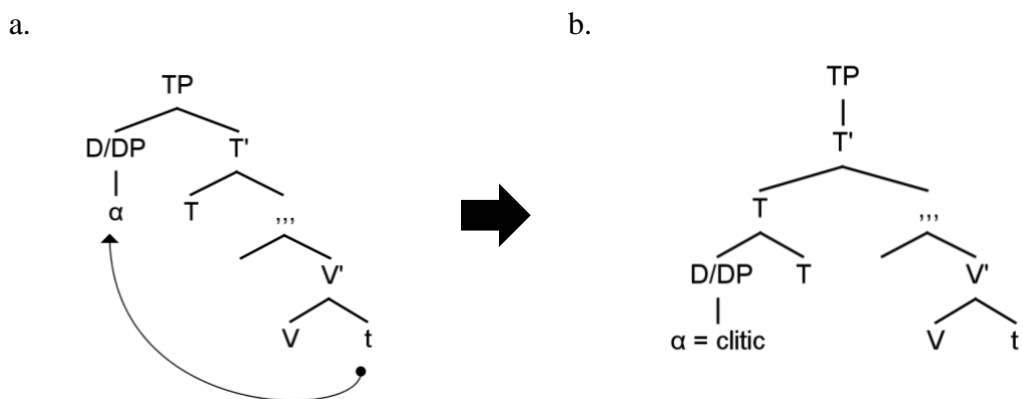
Returning to clitic resumption dependencies in Greek, recall that the trace position is occupied by the trace-converted copy of the phrase that has moved, as in (41a). At PF, the NP-core of the copy is deleted as in (41b).

(41) a. [To palto]$_1$, aghorase o Kostas [$_{DP}$ to$_{[B]1}$ [$_{NP}$ palto]]].
      b. [To palto]$_1$, aghorase o Kostas [$_{DP}$ to$_{[B]1}$].

As a result, at PF we end up with a stranded determiner which is both D/DP. This stranded determiner *to$_{[B]1}$*, being morphophonologically deficient, needs to attach to some host. I therefore argue that *to$_{[B]}$* moves along the lines of (40), as a D/DP item. First this item moves up to the spec,TP next to its host, the T-head (42a). This configuration allows *to$_{[B]}$* to undergo m-merge with the (auxiliary/main) verb which heads the TP (42b). After the m-merge of *to$_{[B]}$* with the T-head, the $_{[B]}$-feature is checked:

(42)

a.   b.
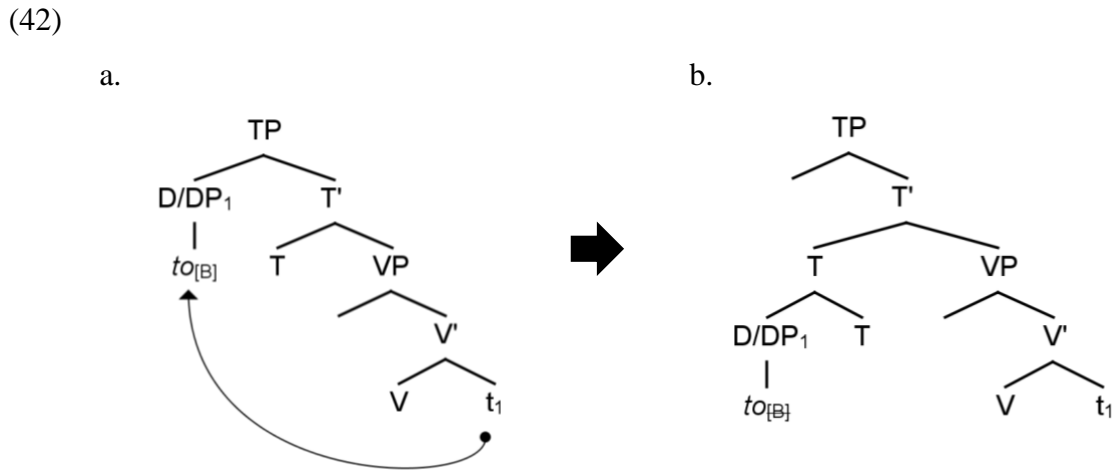
At first sight, the m-merge operation seems to be problematic in a certain respect, when it comes to Greek clitics. I simplify a little bit for the sake of the discussion. The fact that an item *α* is a *clitic* denotes that *α* and its host form a unit; whether this is a syntactic constituent, or a phonological unit is a debated issue. Clearly, under the m-merge analysis, the clitic merges and forms a syntactic constituent with the T-head. Crucially, this constituent "remains accessible to syntax as a whole (e.g., it can undergo further movement) but its internal structure is syntactically opaque and frozen" (Harizanov 2014: 1067). However, it is a well-documented fact in Standard Greek that the [clitic+verb] order (proclisis) turns to a [verb+clitic] (enclisis) with imperatives and

gerunds (see Terzi 1999a: 88-89). Consider the following contrasting pair with an indicative and an imperative verb:

(43) To   djavasa.
      CL   read-1SG
      'I read it.'

(44) Djavase   to.
      read-IMP-2SG CL
      'Read it.'

Terzi (1999a) assumes that clitics occupy a distinct syntactic position in the tree, above the surface position of the verb (e.g., Sportiche's (1996) spec,CliticP). She then offers a transparent way to think of the proclisis/enclisis alternation in (43)-(44) by assuming that imperative verbs move to C leaving the clitic behind (to a post-verbal position). Note that this approach would not be an option if the verb and the clitic element were a frozen syntactic unit (given that excorporation is generally not allowed).

For Nevins (2011: 957) this is a not a real problem for the m-merge approach to clitics. As he notes, the m-merge operation (in contrast to head-adjunction) says nothing about the linear order of the clitic item and its host. That said, both proclisis and enclisis are in principle available and the alternation pattern can be argued to be regulated by certain language specific conditions. It could be argued for example that m-merge with finite verbs leads to proclisis while m-merge with the 'less-finite' forms (e.g., imperatives and gerunds) leads to enclisis. As K. Grohmann (p.c.) notes though, such an approach would not capture the proclisis/enclisis parametrization between Standard and Cypriot Greek in (45)-(48)) (Terzi 1999b: ex.1, ex.2).

(45) To   dhjavasa.   (Standard Modern Greek)
      CL   read-1SG
      'I read it.'

(46) *Dhjavasa   to.
      read-1SG   CL
      'I read it.'

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(47) Ethkavasa to.   (Cypriot Greek)

      read-1SG CL

      'I read it.'

(48) *To   ethkavasa.

      CL   read-1SG

      'I read it.'

Unfortunately, I do not have an answer to this issue and I leave it for future research.

Since in the present thesis we focus on resumption, we necessarily leave other issues related to cliticization open as well, as they are beyond the scope of the present discussion.[17] In this section, we attempted to provide an analysis for the surface position of clitics, given that they originate in trace position. It should be kept in mind that while this section focused on resumptive clitics (as stranded D-heads), it straightforwardly extends to 'free clitics' (see 42) under the assumption that they are [D/DP]-pronominal

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[17] An additional issue which needs further discussion concerns the instances of long-distance CLLD, as in (i):

(i) [CP [Ton Jani]$_1$, ipe   i Maria [CP x [CP   oti   ton   apelisan   _$_1$]]]

     the John   said-3SG   the Mary   that   CL   fired-3PL

     'John, Mary said they fired.'

Note that the topic-phrase moves from its base position (_$_1$) to its surface position through an embedded clause-peripheral position, indicated with x. Semantically, the movement chain in the embedded clause involves predicate abstraction, where the derived predicate is saturated by variable x. x is abstracted over giving rise to a predicate which applies to the topic-phrase (see Cresti 1995):

(ii) [John], [λx Mary said x [λy that they fired y]]

In Greek, individual variables involve a bare definite article, which cliticizes to a verbal form. If the matrix clause involves an individual variable as well (x), why don't we find a bare definite article/clitic in the matrix clause, as in (iii).

(iii) *[CP [Ton   Jani]$_1$, **ton$_x$**   ipe   i Maria [CP oti   **ton$_y$**   apelisan   _$_1$]]

     the John   CL   said-3SG   the Mary   that   CL   fired-3SG

I have only a tentative suggestion for this puzzle. It should be noted first that clitic items bear a case feature (see (2)-(3)). The question that follows is how this case feature is assigned to the stranded definite article. If the definite article, which is inserted by the determiner replacement operation of the Trace Conversion Rule, is assigned its (accusative) case by the verb, then a definite article in the matrix clause is not expected to receive case by the matrix verb which has already taken a CP-complement. It must then be case-less and phonetically empty.

elements. I return to the surface position of the clitic below, where alternative analyses are examined.

5.2.5. Summary

To sum up, I argued that the clitic item in CLLD is a marker of an individual variable. CLLD is shown to be a movement dependency which involves a copy of the topic phrase in an argument position. The Trace Conversion rule is an independently motivated mechanism for the interpretation of copies. This rule inserts an indexed determiner which replaces the D-head of the copy constituent.

In this section I adopted the hypothesis that clitics are D-elements and suggested that the clitic is the overt realization of the definite determiner that is introduced by the trace conversion rule. An additional, independently motivated assumption is that the NP-core of the copy phrase undergoes PF-deletion. Hence at PF, the determiner is left stranded in the trace position. To account for its surface position, I argued that the determiner moves for phonological reasons. More specifically, the stranded definite determiner, due to its morphophonological deficiency, is not allowed to form a separate phonological unit, thus it must attach to some other lexical item. This is essentially what drives movement to T, followed by morphological merge with the verb in T.

Note that this line of analysis makes a very specific claim about the LF-representation of clitic/resumptive chains: they are always λ-binding chains of an individual variable. This claim comes with some interesting predictions with respect to the LF-behavior of these chains (reconstruction effects, WCO-insensitivity, wide-scope readings) and the distribution of clitics in A'-dependencies, which are confirmed.
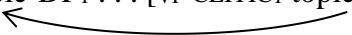
In the following, I examine some widespread views discussed in the literature for the doubling/resumptive clitics. In section 5.3, I examine (and reject) some proposals regarding the nature of the clitic. Section 5.4 and section 5.5 discuss some well-established approaches to clitic construction (the CliticP analysis and the Big-DP analysis, respectively). By now, I hope I have convinced the reader that the predictions discussed in 5.2.3 are crucial in understanding how clitics interact with A'-movement chains in Greek and that we would like to keep them whatever syntactic analysis we end up with.

5.3. The nature of clitics: clitics are not pronouns nor agreement markers

Before I start discussing the nature and the structure of Greek clitics in more detail, I would like to make clear that the present thesis adopts the dominant view in the recent literature that Greek clitics are not affixes (see Philippaki-Warburton & Spyropoulos 1999; Panagiotidis 2002; Philippaki et al. 2004 among many others; see Mavrogiorgos 2010: 2.2.3 for a discussion). That is, I reject the idea that clitics are merged with their verbal host in the lexicon (for some arguments in favor of the lexicalist view, see Joseph (2003) and the references therein). This means that they enter the derivation through a distinct syntactic position, separated from their host (see also fn.2).

The main conclusion of the last chapter, that CLLD is a movement dependency, will guide the exploration of Greek clitics in this section. Having assumed that (resumptive) clitics co-occur with movement dependencies, we can narrow down the possible analyses that clitics may receive. See also the discussion in Angelopoulos & Sportiche (2021: 974) with the "boundary conditions which any analysis [of clitics] should meet, given the properties of CLLD". For instance, in a CLLD sentence, the clitic co-occurs with a topic phrase which has moved from an argument position. As shown in (48), this unavoidably renders clitics non-argument elements (*pace* Tsimpli 1990 among others), for a number of reasons (e.g., theta – theory, case filter or strong crossover; but see below for a caveat).

(49)   *[$_{TopP}$ topic-DP$_1$ . . . [$_{vP}$ CLITIC$_1$ topic-DP$_1$]]

5.3.1. Clitics are not pronouns

The traditional view maintains that clitics are (referential) pronouns which enter the derivation through an argument position (in what follows it is crucial to keep in mind the distinction between referential/free and resumptive/bound pronouns, see Chapter 1).[18] This idea is preserved in Tsimpli (1990); Philippaki-Warburton et al. (2004) among others. Given (48) though, a question immediately arises regarding the base-position of clitic-resumed phrases: clitics and doubled phrases compete for the same position

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[18] The traditional view of clitics as *pronominal elements* is reflected in older (e.g., Triandafillides 1976: 129-130) and more recent grammar books (Holton, Mackridge & Philippaki-Warburton 1998: 99-100; Kleris & Babiniotis 2005: 293-294).

(Jaeggli 1982; Borer 1984a). For example, in *Clitic Doubling* constructions, the argument position, according to the traditional view is already filled with the (copy of the) pronominal clitic which is a full DP. Consequently, the already filled argument position is not available anymore for the clitic-doubled phrase.[19]

Philippaki-Warburton et al. (2004) thus argue that doubled phrases are base-generated in adjunct positions, adjoined to vP or VP (see Anagnostopoulou 2017, for arguments against the adjunct analysis). As an attempt of unifying Clitic Doubling with CLLD, Philippaki et al (2004) argue that CLLD involves a similar structure with Clitic Doubling, with the sole difference being the adjunction position of the doubled DP. They suggest that CLLDed phrases are adjoined to the CP, in the left periphery of the sentence. In the following, my criticism to the *pronominal analysis of clitics* focuses on data from Clitic Doubling sentences, in order to be consistent with Philippaki et al (2004)'s data. A clitic-doubling sentence in Greek would have the following underlying syntactic structure:

(50)   a. Ton_1 idhe   i   Maria [ton   Kosta]$_1$.
          CL   saw   the   Mary   the   Kostas
             'Mary saw Kostas.'

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[19] On Greek *Clitic Doubling*, see Anagnostopoulou (1994, 1999); Philippaki et al. (2004); Angelopoulos (2019b). See also Anagnostopoulou (2017) for a review of the literature on Clitic Doubling constructions cross-linguistically. Although Clitic Doubling and CLLD have not received a unified syntactic analysis (see Cinque 1990, Anagnostopoulou 1994), the role of the clitic element in these two constructions is in many cases assumed to remain stable (Sportiche 1996). For this reason, both constructions are taken into consideration for the investigation of resumptive/doubling clitics. It is worth mentioning that clitics in CLLD and in Clitic Doubling show the same (case and PCC) ordering restrictions when two clitics co-occur.

b.

TP
T'
ton₁-idhe vP
DP v'
i Maria idhe VP
VP DP₁
V' ton Kosta
idhe ton₁
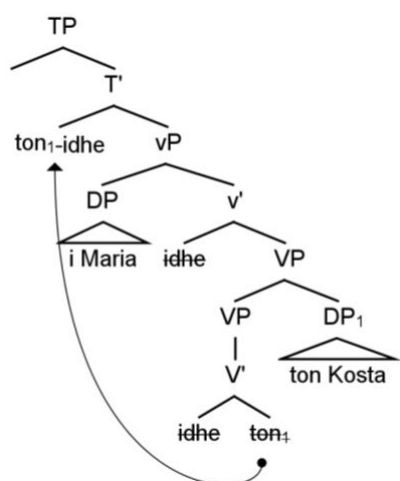
More accurately, Philippaki et al. (2004: 980) discuss two options for the movement of the clitic item: either (i) they move through an X^0/XP movement chain, and they surface as left-adjoined items to the verb in T or (ii) they move as XPs to an adjoined position of the TP. It is worth noting that according to the latter option, cliticization takes place at PF, due to the linear adjacency of the clitic item and the verb. (48b) illustrates the X^0/XP movement approach.

However, if we consider the standard Binding Principles, we can see that the pronominal analysis of clitics does not go without problems. Recall that, according to the authors, the so-assumed pronominal clitic is *referential* and in (50b) is *co-indexed* with the doubled DP. For reasons of concreteness consider the following Clitic Doubling example from Philippaki et al. (2004: 972).

(51) Tin   efaje   tin   turta   o Janis.
      CL   ate-3SG   the   cake   the John
      'John ate the cake.'

What is special about such Clitic Doubling examples is that the doubled object can precede the subject. Philippaki-Warburton et al. (2004) argue that the word order in (51) does not exclude an adjunct position for the doubled DP (see Anagnostopoulou 1994, 2003 for a different view and for arguments against the adjunct analysis of the clitic-doubled phases; see also Angelopoulos 2019b for a presentation of this debate) and they suggest the following syntactic structure for this sentence:

(51')
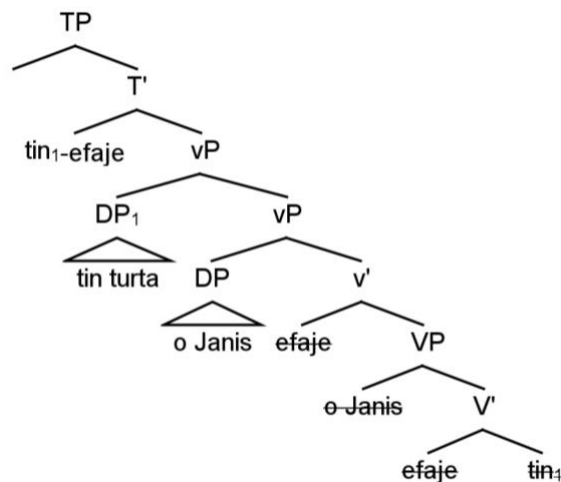
Philippaki-Warburton et al. (2004) correctly point out that other adjunct phrases may occur between the verb and the post-verbal subject, like the <u>locative adjunct</u> in (52). This undoubtedly shows that the order [cl-verb]–[doubled-DP]–[subject] does not exclude the adjunct analysis of the clitic-doubled phrases.

(52) Ti   Maria, tha   ti feri   <u>sto   parti</u> o   Janis.
      the   Mary FUT   CL bring-3SG to-the party   the   John
      'Mary, John will bring to the party.'

As a result, Philippaki et al. (2004) propose that (51) and (52) involve a similar syntactic structure. However, following this line of analysis, we cannot explain the contrast between (53) a Clitic Doubling sentence and (54), a sentence with a pre-subject adjunct. Given that in both (53) and (54) we have a coreference relation between a referential clitic object pronoun and the R-expression *ti Maria* within/as the vP-adjunct phrase, one should expect that whatever Binding Condition is violated in (54) should have also been violated in (53).[20] In other words, if the doubling clitic were a referential

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[20] Reasonably, (54) shows Condition C effects, given that direct objects are able to bind into (hence they c-command) the temporal adjuncts:

(i) Apoheretisa kathe pedhi₁ [prin erthi i mitera tu₁]
     'I said goodbye to every child before his mother came.'

(ii) ?*Apoheretisa ti mitera tu₁ [prin fiji kathe fititis₁]
     'I said goodbye to his mother, before every child left.'

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pronoun, it would be visible to the Binding Principles, and following (54), (53) would be ungrammatical too. As a conclusion, this pair shows that doubling (or resumptive) clitics should not be treated as free/referential pronouns.

(53) Tin$_1$ idha   [ti Maria]$_1$.
      CL   saw-1SG   the Mary
      'I saw Mary.'

(54) *Tin$_1$ idha   [prin   fighi   i   Maria$_1$].
       CL   saw-1SG   before   leave-3SG the Mary
      'John saw her, before Mary left.'

Angelopoulos & Sportiche (2021) provide us with further arguments to abandon the analysis of clitics as referential pronouns. I demonstrate one of them here. (55) involves a clitic-doubled anaphor which refers to Mary (Angelopoulos & Sportiche 2021: ex37).

(55) [I   Maria]$_1$ dhen ton$_1$ perighrafi   [ton   eafto tis]$_1$ opos prepi.
       the   Mary   not CL   describe-3SG the   self   her like   is-required
      'Mary does not describe herself like it is required.'

The clitic doubles the full DP [$_{DP}$ *o-eaftos*-pronoun] which is always masculine. If we assumed that clitics are referential elements (hence they bear a referential index), the clitic in (55) would necessarily be construed as the antecedent of the anaphor. However, referential pronouns are subject to Binding Condition B, which should have been violated in (55), given that the subject R-expression *i Maria* would locally bind the referential clitic pronoun.[21] On the other hand, under the assumption that clitics are non-

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What exactly is the syntactic position from which the pronominal direct object in (53) c-commands the temporal adjunct will not concern us here.

[21] Baker & Kramer (2018) discuss the case of an object marker (OM) in Amharic which also functions as a doubling element. They conclude that the OM in this language is a pronoun and that in doubling sentences the (obligatory) co-referentiality of the OM and the doubled item follows from the fact that both items AGREE with the same head (little v). Crucially, Baker & Kramer observe that the OM cannot resume an anaphor. First of all, the authors argue that the doubling pronoun cannot bind the anaphor because it does not c-command it from its surface position (adjoined to v). Hence, in these cases of

referential elements, Binding Condition B is irrelevant to the example in (55). In this case, the anaphor is bound by the subject R-expression. The reader is referred to Angelopoulos & Sportiche (2021: section 5.3.2) for a fuller discussion of this argument.

As a result, the traditional view of clitics as referential pronouns should be replaced by a novel one, as the above findings suggest. The difference between a pronominal analysis and a non-pronominal analysis of clitics is more clearly illustrated as follows: according to the traditional view (e.g., Philippaki-Warburton et al. 2004), the disjoint reference effect between the subject and the object in (55a) is a Binding Condition B effect which applies to the (pronominal 'her') clitic. On the other hand, as many recent analyses would suggest, Condition B constrains a null pronoun (pro) which is associated somehow with the clitic (56b) (e.g., Uriagereka 1995; Sportiche 1996; Corver & Delfitto 1999). (56b) is to be preferred over (56a) according to the arguments given above.

(56) a. I   Maria$_{*1/2}$ dhen tin$_1$ aghapa.
         the   Mary   not   CL-her   loves-3SG

      b. I   Maria$_{*1/2}$ dhen tin aghapa   pro$_1$.
         the   Mary   not   CL loves-3SG her
            'Mary doesn't love her.'

To recapitulate, according to *the pronominal analysis of resumptive clitics*, these elements enter the derivation as full DP-arguments of the verb. This means that, the clitic and the copy of the doubled phrase would compete for the same syntactic position.

It should be mentioned that some recent proposals have found a way out of this problem. The main idea in these accounts is that the doubling pronominal element and the doubled DP share the argument position (and what this brings with it, e.g., θ/case-

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anaphor-binding, a subject antecedent is required. Given that, the fact that doubled anaphors are excluded in this language is explained as in the text: if the anaphor co-refers with the doubling pronoun, this means that the pronoun co-refers with the subject anaphor-antecedent. This leads to a Condition B violation. The fact that doubled anaphors are not possible in Amharic, but fully grammatical in Greek indicates that the clitic elements in the two languages have different properties (the doubled anaphors are reported as ungrammatical in Greek by Baker & Kramer 2018, but see Angelopoulos & Sportiche 2021 and especially their fn.29). I dwell on this issue below.

features), being members of the same (movement or AGREE) chain (Kramer 2014; Harizanov 2014; Baker & Kramer 2018). Let us try to apply this sort of analysis to the Greek Clitic Doubling sentence in (57).

(57) Ton   eho   dhi   ton   Jani.
      CL   have-1SG see   the   John
      'I have seen John.'

Following this line of analysis, we assume that the object DP is generated in its argument position. The doubled DP agrees with the head of some projection in the inflectional domain above the vP (AgrOP or TP) as in (57'a) and it moves to the specifier position of this projection (Harizanov 2014) (57'b). Note that in sentences with auxiliary verbs, Greek clitics must attach to the auxiliary verb, (in the TP), in contrast to the Amharic OMs which attach to the main verb (see Kramer 2014; Baker & Kramer 2018). Crucially, the upper copy of the doubled DP – the head of the A-movement chain – shrinks to the D-head with a bundle of φ-features (57'c). This element is interpreted as a *referential pronoun* at LF (see Baker & Kramer 2018). The D-pronoun then *m-merges* with the host-head (a la Matushansky 2006; see 5.2.4) as in (58):

(57') a. [$_{TP}$ [$_{T'}$ eho+T$_{\{EPP, \varphi\}}$ [$_{vP}$ [$_{v'}$ [dhi+V [ton Jani $_{\{\varphi\}}$]]]]]]

       b. [$_{TP}$ [ton Jani $_{\{\varphi\}}$] [$_{T'}$ eho+T$_{\{\varphi\}}$ [$_{vP}$ [$_{v'}$ [dhi+V [ton Jani $_{\{\varphi\}}$]]]]]]

       c. [$_{TP}$ [ton ~~Jani~~ $_{\{\varphi\}}$]$_1$ [$_{T'}$ eho+T$_{\{\varphi\}}$ [$_{vP}$ [$_{v'}$ [dhi+V [ton Jani $_{\{\varphi\}}$]$_1$]]]]]

(58)   By m-merge (Matushansky 2006):[22]
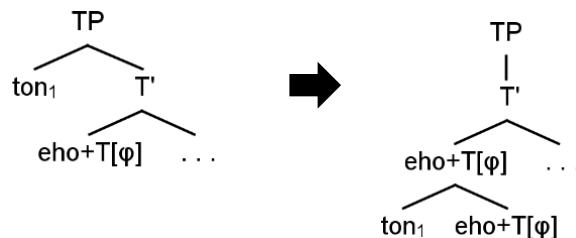
This line of analysis is extended to CLLD as well (see Harizanov 2014: 5.4). In (58), the object moves to the spec,TP and m-merges with T. After m-merge though, the

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[22] I do not apply the m-merge to the [aux+T] constituent, for reasons of simplicity.

pronominal copy (D) is not visible to the higher "topic"-probe, which only detects the copy in the argument (object) position. The copy in the argument position then moves to the spec,TopP and it is only pronounced in its landing position. Again, I will focus on the Clitic Doubling sentences in the short review that follows.

(59)   [$_{TopP}$ [DP{top}] [$_{Top'}$ Top**{top, epp}** . . . [$_{TP}$ [$_{T'}$ D+T [$_{vP}$ V [DP**{top}**]]]]]]

Quite importantly, as Baker & Kramer (2018) explain, the syntactic structure in (58) captures the fact that a doubling pronoun co-refers with the doubled DP, without violating Condition C. The relevant example is repeated from above:

(60)   Tin$_1$ idha   [ti   Maria]$_1$.
       CL.pro   saw-1SG   the   Mary
       'I saw Mary.'

Recall that for these authors, although the pronoun and the doubled DP are derivationally related, at LF they are interpreted as distinct items that corefer as a result of "accidental coreference".[23] The m-merge configuration returns a structure in which the pronoun – which crucially is deeply embedded in TP, left adjoined to T – and the doubled DP do not c-command each other, complying with Condition C.

While this configuration correctly predicts the absence of the disjoint reference effects between the doubling clitic and the doubled DP, it falls short when it comes to the Condition C effects with an R-expression within an adjunct phrase, as in (61). If the referential clitic *tin* were m-merged below T, there would be no problem with the coreferential R-expression in the adjunct constituent. The sentences (60) and (61) have been discussed above in more detail.

(61)   *Tin$_1$ idha   [prin   fighi   i Maria$_1$].
        CL   saw-1SG   before   leave-3SG the Mary
        'John saw her, before Mary left.'

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[23] Baker & Kramer claim that these two items display *obligatory coreference* because they agree with the same (v/T)-head

(61') $[_{TP} [_{T'} [\underline{tin_1}+idha+T_{\{\phi\}}] [_{vP} [_{adjunct} \text{ prin fiji I Maria}_1] [_{vP} \quad]]$

In this section I argued against a pronominal analysis of Greek clitics. In the first part I discussed the option that clitics are full-DP pronouns which are generated in an argument position from which they move to their surface position (Philippaki et al. 2004). In the second part I examined the idea that clitics are D-elements which are interpreted as pronouns and are derivationally related to their associate phrase. As we have seen, any pronominal analysis of the two faces serious problems with respect to binding theory.

5.3.2. Clitics are not agreement markers

Having excluded the pronominal analysis of clitics, an alternative that comes to mind is that clitics are agreement items of some sort (markers, morphemes). In this section I discuss two analyses in which the presence of a clitic is correlated in one way or the other with the functional projection for object agreement (AgrOP). First, I will examine Kupula's (2014) hypothesis that what appears to be a clitic is actually an object agreement morpheme (see also Borer (1984a) for an early reference and Alexiadou & Anagnostopoulou (1997) for Greek clitics). I then turn to Grohmann's (2003) antilocality account for the obligatory presence of the clitic in CLLD.

A crucial assumption in Kupula (2014) is that CLLD in Greek is derived from the VOS order (on Greek VOS, see Alexiadou 2000; Philippaki-Warburton 2001; Georgiafentis 2001; Kechagias 2011; Sifaki 2013). What's special about this order? First of all, according to Kupula this order requires clitic doubling of the object (the following examples come from Kupula (2014)):

(62) ?*(Ton) aghapa ton Kosta i Maria.
       CL loves-3SG the Kostas the Mary
       'Mary loves Kostas.'
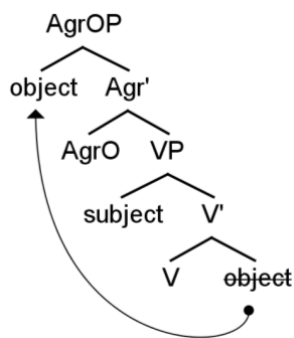
(63) ?*(Ton) ikanopii ton Kosta afti i ikona.
       CL satisfies-3SG the Kostas this the picture
       'This picture satisfies Kostas.'

Note that, as Kupula himself notes, this generalization may be too strong. For instance, the following VOS example is perfect without clitic doubling:

(64) Dhen (ton) ikanopiise   ton Kosta   afti   i ikona.
        not   CL   satisfies-3SG the Kostas   this   the picture
      'This picture loves Kostas.'

Nevertheless, it is true that in many cases (for instance with verbs in present tense) clitics seem to be required.[24] Kupula argues that the VOS order involves A-movement of the object to the spec,AgrOP, above the VP, and above the postverbal subject which sits in the spec,VP (see also Alexiadou 2000). The verb then raises to T.

(65)

```
        AgrOP
        /    \
    object   Agr'
     ↑       /   \
         AgrO    VP
                /   \
           subject   V'
                    /   \
                   V    object
```

The A-movement chain in (65) is expected to extend the binding domain of the object over the subject. Kupula gives the following example in order to show that in VOS the object may bind into the subject:

(66) Sinadise   [to   kathe koritsi]₁ o   pateras   tu₁.
        met-3SG   the   each girl   the   father   its
      'Her father met each girl.'

However, below I show that even in VOS, the object does not really bind into the subject, but it is the other way around. For reasons explained in the next chapter (and

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[24] I agree with A. Roussou (p.c.) that VOS sentences without a clitic are not fully ungrammatical (especially when focus is assigned to the verb). However, I think that Kupula (2014) is right that the presence of the clitic improves significantly the VOS sentences.

which have to do with the presence of the definite determiner *to* in the quantificational expression *to kathe koritsi*), I consider (66) misleading in that it does not involve a true binding relation. Crucial to this assumption is the fact that this binding relation cannot be formed with other quantificational binders or non-quantificational antecedents. For each example I give its minimal pair which shows that it is the subject that binds the object:

(67) a. ?*Dhen sinadise [kanena aghori]$_1$ o pateras tu$_1$.
        'His father met no boy.'

      b. Dhen sinadise to pedhi tu [kanenas pateras]$_1$.
        'No father met his child.'

(68) a. *Dhen prosehi [ton Jani]$_1$ [o eaftos tu]$_1$.
        'Himself does not take care of John.'

      b. Dhen prosehi [ton eafto tu]$_1$ [o Janis]$_1$.
        'John doesn't take care of himself.'

(69) a. *Dhen ipostirizi [tous andres]$_1$ [o enas ton allon]$_1$.
        'Each other do not support the men.'

      b. Dhen ipostirizoun [o enas ton allon] [i andres]$_1$.
        'Men do not support each other.'

In addition, the so-assumed A-movement of the object DP does not bleed Condition C. In (70), a pronominal postverbal subject (*aftos*) or an epither (*o ilithios*) displays strong disjoint reference effects with the R-expression *tu Jani* within the object DP.

(70) *Dhen   kalese   [ton   filo   tu   Jani$_1$] [o ilithios/ aftos]$_1$.
   not   invited-3SG   the   friend the   John   the idiot/   he
       'He/The idiot didn't invite John's friend'

All these examples point to one direction: in VOS the direct object does not bind into the subject. While the syntactic structure that underlies the Greek VOS is not clear to me, we can safely conclude that the binding relations between the object and the subject are not those assumed by Kupula. This is definitely a good reason to abandon the analysis sketched in (65). However, for the sake of the discussion, let us ignore this point for now and see how Kupula (2014) explains the presence of the clitic item in CLLD.

First of all, for Kupula (2014), CLLD sentences and VOS sentences are derivationally related to each other, in the sense that in both cases the object is assumed to undergo movement to the spec,AgrOP, as in (71). CLLDed phrases further move to spec,TP and from there to their surface, left-peripheral position. Nothing in the following hinges on the spec,AgrOP to spec,TP movement step.
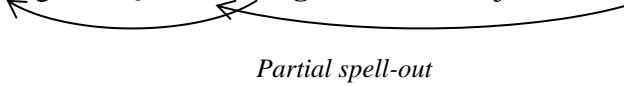
Recall that in Greek, the verb surfaces in T (see section 3.4.1.). Kupula (2014) presumes an AgrP (or AgrOP), as in (71), so the verb performs a two-step movement from v to T: v-to-Agr and Agr-to-T. According to the author, Greek verbs bear object agreement morphology which typically remains covert, except for some special cases. One such case is when the verb moves to a defective functional projection. For instance, if the verb moves to Agr^o prior to object movement to spec,AgrP, it means that the verb moves to a projection which lacks a specifier (see 71). The functional projections that lack a specifier are assumed to be defective.

(71)
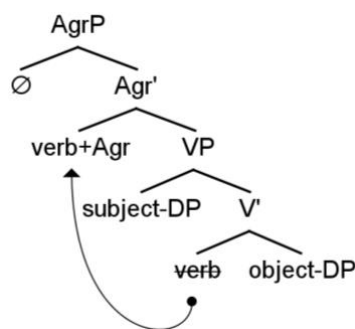
In these cases, the "Generalized Doubly filled Comp Filter" applies and forces the head of AgrP to be spelled out. However, since the verb undergoes further movement to T, we only get a *partial spell out* of the [verb+Agr] constituent which is restricted to the object agreement morphology of the verb. Object-agreement morphemes are

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morphologically identical to accusative clitics (see 72). The direct object then moves to the left periphery through the intermediate positions spec,AgrP and spec,TP.

(72)   [TP verb+Agr+T [AgrP <**verb+Agr→to**> [VP subject [v' <verb> object]]]]

Partial spell-out

I have already referred to some problems of this analysis. The first problem is that the so-assumed object movement to AgrOP (as in VOS) is not necessarily accompanied by a clitic on the verb. In (64) I gave a VOS example where clitic doubling is not required. Kupula (2014) notes that several factors (e.g., past tense or negation) render the clitic doubling optional. However, CLLD displays a different behavior. The clitic items in CLLD are obligatory under any circumstances. Compare the VOS sentence in (64), repeated here as (73) and a CLLD sentence in (74):

(73)   Dhen   (ton)   ikanopiise   ton Kosta   afti   I   ikona.
        not   CL   satisfies-3SG the Kostas   this   the   picture
        'This picture didn't satisfy Kostas.'

(74)   Ton   Kosta, dhen   *(ton) ikanopiise   afti   i   ikona.
        the   Kostas not   CL   satisfies-3SG this   the   picture
        'Kostas, this picture didn't satisfy'

The discrepancy between (73) and (74) suggests that clitic resumption cannot be attributed to a common factor (i.e., verb-movement to Agr) in these two structures. In addition, given the assumption that in VOS orders the object A-moves to the spec,Agr, we expect that the direct object c-commands the subject in the spec,vP and that it may bind into it. This prediction is not borne out (see (67)-(70)). These results cast doubt on this line of analysis. Recall however that the main goal of the present section is to explore the nature of clitic items. Hence, in the remaining of this section I am focusing on the claim that doubling clitics are agreement morphemes.

As a matter of fact, Kupula's assumption that accusative clitics under question are agreement morphemes highlights the insisting theoretical inquiry whether certain items cross-linguistically (that is, clitics and the so-called object markers in some languages)

are agreement items or doubling (pronominal) clitics (see Anagnostopoulou 2017; Baker & Kramer 2018). A group of studies such as Preminger (2009), Nevins (2011), Yuan (2021) have focused on this question, aiming to provide ways to distinguish between the two on formal grounds. In this thesis, I follow Anagnostopoulou (2017), who based on these studies, concludes that Greek clitics (and many other elements previously thought of as agreement markers) are not agreement items.[25] I will restrict myself to one diagnostic proposed by Nevins (2011), namely, the *tense-invariance of clitics*.

Subject agreement is overtly realized on verbs in Greek. As Nevins (2011) correctly points out, agreement morphology in general shows allomorphy across tenses. This means that we get a different paradigm for subject agreement for past and non-past tense verbs. Compare the two paradigms for the verb 'get'. The suffixes for subject-agreement are in bold:

Subject Agr	*get*-PRES.PERF	*get*-PAST.PERF
1SG	par-**o**	pir-**a**
2SG	par-**is**	pir-**es**
3SG	par-**i**	pir-**e**
1PL	par-**ume**	pir-**ame**
2PL	par-**ete**	pir-**ate**
3PL	par-**un**	pir-**an**

Table 2. Subject agreement paradigm

On the other hand, pronouns and D-elements more generally are not expected to be affected by the tense of the verb. Therefore, we now have a formal test to decide whether Greek clitics are true doubling elements or agreement morphemes as Kupula (2014) proposed. As the following table shows the object clitic (in bold) surfaces in the same form with present and past tense verbs:

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[25] Note however that a clitic might be a (affixal) marker for some other property (e.g., topicalization), rather than for object-agreement (see Joseph 2003). The hypothesis that clitics are topic markers is discussed below. The answer will be negative (see 5.6).

| Object Agr	*get*-PRES.PERF	*get*-PAST.PERF
1sg	**me** pari	**me** pire
2sg	**se** pari	**se** pire
3sg	**to** pari	**to** pire
1pl	**mas** pari	**mas** pire
2pl	**sas** pari	**sas** pire
3pl	**ta** pari	**ta** pire

Table 3. Clitic agreement paradigm

In the previous section I argued that Greek clitics are not DP/D pronominal elements. It now seems that clitics are not agreement markers either. So far, by reviewing several analyses we successfully set some standards that an analysis for (resumptive) clitics must meet. Along this path, I am now turning to Grohmann's (2003) *antilocality* analysis for the clitic elements in CLLD. The reason that Kupula's (2014) and Grohmann's (2003) accounts have been grouped together in the current section is the fact that in both accounts the presence of the clitic is associated somehow with the inflectional domain, and more specifically with some Agreement functional projection (i.e., AgrOP). Keep in mind that here it is not my goal to provide a complete assessment of Grohmann's account. Rather, I will only highlight some points that we should take into consideration in our own study of clitics.

In Grohmann (2003), the term *'antilocality'* refers to a principle that rules out movement chains that are too short. The antilocality analysis of Greek CLLD has three central components which are described below.

i. *Prolific domains* (see Grohmann 2003: 2.4.1): Clauses consist of three distinct domains and each domain encodes different type of information. (75) sketches the structural territory of each domain. In the theta/θ-domain (VP, vP) all the thematic relations (i.e., the relation of the predicate with its arguments) are established. The projections of the Φ/φ-domain (AgrOP, TP) encode agreement and tense (and other) information, while the ω-domain, elsewhere called CP-layer or left-periphery, is dedicated to the discourse properties of the clause (topic/focus), among other things (see also Roussou & Tsimpli 2006).

(75)
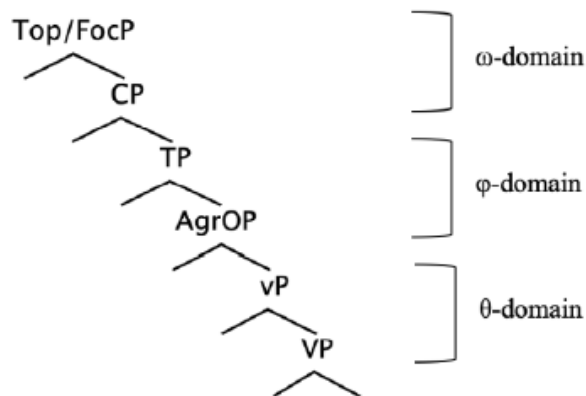
ii. *Exclusivity* ('Condition of Domain Exclusivity', Grohmann 2003: 2.4.2):
Without getting into the details of the formal description of this condition, the
notion of exclusivity bans the presence of two identical copies of the same item
within the same prolific domain. Simply put, movement within a prolific domain
is disallowed (76) (see also Abels 2003, for a different antilocality filter). There
is however an "unless" condition in this prohibition (see below).

(76)
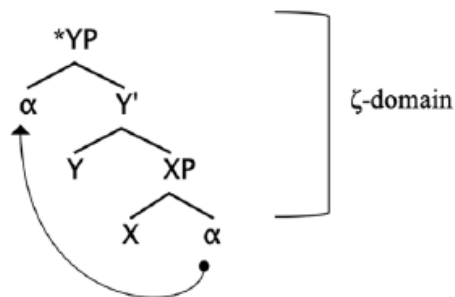
iii. *Copy spell out*: According to Condition on Domain Exclusivity, the antilocality
effects of a domain-internal movement can be eliminated if the two copies are
phonologically distinct. As a result, a legitimate movement chain is attested if
the PF-matrix of the lower copy is changed (see (77)). Grohmann (2003)
suggests a repair strategy along these lines, called '*copy spell out*'. Crucially, the
exclusivity condition is an interface (PF) restriction, hence 'copy spell out' must
be a post-syntactic/PF-operation. We will see below how 'copy spell out'
generates a clitic in CLLD.

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(77)
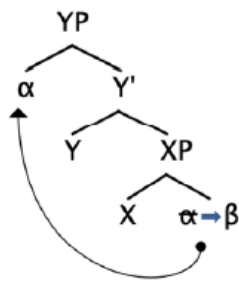
Now that everything is in place, we can proceed to the antilocality analysis of Greek CLLD. Grohmann (2003) argues that Greek CLLD is a φ-domain phenomenon. Antilocality here becomes relevant, because according to the author, topic phrases in their way to the left peripheral spec,TopP, perform a movement step within the φ-domain. As (78b) shows, the topic DP gets head-adjoined to the head of the AgrOP.[26] In (78b) I also include the head movement V-v-AgrO: strikethrough denotes the base position and underlining the target position of the head movement chain. Crucially, as Grohmann argues, doubled DPs need to check their φ-features within the AgrOP, via a spec-head agreement, and this is what drives the short-step movement to spec,AgrOP in (78b).

(78)   a. [Ton   Jani]   ton   ksero.
           the   John   CL   know-1SG
           'I know John.'

       b.

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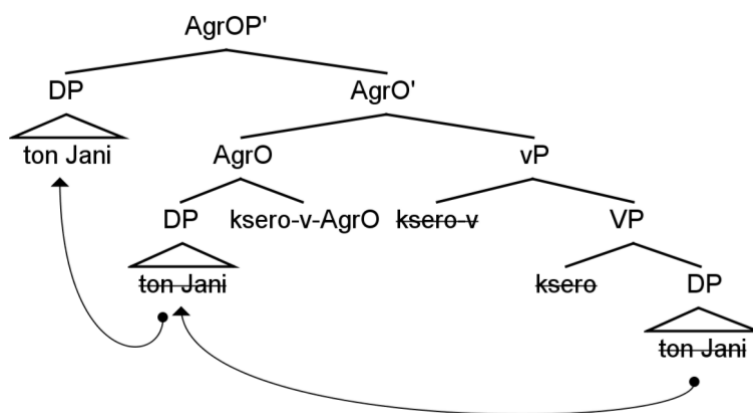
[26] Here I ignore the motivation behind the head-adjunction of the doubled phrase.

The problem with this movement step is that it is too short and hence banned by Condition on Domain Exclusivity. Grohmann (2003) argues that clitic-insertion is the repair strategy for the problematic situation described above. By spelling out the copy as a clitic, its PF-matrix is modified, and the exclusivity condition is obviated (79). The doubled-phrase then undergoes A'-movement to its surface position.

(79)
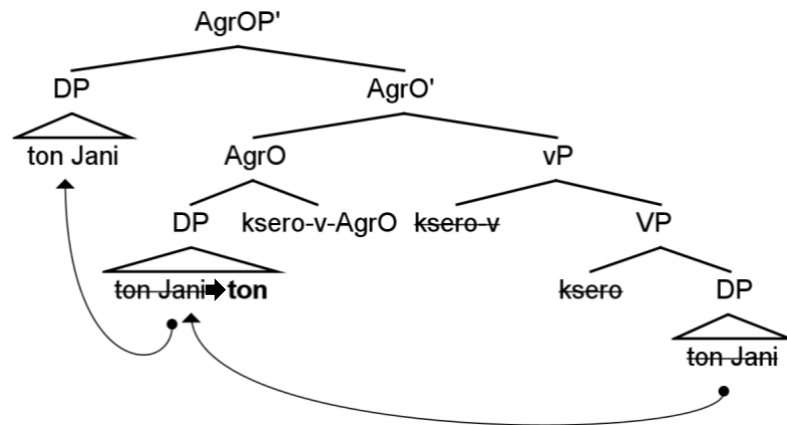
As shown above, Grohmann (2003) develops a movement analysis of CLLD, which seems to be towards the right direction, given the reconstruction effects of this construction (as the author himself emphasizes). However, the antilocality analysis seems to fail with respect to the distribution of clitics in the Greek A'-dependencies (see 5.2.3). The question that arises given the analysis in (79) is why clitics do not arise in Greek Topicalization. Recall the contrast between CLLD and Topicalization:

(80) [To   palto], to aghorase   o   Kostas.
     the   coat   CL bought-3SG   the   Kostas
     'Kostas bought the coat.'

(81) [Palto],   aghorase   o   Kostas.
     coat   bought-3SG   the   Kostas
     'Kostas bought a coat.'

All things being equal, the non-referential topic, (a bare NP in this case), should undergo head-adjunction and then a short movement step to the spec,AgrOP. Then, we would be in need for a clitic to bleed the exclusivity condition, contrary to fact.

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To sharpen my point, compare the following pair with a specific and a non-specific indefinite ((82) and (83) modified from Alexopoulou & Folli (2019)):

(82)   [Mia   fusta], dhen ti   vrisko   puthena   (dhe thimame pu tin evala).
         a/one skirt   not   CL find-1SG   anywhere
        'I cannot find a (specific) skirt anywhere (I don't remember where I put it).'

(83)   [Mia   fusta], dhen vrisko   puthena (na aghoraso)
         a/one skirt   not find-1SG   anywhere
        'I cannot find a skirt anywhere (to buy).'

The problem that arises for the *antilocality* analysis (and that any analysis of CLLD should take into consideration) is that while it correctly predicts the presence of the clitic in CLLD (see (80), (82)), it fails to account for the lack (more accurately, the exclusion) of clitics in Topicalization (see (81), (83)).

As far as I can see, if we want to pursue the antilocality analysis of CLLD there are two ways to go.[27] The first one is to assume that referential and non-referential phrases do not pose the same agreement requirements. As Grohmann (2003: 187) notes doubled DPs head-adjoin to Agr-head, for the *D-head* to check its φ-features. Therefore, we can assume that the bare nominal in (81), which lacks a DP-layer (see Gannakidou & Merchant 1997), omits the head-adjunction step, moving directly to the spec,Agr. However, we still have to account for the contrast between (82) and (83), with a specific and a non-specific indefinite topic phrase, respectively. Should we assume that this semantic distinction is encoded in the syntax of these phrases? For instance, we could assume a lexical ambiguity for the indefinite article *mia* between a weak/cardinal determiner (NP-internal) and a strong/referential determiner (D-element) (see Fodor & Sag 1982). However, this line of research has been abandoned for reasons that I am not

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[27] Unfortunately, I am not able to see how Grohmann (2003) answers the naïve question why only CLLDed DPs need to undergo head-adjunction to Agr and then movement to spec,AgrP. For instance, a non-doubled DP (e.g., an object in situ or a focus-fronted argument) for some reason must exclude the head-adjunction step; thus, copy spell out is not needed to save a φ-domain internal movement. Why must doubled DPs undergo head-adjunction to Agr, while non-doubled DPs exclude this step? Why is such a movement optional?

going into here (e.g., the cases of indefinites with intermediate scope readings, see Ruys 1992). [28]

The second option that I can think of is to argue that clitics do arise in Topicalization, however they are phonologically null (see Dimitriadis 1994; Panagiotidis 2002). First of all, this assumption as it stands is *ad hoc*: although we have no evidence for a null clitic, we assume one in order to keep things equal. Nevertheless, this hypothesis is more problematic than we first thought. Recall that *exclusivity* in Grohmann (2003) is a PF-restriction, and a clitic saves the CLLD derivation due to its phonological substance. How could a zero-clitic work in the same way, being phonologically null?

In conclusion, the antilocality analysis predicts clitic insertion in CLLD, but fails to capture the absence of clitics in Greek Topicalization. In other words, it fails to fully capture the distribution of the clitic items across the A'-dependencies in Greek. In section 5.2.3, I showed how the analysis proposed in the present thesis makes sense of the complex distributional pattern of resumptive clitics in Greek. From now on, I take this to be an important factor that any analysis of Greek resumptive clitics should take into consideration. For instance, a successful analysis will distinguish between CLLDed and Topicalized DPs, predicting clitic-resumption for the former and excluding it for the latter.

So far, I extensively explored the nature of the resumptive clitic arguing that resumptive clitics should not be analyzed as pronominal items (*pace* Philippaki-Warburton et al. 2004; Baker & Kramer 2018), nor as pure agreement markers (*pace* Kupula 2014). These results are in line with the account I proposed in section 5.2., according to which resumptive clitics are preposed bare definite articles. Further options will be explored below though. In particular, in the rest of this chapter, I focus on two well-established approaches to clitic constructions: In 5.4, I present the *CliticP analysis* according to which clitics are (base-generated) heads of functional projections in the clausal spine; in section 5.5. I discuss the *Big-DP approach* to clitic doubling. This type of analysis is closer to the one suggested in 5.2., since both accounts argue that what arises as a resumptive clitic is a definite article.

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[28] This point is relevant to Yuan's (2021) criterion for the distinction between agreement affixes/markers and resumptive/clitic items: agreement affixes, in contrast to the resumptive items, are not expected to be sensitive to semantic information (such as referentiality, scope).

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5.4. The CliticP analysis

In this section I examine the *CliticP hypothesis* as proposed by Sportiche (1996) (see Agouraki 1993; Roussou & Tsimpli 2006). As a matter of fact, a more elaborated version of this analysis is developed in Angelopoulos & Sportiche (2021), with additional A-movement steps of clitic resumed phrases to the middle field (KP/AgrP) of clauses. I thoroughly examined this part of the CliticP analysis in Chapter 4 (section 4.6), showing that there is no true evidence for these scrambling-like movement steps of CLLDed phrases. In addition, Angelopoulos & Sportiche's (2021) system with the intermediate positions of the moved doubled phrases in the middle field and the interaction between them in terms of reconstruction overgenerates, in the sense that it derives binding relations that are not really attested (for example, subject-anaphor-binding by a CLLDed DO antecedent). In addition, it predicts that certain Binding Condition violations are obviated (e.g., disjoint reference effects between a CLLDed object and a subject in a VP-internal position), contrary to fact.

The gist of (any version of) the CliticP analysis is that clitics are functional elements which head a functional projection in the clausal spine, the Clitic P(hrase) (or Clitic Voice). First of all, note that the assumption of a CliticP as the host of clitics renders the argument position available for the clitic-doubled DP. Therefore, the base position of the topic phrase can be freely considered an argument position. In this respect, the CliticP analysis is closer to the "base-generation" approaches to cliticization (Jaeggli 1982; Borer 1984a). At the same time, Sportiche (1996) takes into account the restrictions on the distance between the clitic item and the argument position it is associated with (marked with a coindexed underscore: $\_1$) (firstly noted by Kayne 1975). First of all, the chain linking the clitic with the argument position $\_1$ may not cross a clausal boundary as the following examples illustrate.

(84) a. Nomizo   [$_{CP}$ oti   tha   *ton₁*   dho   *_₁*].
         think-1SG   that   will   CL   see-1SG

      b. *Ton₁*   nomizo   [$_{CP}$ oti   tha   dho   *_₁*].
         CL   think-1SG   that will   see-1SG
         'I think I will see him.'

In addition, the chain between the clitic and _1 may not be intervened by the (exceptionally case-marked) subject of the embedded clause (Specified Subject Condition).

(85) a. Afisa   [ton   Petro   na haidhepsi ti   ghata]
         let-1SG   the   Peter   to pet-3SG   the   cat
      'I let Peter to pet the cat.'

      b. *Ton1*   afisa   [_1   na haidhepsi ti ghata]
         CL   let-1SG   to pet-3SG   the cat
      'I let him to pet the cat.'

      c. **Tin1*   afisa   [ton   Petro na haidhepsi _1]
         CL   let-1SG   the   Peter to pet-3SG
       'I let Peter to pet it.'

This type of evidence (plus some other observations, such as participial agreement in French) suggests a movement relation between the clitic and _1. Kayne (1975) proposed that the clitic is generated in _1 and moves to its surface position (see also Kayne 1989; Sportiche 1989 among others). Recall that some kind of movement of clitics (driven by the *[B]-feature*) is presumed by the account proposed in section 5.2.4, as well. The restrictions in (84) and (85) can now be considered as standard locality restrictions on the movement of the clitic.

Sportiche (1996) also assumes a movement dependency between the clitic and _1. However, he argues that it is not the clitic itself that moves, but a pronoun or a doubled phrase associated with the clitic. These assumptions led Sportiche (1996) to propose the CliticP analysis. The clitic heads a functional projection (CliticP) and attracts a null pronoun in bare cliticization or an XP in clitic doubling constructions (see 86).[29] The clitic-associate targets the specifier position of this projection. Crucially, this movement is argued to be an A'-movement.

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[29] Sportiche (1996) suggests the unification of *clitic constructions* (plain Cliticization, Clitic Doubling and CLLD) with (A and A') *scrambling constructions* found in the Germanic and other languages. This unification is based on the (non-)overtness of the clitic, the doubled phrase and the movement chain. In later approaches (Angelopoulos & Sportiche 2021), covert/LF-movement is not considered an option.

(86)
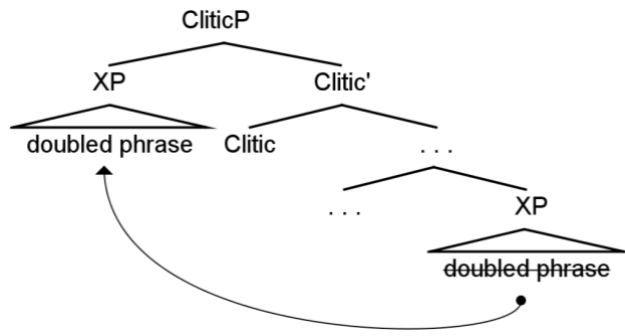
CLLD requires further movement of the doubled phrase to the left periphery, to the spec,TopP (see Angelopoulos & Sportiche 2021):

(87)
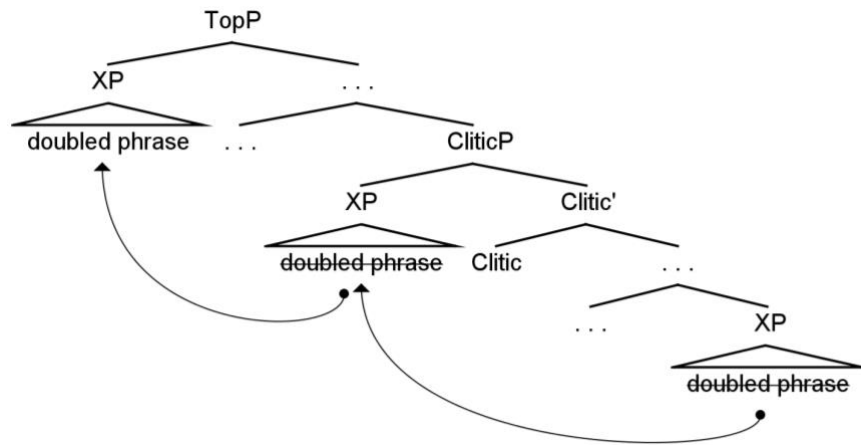
Clitic projections are situated above the TP. Therefore, the clitic is either phonologically attached to the auxiliary verb in T, or, in the absence of an auxiliary, it attaches to the main verb which has performed V-to-T movement. Following Terzi (1999a), we can assume that enclisis stems from verb movement to a higher projection. Note that, according to the CliticP analysis, the clitic is not syntactically adjoined to the (auxiliary) verb. Rather, the fact that it forms a phonological unit with its host is attributed to the adjacency of their surface syntactic positions.

To which extent is the CliticP analysis compatible with the conclusions of the discussion so far? First of all, the clitic is not considered a pronominal (DP) element (see 5.3.1). The clitic is a functional item which is associated with a null pro(noun) in bare Cliticization contexts. Therefore, the binding-theoretic observations discussed above (see the discussion around (53)-(55)) stem from the presence of a null pronoun

and not from the clitic itself. Second, clitics are not considered object agreement markers (5.3.2.). Angelopoulos & Sportiche (2021) discuss the agreement reflex on the clitics, however they do not relate clitics to the AgrOP in a straightforward manner.

In section 5.2.3, we talked about two points that any analysis of CLLD should take into consideration. The first one is that CLLD displays reconstruction effects. This means that the way we look at the clitic should allow them to occur in movement chains (reconstruction indicates movement). As shown in (87), the CliticP analysis treats CLLD as a movement dependency. That is, the copy of the CLLDed XP in the argument position explains the reconstruction effects we find in CLLD sentences. See Angelopoulos & Sportiche (2021) for a detailed discussion on the predictions of the CliticP analysis with respect to the reconstruction properties of the CLLDed constituents.
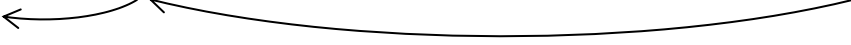
Of particular interest is the second point of 5.2.3, which is related to the distribution of resumptive clitics: a clitic is required to resume a (referential/specific) topic phrase of type e, while it is incompatible with a (non-referential/non-specific) topic of type $<e,t>$ (let us ignore the distribution of resumptive clitics in wh-questions for now). This generalization is often found in the literature with the term "specificity effects" of clitic-resumption dependencies.[30] Even though we have seen that these effects can be formally translated in type-theoretic terms (see Chapter 2), for the sake of the discussion, I will be using the term "specificity" which has been widely used in the previous literature (see Suñer 1988; Enç 1991; Diesing 1992 among many others).

So, how does the CliticP analysis guarantee that clitic resumption is restricted to [+specific] phrases? To put it differently, how does the CliticP analysis account for the fact that the CliticP Projection is obligatorily involved when a specific (definite, specific indefinite etc.) topic phrase undergoes left-dislocation, while this projection is deactivated in sentences with non-specific (bare nouns, non-specific indefinites) topics? To account for these effects, Sportiche (1996: section 7.2) develops a *criterial approach* for clitic doubling. Similar to other operators (e.g. Q, Neg, Foc, Top), the Clitic is a *specificity operator* which, according to a 'Specificity Criterion', needs to be in a spec-head relation with a [+specific] XP (an XP with a [+specific] feature), by LF (cf. Rizzi

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[30] This term actually refers to the fact that, especially when it comes to the direct object, clitic-resumption is restricted to "specific" DPs (see Leonetti 2008 for a review). Roughly, definites, specific indefinites and partitives are more likely to get clitic-resumed compared to bare nouns and non-specific indefinites.
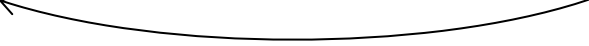
1997). To illustrate, let us assume that the definite DP in (95) bears a [+specific] feature while the clitic *to* is a specificity operator.

(88)   a. [To palto], to   aghorase   o   Kostas.
            the coat CL   bought-3SG   the   Kostas
            'Kostas bought the coat,.'

   b. [TopP ...[CliticP **to palto₁** [+spec] [Clitic' **to** [+spec] [TP aghorase [VP o Kostas t₁]]]]

Although the following case is not discussed in Sportiche (1996), we can conjecture that a bare NP (or a non-specific indefinite) lacks the [+specific] feature, hence the Specificity Criterion is irrelevant and the CliticP projection is deactivated or entirely omitted.

(89)   a. [Palto], aghorase   o   Kostas.
            coat   bought-3SG   the   Kostas.
         ' Kostas bought a coat.'

   b. [TopP **palto₁** . . .[CliticP [Clitic' [TP aghorase [VP o Kostas t₁]]]]

It seems that we now have a principled way to account for the obligatory presence of the clitic when a specific topic undergoes left-dislocation, while clitic doubling of non-specific topics is excluded.

Intriguingly, the idea that clitics are Specificity Operators is abandoned in the recent version of the CliticP analysis, as formulated by Angelopoulos & Sportiche (2021). As a matter of fact, the authors seem to reject any specificity restrictions for clitic resumption in CLLD. This position is clearly at odds with the conclusions of chapter 2 and the specificity-related restrictions on the distribution of resumptive clitics as stated in 5.2.3.[31] Nevertheless, in Angelopoulos & Sportiche (2021), it is still assumed that CLLDed phrases (exactly like *pro* in bare Cliticization sentences) obligatorily move through the spec,CliticP.

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[31] In section 2.6.2, I discuss their main argument that CLLDed phrases may not be specific/referential which is based on CLLDed free-choice indefinites.

At first sight, it seems impossible for this version of the CliticP analysis to provide a principled account for the Specificity restrictions for CLLD. However, there might be a way, other than Sportiche's (1996) Specificity Criterion, in which the correlation between the Specificity restrictions and the presence of a resumptive clitic is explained. Consider for example the so called "Scrambling languages", in which short movement steps in the middle field of the clause have specificity effects, similar to the ones found in Clitic Doubling (see de Hoop (1992) for Dutch; Mahajan (1990) for Hindi; Saito (1992) for Japanese). According to Diesing's (1992) Mapping hypothesis, non-specific DPs stay in situ and get bound by an unselective existential closure operator which is situated above the VP. Phrases with a specific interpretation move to a higher position, out of the scope of the existential closure operator (see also Diesing & Jelinek 1995, Corver & Delfitto 1999). Having said that, it could be argued that the movement step to the spec,CliticP does exactly this: it transfers the doubled phrase out of the scope of the existential closure operator (see Anagnostopoulou 2017 for this suggestion). More precisely, the presence of a clitic (and a Clitic Phrase) provides a landing site for [+specific] topic phrases to move out of the scope of the existential quantifier. Non-specific topics on the other hand, must remain within the scope of the closure operator. The CliticP in these cases is not needed and is omitted altogether. We have seen how the Specificity restrictions can be accounted for, given a CliticP analysis, either by the Specificity Criterion or by presuming Diesing's Mapping Hypothesis. In the remaining of this section, I will dwell on some problems of the CliticP analysis.

A central claim of the CliticP analysis is that the clitic-head of this projection obligatorily attracts either a null pronoun in bare Cliticization sentences, or a full XP in clitic doubling/resumption sentences. Crucially, the spec,CliticP position is an *A'-position* (Sportiche 1996; Angelopoulos & Sportiche 2021). There are two questions that one should ask with respect to this movement step. On the theoretical side, we should be concerned with the motivation behind this movement. The second issue, on the empirical side, is whether we have any evidence for it.

In Angelopoulos & Sportiche (2021), it is argued that CLLDed phrases agree with and are obligatorily attracted by the head of the CliticP. The Agree relation between the clitic and the doubled DP is manifested as total matching in their φ (person, number, gender) and case features. However, as Anagnostopoulou (2017) notes, AGREE in Chomsky's (2001) sense does not presuppose movement, i.e., long distance agree may replace a local head-specifier relation. In addition, AGREE alone, without movement,

justifies the restrictions on the distance between the clitic and the doubled XP observed above.

Nevertheless, the authors argue that movement to spec,CliticP is independently justified, at least for the object *pro* which needs to be formally licensed along the lines of Rizzi (1986). However, Rizzi (1986: 524) considers pro-licensing as a (government and) case-assignment relation with a licensing head. The problem that arises at this point is that while case-marking is typically assumed to involve an A-position for case-marked DPs, the spec,CliticP is argued by Sportiche (1996) and Angelopoulos & Sportiche (2021) to be an A'-position. In other words, for the CliticP analysis, a null pro is licensed in an A'-position against the widely shared assumption that formal licensing/case-marking would concern an A-position.[32] Having said that, movement to spec,CliticP does not seem to be independently motivated by the formal licensing of null pronouns.

There is one more point that I would like to raise which concerns the morphological resemblance between clitics/weak resumptives and definite determiners across many languages (Postal 1969; Corver & Delfitto 1999; Marchis & Alexiadou 2013 among others). As shown in Table 1 (section 5.2.2.), the same holds in Greek where the 3rd person clitic paradigm overlaps with the accusative definite article paradigm (Tsimpli & Stavrakaki 1999; Panagiotidis 2002; Anagnostopoulou 2003; Roussou & Tsimpli 2006). As far as I can see the CliticP analysis has nothing to say about this pattern (see also Matushansky 2006 for this criticism). It seems that under this approach, the morphological similarity between clitics (as the head of the CliticP) and definite articles in Greek and in many other languages possibly only shows a historical relation between these two homophonous but distinct lexical items (see Roberts 2010: 133 for this view). As we will see below, the "Big DP" analyses, as well as the account proposed in section 5.2., offer a direct, synchronic, account for this fact.

This observation is related to a number of questions that arise on conceptual grounds. For instance, it is legitimate to ask why clitics exist at all. If clitics are not pronouns and do not have any semantic import, what is their function and why are they needed in the first place? Within the CliticP framework which perceives clitic doubling and (A')

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[32] Of course, this problem would be solved if we assumed that the spec,CliticP was an A-position. However both Angelopoulos & Sportiche (2021) and I (in 4.4) argue against an A-movement step above the spec,TP.

scrambling as two sides of the same coin, one could argue that "clitics mark the scrambling sites" of doubled phrases (Angelopoulos & Sportiche 2021: 975).[33] However, note that we have already casted doubts on the scrambling-like movement step to the spec,CliticP. In addition, why do we need a marker for the landing site of scrambled/clitic-doubled items? Last but not least, it is worth noting that even if a null pronoun (pro) needs to be licensed by an overt functional head (clitic) in the middle field, no such motivation should exist for overt doubled phrases.

At any rate, the scrambling – clitic doubling analogy found in CliticP analysis fits well with the fact that a clitic arises only when a [+specific] DP is dislocated, as the same restrictions are found in scrambling constructions. However, if we attempt to put everything together, we are led to the following question: Why do we need an item, which at the surface looks like a definite article, to mark the landing site of a movement step, which is restricted to specific phrases? As far as I can see, no satisfactory answer to this question can be found in the CliticP framework. In the next section I will investigate the Big-DP hypothesis in order to see how far we can go with this type of analysis.

5.5. The Big DP analysis

The label 'Big DP-analysis' refers to a bunch of analyses whose common denominator is that the clitic element and the null pronoun/doubled phrase share the argument position, as parts of a *big DP-constituent*. In the literature, Big DP constituents have been realized in different ways. First, clitics have been conceived of as D-heads, heading a big DP-constituent and complemented by an NP *pro* (Corver & Delfitto 1999).[34] The doubled phrase starts as the specifier of the big DP (Uriagereka 1995).

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[33] Note that scrambling does not show the ordering restrictions found when two clitics co-occur (e.g. PCC effects).

[34] For the claim that clitics are heads see also Cardinaletti & Starke (1999); Belletti (1999).

(90)
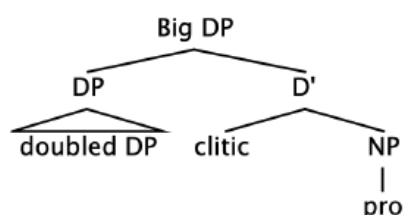
According to Uriagereka (1995), the Big DP in (90) is an argument of the verb. The clitic then leaves the DP and moves to a functional head, from where it adjoins to the raising verb (see below). The problem here is that a CLLD sentence would end up with a structure containing both a referential pronoun (pro) and a doubled phrase, against our instructions in 5.3.1. Cecchetto (2000), who suggests a movement analysis of Italian CLLD, modifies Uriegereka's (1995) analysis as in (91):

(91)
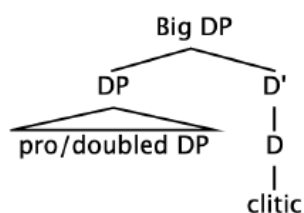
In (91), the clitic is an intransitive D-head which takes no complement (Chomsky 1995; Belletti 1999). The doubled phrase in doubling constructions, or the pro in plain cliticization sentences, originates in the specifier position of this DP.[35] The idea that the doubled DP starts as the specifier of the clitic-headed DP appears to be problematic in the light of the following examples from Papangeli (2000: 494):

(92) Tin   idha   [Doubled DP tin   tenia tu Felini].
      CL   saw-1SG   the   movie the Fellini
      'I saw Fellini's movie.'

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[35] The assumption that D does not take a complement, but only a specifier is against the instructions of the Bare Phrase Structure framework. Panagiotidis (2002: 12ff) argues against the idea of intransitive determiners on theoretical and empirical grounds (see also Corver & Delfitto 1999). Panagiotidis (2002) assumes that Greek clitics are D-head elements which take *a non-descriptive null NP-complement*.

(93)　[Tu　　Felini]₁,　tin idha　　[Doubled DP　tin tenia　t₁].

　　　　the　　Fellini　　CL saw-1SG　　　　　the movie

　　　'Fellini's, I saw the movie.'

(92) is a Clitic Doubling sentence. According to (90)-(91), the clitic doubled object is generated as the specifier of the big DP. However, as Papangeli (2000) shows, extraction of *tu Felini* out of the doubled DP is grammatical. Papangeli explains that if the doubled DP were a specifier, we would expect to get an ungrammatical sentence due to a '*left-branch island*' violation (Ross 1967/1986). Thus, Papangeli (2000) concludes that the doubled phrase starts as the complement of the clitic-head. Mavrogiorgos (2010) agrees with Uriegereka (1995) among others, that (Greek) clitics are D-heads which take a null NumP/NP complement with φ-features (94a) (see also Marchis & Alexiadou 2013). Further, in line with what we have just seen, he argues that in doubling constructions, the doubled DP arises as the complement of the clitic, in place of the NumP (94b) (see also Belletti 1999; Boeckx 2003).

(94)　a.　　　　　　　　　　　　b.

The morphological resemblance between 3rd person clitics and definite articles in Greek (see Table 1) and in other languages is derived from (94) without further assumptions. Clitics are morphologically identical to definite articles because they are definite articles (although more needs to be said about the 1st and 2nd person clitics).

The Big DP-analysis, in any version of it (see also Nevins 2011, who argues that the clitic is generated as an adjunct to the doubled DP), takes the clitic to be generated in the argument position alongside the doubled DP. Therefore, the next question is how clitics reach their surface preverbal position. For ease of exposition, I will be illustrating the Big DP constituent, as in (95), which abstracts away from the DP-internal structure.

(95)
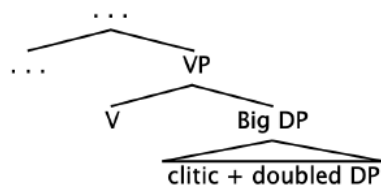
A number of studies suggest that clitics end up in their surface position through a two-chain movement derivation: first, the whole Big DP (the clitic with the pro-complement) XP-moves to the specifier position of a VP-external projection, e.g., AgrOP. The clitic then is extracted from the Big DP, via head-movement and attaches to the closest head (Corver & Delfitto 1999; Cardinaletti & Starke 1999; Belletti 1999; see Panagiotidis 2002; Mavrogiorgos 2010 for Greek). In CLLD, there is an overt DP instead, which next moves to the left-periphery.

(96) a. To idhe proo Kostas.
      CL saw it the Kostas
      'Kostas saw it.'

     b.
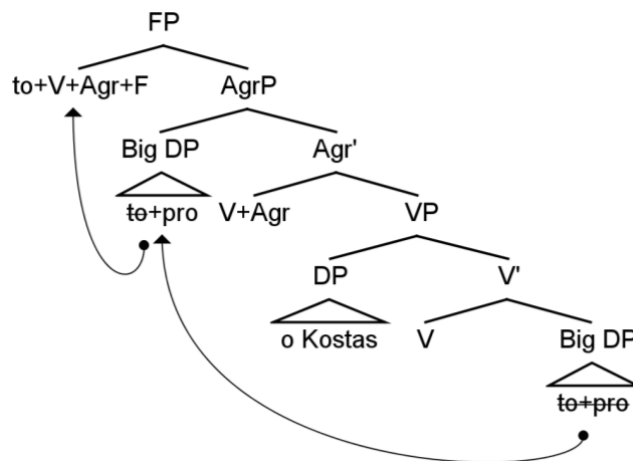
The Big DP analysis in its present form adheres to the boundary conditions presented above: the clitic is neither a referential pronoun (see 5.3.1) nor a formal agreement marker (see 5.3.2); it is a D-head element (determiner) which may be associated with a null pronoun, or with a full DP in CLLD/Clitic Doubling. Given that, the morphological resemblance between clitics and definite articles needs no further explanation. In this

sense, the Big-DP analyses are pretty close to the account proposed in section 5.2. As we will see below though, they should be kept apart, due to the significant differences between the two.[36, 37]

As for the '*Specificity Condition*' highlighted in the previous section, recall that we need an analysis which predicts that clitics are obligatorily involved when a specific/referential topic (of type *e*) is left dislocated, as with CLLDed definites and specific indefinites, while at the same time it excludes clitic doubling of non-specific (bare NPs, non-specific indefinites) topic phrases, in Topicalization sentences. Under the Big-DP hypothesis, a clitic starts its life as a definite article which forms a constituent with the doubled phrase. It is a consensus view that definite articles and definiteness in general is associated with specificity/referentiality (see also the discussion on Greek definite articles in 5.2.4). Therefore, the assumption that the doubling clitic – the head of the Big DP – needs a [+specific] phrase as a complement is not implausible.

Although the Big-DP analysis seems to work fine, there are a number of issues which we should reconsider. A common point of criticism is that such Big-DP constituents are never found in languages. (97) illustrates that a big DP never surfaces in its original form, before some kind of sub-extraction takes place.

(97) *Aghorasa [Big-DP to [DP to palto]]
       bought-1SG   the   the   coat
       'I bought the coat.'

It should be stressed at this point that no such 'big constituent' is assumed in the account offered by the present thesis (5.2). Simplifying somewhat, we argued that the

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[36] A crucial difference between the Big DP-analysis and the analysis I proposed in 5.2 lies in the short A-movement step of the topic phrase in Big-DP accounts (Corver & Delfitto 1999; Cardinaletti & Starke 1999; Belletti 1999; a.o.) and in CliticP accounts (see section 5.4.). Do we really have evidence for this extra A-movement step to the middle field of the sentence? This question is explored in section 4.4 (Chapter 4) and it is shown that no convincing evidence exists for this step. In addition, this movement step derives some wrong predictions with respect to the reconstruction behavior of CLLD.

[37] In this section, the criticism focuses on the Big DP approach to (Greek) CLLD, rather than to the Big DP framework in general, which was firstly proposed for Clitic Doubling sentences (Uriagereka 1995).

clitic/definite article is inserted after the movement has occurred, as an instance of Determiner Replacement operation of the Trace Conversion rule.

It is often assumed that, while (97) in its surface form is ungrammatical, it is the source of both Clitic Doubling sentences (CL-verb-doubled DP) and CLLD sentences (doubled DP$_1$-CL-verb-t$_1$), with the only difference being in the position of doubled phrases (see Dobrovie-Sorin 1990).

(98)   To$_1$ aghorasa   [Big-DP to$_1$ [DP   to   palto]].
        CL   bought-1SG   the   coat

(99)   [DP   to   palto] $_2$, to$_1$ aghorasa   [Big-DP t$_1$ [DP to palto]$_2$].
           the   coat   CL   bought-1SG

From this perspective, it is predicted that the languages that allow *CLLD* (as in (99)), should also allow its input construction, Clitic Doubling (as in (98)). It is well-known however, that there are CLLD-languages that do not allow Clitic Doubling, like Italian (Cinque 1990; Anagnostopoulou 1994; Iatridou 1995 among others). The case of Italian argues against a unified analysis of CLLD and Clitic Doubling, under the Big-DP hypothesis. It should be noted nevertheless, that the analysis proposed in section 5.2 does not presume Big-DP constituents and CLLD is dissociated from Clitic Doubling, in the sense that the syntactic derivation of CLLD-chains is not based on the structure of Clitic Doubling (thanks to E. Anagnostopoulou (p.c.) for pointing this out to me).

An additional issue, that Angelopoulos & Sportiche (2021) pose, concerns the clitic displacement. In principle, there are two ways to motivate the movement of clitics to their surface position: The first one is to argue that clitics must move to some functional projection (call it FP or CliticP) for syntactic reasons (e.g., for case or φ-feature checking) (see Belletti 1999). Alternatively, it could be argued that the clitic displacement is triggered by a morpho-phonological condition which dictates that the clitic item must attach to some other lexical item (see the relevant discussion in 5.2.4). Regarding the second option, and given a Big DP-structure, Angelopoulos & Sportiche (2021) ask why clitics are not attached to their DP-complements, satisfying the relevant morpho-phonological condition *before* their sub-extraction takes place. Notice though, that this objection could not be posed given the analysis in section 5.2, according to

which, clitics are stranded D-heads of the copy of the moved DP. Again, the Big-DP approach proves significantly different from the analysis I suggested in 5.2.

Angelopoulos & Sportiche (2021) also ask about the semantic contribution of resumptive clitcs, if there is any. If we look at the clitic-doubling instances we have examined so far and the instances we will see in the following chapters, we will see that the clitic – the head of the big DP – takes a wide range of DPs with different semantics, that is, definite DPs, indefinite DPs, nominalized CPs, wh-phrases etc. Based on the fact that the clitic is compatible with all these semantically different types of DPs, it is concluded that the clitic itself must be semantically neutral (Angelopoulos & Sportiche (2021)). On the other hand, in our analysis in 5.2, we were very specific about the semantic contribution of resumptive clitics which offer the iota-semantics required by the trace conversion rule. This point of view unifies all these different instances of clitic resumption, since the copies of these items receive a common interpretation, i.e. a restricted individual variable. Of course, this view extends to bare cliticization contexts as well, if we assume that the clitic as a D-head with iota-semantics selects a null NP-complement.

Moreover, Angelopoulos & Sportiche (2021) argue that further attention should be paid to the derivation in (96b) and its CLLD counterpart.[38] Consider again the Big DP analysis of CLLD which proceeds as below:

(100) $[_{TopP}$ $[_{\textbf{Big-DP}}$ $\textbf{t}_{\textit{clitic}}$ $[_{\textbf{DP}}$ $\textbf{topic}]]$ $[_{TP/FP}$ clitic+verb $[_{AgrOP}$ $\textbf{t}_{\textit{Big-DP}}$ $[_{AgrO'}$ $t_{\textit{verb}}$ $[_{VP}$ $t_{\textit{verb}}$ $t_{\textit{Big-DP}}]]]]]]$

The Big-DP constituent which is generated in an argument position, moves to the spec,AgrOP or some other VP-external projection. At this point the clitic sub-extracts and moves as a head to the closest c-commanding projection (see Kayne 1989; Shlonsky 1997; Corver & Delfitto 1999; Belletti 1999 and Panagiotidis 2002 for Greek). The remnant Big-DP constituent then – which contains the trace/copy of the clitic – moves to the left-periphery (see Boeckx 2003 for a variant of this approach). With respect to the derivation in (100) (and other similar analyses, see Cecchetto 2000), Angelopoulos & Sportiche (2021) point out that the trace of the clitic within the Big-DP

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[38] Angelopoulos & Sportiche (2021) refer to various versions of the Big-DP analysis. The comment at issue applies to the derivation outlined in (100) as well.

constituent is not c-commanded by the "original" clitic item in its surface position. As a result, the moved clitic does not c-command and will not be able to bind its copy. Once more, this problem is avoided in the account proposed in section 5.2, which does not assume a trace of the clitic within the moved CLLDed phrase.

Last, Angelopoulos & Sportiche (2021) consider a different version of the Big-DP-analysis, according to which both the clitic and the double DP are distinct phrasal constituents within a bigger DP. The clitic sits in the specifier position and the topic phrase in the complement position of the Big YP:

(101) [Big-YP [clitic] [Big-Y' Y [doubled XP]]]

Given (101), a legitimate question to ask is why doubling is restricted to *clitic* doubling. Why do we not get structures with *strong-pronoun* doubling, or even *full-DP* doubling.[39] More precisely, (101) as it stands should allow a strong pronoun to merge in the specifier position of the big YP, giving rise to a strong-pronoun doubling construction. This is one more aspect in which Big-DP analysis and the account in 5.2 are different. For the account that I proposed in 5.2, the clitic item could not be substituted for by some other D/DP item, because the clitic is the definite article which is required by the Trace Conversion rule.

The Big-DP hypothesis, at least some version of it, is present in the majority of the studies on cliticization/clitic doubling. From my perspective, the advantages of this analysis are the following: (i) under the Big DP-hypothesis, a clitic doubling construction is derived by movement, which explains the reconstruction effects associated with the doubled phrase; (ii) the Big DP analysis explains in a straightforward manner the morphological resemblance between clitic items and definite articles in many languages; (iii) clitics enter the derivation as definite articles heading the Big DP which explains, to some degree, the specificity effects of cliticization. As we have seen in this section though, the Big DP approach faces a number of problems which are related either to the internal structure of the Big DP constituent, or with the dissociation of the resumptive clitic and the doubled DP and the

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[39] Resumptive constructions with strong pronouns are generally excluded in Greek (see fn.1). Even if some examples appear to be marginally acceptable, they involve a base-generated displaced phrase in the left periphery binding the strong pronoun. Evidently, this structure does not require a Big DP analysis.

extraction of the latter to the left periphery. However, the analysis proposed in 5.2 – "resumptive clitics as markers of individual variables in the trace position" – seems to be immune to much of the criticism and the problems related to the Big DP hypothesis.

5.6. Resumptive clitics as discourse function markers

In this section, we will briefly examine some less dominant views of clitic (resumption). More specifically, I will explain why the clitic items should not be viewed as discourse function markers: neither for familiarity nor for topichood.

(i) Resumptive clitics are not familiarity/givenness markers
CLLD, crosslinguistically, has been associated with several discourse functions which are in some way or other related to specificity/referentiality etc. This is the case with the present study as well, which takes CLLD to be a topic-marking strategy (see 2.2.). However, many authors go a step further and argue that the clitic itself is a discourse function marker. *'Givenness'*, *'familiarity'*, *'old-information'* are some notions that clitics have been assumed to serve (see for instance Mavrogiorgos 2010; Marchis & Alexiadou 2013). Greek CLLD sentences and clitics however are not always linked to familiarity. This is shown by the following example with the CLLDed (specific) indefinites. At least since Heim (1982) it is well-known that indefinites introduce new information/referents. This means that the doubling clitic is not a familiarity marker.[40]

(102) [Enan filo   mu],   ton   listepsan.
       a   friend my   CL   robbed
       'They robbed a friend of mine.'

An additional problem arises with the topic-phrases which obviously bear old information, which however are not clitic-doubled, as in Greek Topicalization:

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[40] Clitic-doubled wh-phrases also exclude this hypothesis, since a wh-phrase by definition cannot bear old information (see (i) from Androulakis 1998). Resumption in wh-questions is the topic of chapter 7.

(i) Pja   jineka ti   dhagose   o   Patroklos.
    which   woman CL bit-3SG   the Patroclus
    'Which woman did Patroclus bite?'

(103) A: Pjos aghorase <u>palto</u>? ('Who bought a coat?')

  B: <u>Palto</u>, aghorase o Kostas.

   coat bought-3SG the Kostas

   'Kostas bought a coat'

Palto is already present in the preceding question and is repeated in (103B) as a non-clitic-doubled topic phrase. Therefore (103B) clearly shows that clitic-doubling is not a necessary condition for familiar topic phrases.

(ii) Resumptive clitics are not topicality markers:

The present study adopts the standard assumption in the literature that CLLD is a topic-marking strategy (Tsimpli 1990; Iatridou 1995 among others). However, this is not to mean that the clitic itself is a *topic-marker* (*pace* Sportiche 2018, see 4.4.2 for the problems of this line of analysis). As I argue in 2.2., topic-marking comes from the functional projection TopicP at the left periphery (Rizzi 1997). That topicality does not derive from the clitic itself is confirmed by the existence of topic-marking constructions without clitics, i.e. Greek Topicalization (see 103B). To put it differently, if the resumptive clitic were the source of topicality in CLLD, we wouldn't expect to find topic-marking constructions without clitic-resumption. That said, Topicalization poses a serious problem to this line of analysis.

5.7. Summary

This chapter explored the nature of clitic items in Greek and especially when these items appear in resumptive dependencies, such as CLLD. Recall that Greek CLLD involves movement of a clitic-resumed phrase to the left periphery. In section 5.3.1 I argued that resumptive clitics should not be analyzed as referential pronouns, contrary to the traditional view. I also demonstrated that clitics should not be considered as derived D-pronouns (*a la* Harizanov 2014, Baker & Kramer 2018). I also examined the hypothesis that Greek clitics are object agreement affixes. I rejected this hypothesis by making use of certain diagnostic tools for the detection of agreement morphemes (5.3.2.). Last, in 5.6., I argued against the idea that clitics encode a discourse property of the doubled phrase, such as familiarity/givenness or topicality.

In this study I proposed a novel view of resumptive clitics, according to which they are definite articles inserted as part of the trace conversion (in the sense of Fox (2002)) of the copy of the doubled phrase (5.2.1, 5.2.2). As a consequence, the presence of a clitic marks the presence of an individual denoting variable at the foot of the movement chain. Crucially, this assumption derives the ReMIV generalization which regulates the distribution of clitics in A'-dependencies. I argued that the inserted definite determiner is cliticized (i.e. moves and attaches to a verbal form) to satisfy a PF-filter, which does not allow morphophonologically deficient items to form separate phonological units. Such a rule has been independently hypothesized for the morphological transformation of the bare definite article '*the*' to the pronominal form '*it*' in English (see Postal 1969; Boeckx 2003; Elbourne 2005). This analysis explains in a straightforward manner the following puzzling properties of the clitic doubling constructions: the morphological resemblance between the clitics and the definite articles, the reconstruction properties of CLLD and the complex distributional pattern of the doubling clitics across the A'-dependencies in Greek.

In the present chapter, I also investigated some of the most wide-spread approaches to clitic doubling/resumption constructions and how well they deal with the properties of Greek CLLD. More specifically I discussed the Clitic Phrase hypothesis which was firstly proposed by Sportiche (1996) and the Big DP hypothesis which is based on Kayne's work and established by Uriagereka (1995). I have demonstrated that both hypotheses suffer on empirical and on conceptual grounds. Even though the account proposed in the present thesis is pretty close to the Big DP analysis, in that both take clitics to be definite articles, there are essential differences between the two. I argued that these differences may well be a reason for the account proposed by the present study to be preferred. More precisely, I argued that the main body of criticism against the Big DP approach does not seem to concern the analysis I suggested in 5.2.

Chapter 6: Topic-marked QPs in Greek

6.1. Introduction

In chapter 2, we argued for a clear-cut type-theoretic distinction of topic-marking strategies in Greek. In particular, there appears to hold a strict mapping between the semantic type of a topic phrase and the syntactic chain that this topic-phrase heads: according to the *Indivdualhood Condition*, CLLD is restricted to individual-denoting topics, while the *Propertyhood Condition* states that Topicalization chains involve property-denoting topics.

Furthermore, the syntactic and semantic properties of these topic-marking chains have been mainly attributed to the semantic type of topic phrases. For instance, the absence of narrow scope in CLLD has been attributed to the fact that CLLD excludes scopal topics in the first place: individual-denoting elements do not give rise to scope interaction ambiguities. On the other hand, the total-reconstruction analysis of Topicalization stems from the property-type of the topic phrase, given the impossibility of property-types.

However, this neat mapping is challenged when QPs (which stands for 'Quantificational Phrases') come into play. The label 'QP' is used pretheoretically here to cover a group of phrases like bare quantifiers, quantified DPs (quantifiers with an NP restrictor) or quantifiers in a partitive structure.[1] The obvious questions that arise are the following: How do *CLLDed QPs* satisfy the Individualhood Condition? What are the syntactic properties of CLLDed QPs? Do they show the standard CLLD properties? What do these properties tell us about the semantic type of these elements? The same questions arise with respect to the *Topicalized QPs*. If the property-denotation of Topicalized phrases is responsible for their syntactic/semantic behavior, what should

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[1] Consider for instance the neg(ation)-words, such as *kanenas* (nobody), which are included in what I call QP in this chapter. The neg-words have been analyzed as quantifiers (see Haegeman & Zanuttini 1991; de Swart & Sag 2002), as polarity items (see Tsimpli & Roussou 1996; Giannakidou 2000), or as indefinites (as in Zeijlstra 2004). The semantic type of these phrases is crucial for the analysis of CLLDed/Topicalized QPs in Greek. They are examined in detail below.

one expect for the QPs that undergo Topicalization? All these questions are taken up in this chapter.

Before we start investigating these questions, it is of crucial importance to make clear that CLLD and Topicalization of QPs in Greek are movement dependencies, as argued in Chapters 3 and 4. More specifically, like all the other cases of CLLD/Topicalization, they are subject to Condition C under reconstruction, as the following examples show. For this reason, a base-generation approach is disregarded in what follows.

(1)   *[Kamia   fotoghrafia   tu Kosta$_1$],   dhen   tin estile   pro$_1$ sti   Maria.
          no   picture   of Kostas   not   CL sent-3SG   he   to-the Mary
        'Kostas sent no picture of himself to Mary.'

(2)   *[Kamia   fotoghrafia   tu Kosta$_1$],   dhen   estile   pro$_1$ sti   Maria.
          no   picture   of Kostas   not   sent-3SG   he   to-the Mary
        'Kostas sent no picture of himself to Mary.'

The next section discusses several cases of QP-topics which seem to be able to undergo CLLD. CLLDed negative QPs, like *kanena* XP (no/any XP), and the CLLDed universal *kathe* XP (every/each XP) are examined separately, below.

6.2. CLLDed (modified) numeral and other weak QPs

Given the generalization that only individual-denoting topics undergo CLLD, the following well-formed CLLD sentences call for further discussion: in (3), a number of determiners which typically express quantificational meanings (Q-det) (e.g., *more than five*, *exactly 5*, *half*) tolerate clitic-resumption.

(3)   a. [Perisoterus   apo   pede   vuleftes], tus   parepempsan se dhiki.
             more   than   five   PMs   CL   referred.3PL to trial

        b. [Akrivos   pede   vuleftes], tus   parepempsan se dhiki.
             exactly   five   PMs   CL   referred.3PL to trial

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    c. [(tus) misus apo   tous   vuleftes], tus   parepempsan se dhiki.

       the half of   the   PMs   CL   referred.3PL to trial

'More than five/exactly five/half of the PMs were referred to a trial.'

This fact, as it stands, suggests that the Individualhood condition on CLLDed phrases is too strong.[2] Below, I examine these cases in more detail and I show that this problem is only apparent.

6.2.1. Individual-denoting QPs in English Contrastive Topicalization

I would like to refer the reader to Constant's (2014: chapter 4) thesis on contrastive topicalization for the following reason: Constant, building on Rooth (2005), demonstrates that in many cases, a QP-topic is not compatible with the semantics and the pragmatics of contrastive topicalization sentences. More specifically, the alternative semantics framework (Rooth 1985), which is now fully integrated into the modern theorization of contrastive topicalization, predicts that topic-marked QPs involve individual denoting contrastive topics. Indeed, Constant shows that a QP allows contrastive topicalization if it is possible for it to switch to an individual denotation; otherwise, it is excluded from these information structure contexts (Constant 2014: 168-170).

    A contrastive topic utterance, as in (4a), generates a set of questions by substituting a wh-phrase for the focus-marked constituent and different values for the contrastive topic-marked phrase, as in (4b) (see Büring 1997, 2003):

(4)   a. [Fred]CT lives in [Amherst]F.

        b. {Where does Fred live?, where does Mary live? …}

What about (5B) below? Does it really involve a quantificational contrastive topic?

---

[2] We have already discussed the weak NPs *ena* NP (one/a), *kapjo* NP, (some), *dhio* NP (two) *pola* NP (many) in section 2.3. CLLDed weak NPs were argued to be interpreted with choice functions (Reinhart 1997; Kratzer 1998). This line of analysis will be followed in this chapter as well. In section 2.3, we also referred to the Q-det *to perisotero/lighotero* NP (lit. the most/least) and *olo* NP (all the NP).

(5)   A: Where do grads live?

        B: [Some]$_{CT}$ live in [Amherst]$_F$, [others]$_{CT}$ live in [Northampton]$_F$.

According to Büring's (2003) analysis, a contrastive topic utterance, in essence, marks the answer of some explicit or implicit sub-question. (5)B's answer, with a true quantificational reading of the QP *some (students)* would contrast with other QPs like 'many students' or 'most students'. However, this is not what speaker (5)A is concerned with. (5)A's question promotes the individual denoting reading of *some students*, which contrasts with the rest of the students. Note also that (5)A's question could also be answered as in (6) (adapted from Constant 2014: 170):

(6)   [Some]$_{CT}$ live in [Amherst]$_F$, [some]$_{CT}$ live in [Northampton]$_F$.

(6) clearly shows that a certain group of individuals, denoted by *some*, is contrasted with some other group of individuals, which is denoted by the second instance of *some*. In other words, both instances of *some* in (6) denote (non-atomic) individuals. It is further noted, that if a certain QP does not allow a referential reading, it may not be marked as a contrastive topic (2014: 170). (7) is infelicitous with a contrastive topic intonation (a *fall-rise* pattern which is also called *B-accent*).

(7)   A: Where do grads live?

        B: #[Few]$_{CT}$ of them live in [Amherst]$_F$.

Constant (2014) lists the QPs which can undergo contrastive topicalization in English: *some*, *a*, *several*, *many*, *a few*, *most*, *all*, *three*, *more than 3*, *at least 3*, *exactly 3*, *half* (i.e., weak QPs, numeral QPs, modified numeral QPs, numerical comparatives QPs, etc.) (see (8)). These phrases form a natural class in virtue of being "Existence Entailing" QPs, that is "they imply the existence of some individual satisfying both their restrictor and scope" (2014: 175-6).[3]

---

[3] A Q-Determiner is Existence Entailing *iff* Det(P) (Q) $\rightarrow$ $\exists$x: P(x) $\wedge$ Q(x) (from Constant 2014: 175)

(8)   A: Where do the grads live?

       B: [*Q-det*]_{CT} (of the) grads live [in Amherst]_F.

- *Q-det*: Some, Ten, Many, Several, A few, Most, Half, More than ten, Exactly ten, #Few, #None, #Not many, #Less than ten.

From what has been said so far it follows that all the existence-entailing determiners admit a referential reading. Constant provides independent evidence showing that all and only these determiners may receive an individual-type denotation. For instance, *appositive relatives* are clausal constituents which provide further information about a referential element which is typically called the *head* of the appositive relative clause. In other words, appositive relatives need to attach to an individual referring expression (Potts 2002).

(9)   Ames, who stole from the FBI, is now behind bars.

The syntactic derivation of appositive relatives should not concern us here (see Cinque 2008 and the references therein). The appositive relative '*who stole from the FBI*' combines with the head of the relative clause *Ames*. The question that follows is which of the aforementioned QPs may be modified by the appositive relative in (10).

(10)   [*Q-det*] congressmen, who incidentally are very junior, admire Kennedy.

- *Q-det*: Some, Ten, Many, Several, A few, Most, More than ten, Exactly ten, At least ten, *Few, *Not many, *Hardly any, ?Less than ten

Constant (2014) concludes that Q-dets that head well-formed appositive constructions may be read as referential phrases. The set of Q-determiners that support an appositive relative construction, as in (10) is co-extensive with the set of the contrastive topic-marked Q-determiners in (8), and this is not an accident for Constant (2014). Both conditions pose the same requirement, the extraction of an individual-denoting element. The next step is to explain how an individual type is derived out of a QP.

We have been explicit so far that several weak determiners such as *one, a, some* or *many* may refer to an individual through a choice function (Reinhart 1997; Kratzer 1998). Rooth (2005) and Constant (2014) suggest an extension of the choice function analysis to other determiners as well, in order to capture their referential properties. To illustrate, Constant (2014: 180) argues that an existence entailing QP, e.g., 'most NP', may be construed as a property modifier as follows:

(11) $\llbracket most \rrbracket \in D_{<<e,t>,<e,t>>} = \lambda P_{<e,t>} \lambda x_e [P(x) \wedge |\,atoms(x)\,| > \frac{1}{2} \chi\,|\,\{y : atoms(y) \wedge P(y)\}]$

Consider the sentence in (12) which promotes the referential reading of the QP *most*. In particular, (12) demonstrates an equative construction which equates two individual denoting expressions through the copular *be*.

(12) [Those people] are [most of my best students]

Now, consider a context in which the set {a, b, c, d, e} stands for the set of 'my best students'. The QP *most (of my) best students*, which is the result of the merge of the predicate *best students* and the predicative modifier 'most', is interpreted as follows:

(13) $\llbracket most\ of\ my\ best\ students \rrbracket = \lambda x_e [\text{my-best-student}(x) \wedge |\,atoms(x)\,| > \frac{1}{2} \chi\,|\{y : atoms(y) \wedge \text{my-best-students}(y)\}|]$

That is, the predicate *most of my best students* denotes any plurality of best-students which is the majority of the set of the best students {a, b, c, d, e}; for instance the non-atomic individual 'a+b+c', a+b+d or 'a+c+d+e' etc. There are seventeen such pluralities. Given the semantic denotation in (13), the QP 'most of my best students' can combine with a choice function variable. There must be 17 different choice function values, each of them mapping the denotation in (13) with one of the seventeen pluralities.

(14) $f^{cf}(\llbracket most\ of\ my\ best\ students \rrbracket)$

In conclusion, the existence entailing QPs in English allow a referential reading given an appropriate context. This reading is derived via a choice function, which applies to a property denotation (see Constant 2014: 198ff, for a technical discussion on the choice function analysis).

In the present thesis I have argued that only individual referring expressions may undergo CLLD. Nonetheless, in this chapter we already presented some (and we are going to present much more) instances of CLLDed QPs. There are two ways to go: either we should abandon the generalization about the distribution of Greek CLLD in its current form (see Arregi 2003), or we need to show that CLLDed QPs can receive a referential interpretation. Given the above discussion form Constant (2014), the second option is worth our attention. In the following, I aim to draw a correlation between the CLLDed QPs in Greek and the contrastive topic-marked QPs in English (Constant 2104) in support of the individualhood condition on CLLDed phrases.

6.2.2. CLLDed (modified) numeral and other weak QPs as individual-denoting phrases
The examples in (3), repeated here as (15), show that the distribution of Greek CLLD is much broader than we first thought (see also Dimitriadis 1994, Anagnostopoulou 1994).

(15) a. [Perisoterus   apo   pede   vuleftes], tus   parepempsan se dhiki.
         more   than   five   PMs   CL   referred.3PL to trial

      b. [Akrivos   pede   vuleftes], tus   parepempsan se dhiki.
         exactly   five   PMs   CL   referred.3PL to trial

      c. [(tus)   misus apo   tous   vuleftes], tus   parepempsan se dhiki.
         the   half   of   the   PMs   CL   referred.3PL to trial
         'More than five/exactly five/half of the PMs were referred to a trial.'

Undoubtedly, these sentences can only be seen as a challenge for the Individualhood Condition. In (16) I consider a fuller range of Q-determiners with respect to their interaction with a CLLD configuration:[4]

---

[4] Note that the weak determiners 'kapjo' (some), 'pede' (five), 'pola' (many) have been already discussed in chapter 2, following Heim (1982), among many others, who argues that these elements do not have

(16) [Q-det   vuleftes], tus parepempsan se dhiki.

             PMs   CL referred.3PL   to trial

      'Q-det PMs were referred to a trial.'

   a. OK: *kapjus* (some), *pede* (five), *polus* (many), *dhiaforus* (several), *kapjus lighus*
       (a few), *tus perisoterus* (lit. the most), *olus tus* (all the)

   b. ?: *lighus* (few), *lighoterus apo pede* (less than five), *tulahiston pede* (at least
       five)

   c. *: *katholu … dhen* (not any … not), *shedhon katholu … dhen* (almost no … not)

The Q-determiners in (a) are perfectly fine in CLLD sentences. The CLLD sentences
with the Q-determiners in (b) are somewhat degraded, while clitic-resumption of the Q-
determiners in (c) is ungrammatical. (16) clearly shows that a CLLD dependency can be
headed by a fairly large number of QPs. Most crucially, however, (16) highlights the
correlation between the Greek QPs that undergo CLLD and the QPs in English, which
according to Constant (2014) allow a referential reading (compare (16) with (8)). This
point should not come as a surprise. According to the hypothesis that I pursue in this
section, CLLDed QPs are individual denoting expressions.

   I am now turning to the appositive relativization test for independent evidence for the
individual denotation of those QPs. As already shown, appositive relative clauses are
attached to a referential expression. As Constant (2014: fn.23) argues, adverbs like
incidentally in the relative clause promotes the appositive construal.

(17) [*Q-det*   vuleftes], tus   opius olos   tiheos   tus   ipostirizi i

             PMs   the   which wholly incidentally CL   support   the

      eklisia, psifisan ton   nomo kata   ton   amvloseon.
      church   voted   the   law   against the   abortion

      'Q-det PMs, who are incidentally (ironic) supported by the Church, voted the
      abortion banning law.'

---

existential force of their own (hence they are not true QPs). More specifically, they were analyzed as
predicates of type <e,t>, which get existentially closed by a closure operator at the VP-level (Diesing
1992) or a choice function operator (Reinhart 1997, Kratzer 1998). I included these elements in the
current discussion so as to keep the presentation of the CLLDed QPs as comparable as possible to
Constant's (2014) presentation of the contrastive topic marked QPs in English.

a. OK: *kapji* (some), *pede* (five), *poli* (many), *dhiafori* (several), *kapji lighi* (a few), *i perisoteri* (lit. the most), *oli i* (all the)

b. ?: *lighi* (few), *lighoteri apo pede* (less than five), *tulahiston pede* (at least five)

c. *: *katholu ... dhen* (not any … not), *shedhon katholu ... dhen* (almost no … not)

(16) and (17) reveal the following correlation: all the types of QPs that can be construed as appositive relative heads, can also be CLLDed. On the other hand, the QPs which cannot be modified by an appositive relative clause, cannot be CLLDed either. According to the hypothesis about the distribution of the CLLDed topics in Greek, this is not a coincidence, as both appositive relative and CLLD dependencies require an individual denoting head. Furthermore, the pattern demonstrated by (16) and (17) duplicates the English facts presented in the previous section.

One more empirical point is the slight difference between 'few' and 'a few' which is replicated in Greek with *ligha* and *kapja ligha*. For instance, Greek CLLD sentences with *ligha NP* are degraded (18a) compared to CLLD of *kapja ligha NP* in (18b). The determiner *kapja* ensures the referential reading of the topic phrase.

(18) a. ?[Ligha vivlia],   ta aghorasa   apo   to   internet.
          few   books   CL bought-1SG from   the   internet

      b. [Kapja ligha   vivlia],   ta aghorasa   apo   to internet.
          some   few   books   CL bought-1SG from   the internet
         '(A) few books, I bought from the internet.'

In conclusion, I take CLLDed QPs to denote individuals. We have already argued that the exceptionally wide-scope taking QPs (e.g. *a/one, some, two, many*) are interpreted with choice functions. In other words, a choice function variable applies to the property denotation of these phrases and extracts an (atomic/non-atomic) individual (see chapter 2, section 2.3). Following Rooth (2005) and Constant (2014), I assume that this strategy holds for the other individual denoting QPs as well. Exactly those QPs that fail to denote type *e*, fail as CLLDed topics as well. The following bare quantifiers fall within this category (see also Anagnostopoulou 1994: 91) (see Giurgea (2015) who highlights the same facts in Romanian).

(19) *Kati,   to   akuse   o   Janis.[5]
      something   CL   heard-3SG   the   John
      'John heard something.'

(20) *Tipota, dhen   to   akuse   o   Janis.
      nothing   not   CL   heard-3SG the   John
      'Janis heard nothing.'

It should be noted that the problem in (19) and (20) is not with the left-dislocation of bare quantifiers, as these items can be left-dislocated in focus-fronting sentences:

(21)   KATI akuse o Janis.
       'John heard SOMETHING.'

(22)   TIPOTA dhen akuse o Janis.
       'Janis heard NOTHING.'

Hence the problem in (19) and (20) is related to the clitic-resumption of these QPs. The problem is not with the topic-status of these phrases either. The following examples

---

[5] However, these cases are not entirely excluded, as (i) shows (Michelioudakis p.c.):

(i) Ithela   na   dho   an [kati],   to   eho   katalavi   kala.
    wanted-1SG to   see-1SG if something CL   have-1SG   understood   well
    'I wanted to see if I got something right.'

Thus, we should never say never when it comes to the distribution of CLLD. In (i) however, the bare QP *kati* obligatorily receives a specific interpretation in the sense that the speaker has a specific point in mind. The fact that the specific interpretation is not always available and easily accessible with the bare QPs is reflected by the severely restricted distribution of these elements in CLLD (as in (19)).

   A. Roussou (p.c.) asks whether the acceptability of (i) is associated with the complementizer *an* (if) and she suggests testing such CLLD sentences with other complementizers as well (e.g., *oti*, *pu* "that'). This point requires further investigation which falls beyond the purposes of this study. Here is a short note which might be relevant to the acceptability of (i). In chapter 7, it is shown that clitic-resumption in Greek wh-questions is facilitated by the 'heaviness' of the sentence; that is extra lexical material (e.g., an adverbial or an embedded clause) which offers additional background information about the context (see Kotzoglou & Varlokosta 2005). It could be argued then that here too a complex sentence (a matrix with a subordinate clause) license clitic resumption in terms of heaviness. Indeed, Roussou mentions that *an* does not license clitic resumption in matrix contexts. I return to the heaviness effect in the next section.

involve Topic-marking of bare quantifiers. Clitic-resumption however would rule them out.

(23) Kati,   (*to) ipe   o   Janis.
     something   CL   said-3SG   the   John
     'John said something.'

(24) Tipota,   dhen   tis   (*to)   ipa.
     nothing   not   her   CL   said-1SG
     'I didn't tell her anything.'

CLLD is restricted to individual referring expressions, and these bare quantifiers, in most of the cases, cannot meet this condition. No such requirement is posed for the focus-fronted phrases and the topics in Topicalization on the other hand (see also Tsimpli 1998).

Given that QPs are in most of the cases interpreted as individual level phrases through a choice function, it could be argued that bare quantifiers are typically incompatible with choice functions due to their lack of an NP-restrictor. The absence of a restrictor makes it hard (for the hearer) to identify the set which the choice function applies to.[6] We are now turning to the distributional and the syntactic properties of the topic-marked negative QPs *kanenas* NP and universal QPs *kathe* NP.

6.3. CLLDed negative and universal QPs

6.3.1. Distribution of CLLDed negative and universal QPs

In section 2.3, I presented Alexopoulou's (2008) view that true quantificational elements do not allow CLLD. The following example (the judgment included) comes from Alexopoulou (2009: 35):[7]

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[6] I would like to thank W. Lechner (p.c.) for the discussion on this issue and for this suggestion in particular.

[7] In the following, the Greek-speaking readers should make sure that they do not assign *a focus accent* on the dislocated QP (see Tsimpli & Roussou 1996, on focus-fronted neg-words in Greek). In a focus-fronting sentence there is a single pitch accent, assigned to the dislocated element; no pause follows the focus-fronted phrase. On the other hand, two pitch accents are assigned in a topic-marking sentence

(25) *Kanena fititi, dhen ton idha   sto   parti.
     no-(one) student not CL saw-1SG at-the party
     'No student did I see at the party.'

According to the author, CLLDed quantifiers are allowed only in sentences with a generic interpretation (Alexopoulou 2009: 36).

(26) Kanena, dhen ton apoliun etsi.
     no-(one) not   CL   fire-3SG like-this
     '(In general) no one you fire like that.'

Alexopoulou (2009), following Fox & Sauerland (1996), argues that these sentences involve a *Generic Operator* quantifying over situations, and that QPs are trivialized under the assumption that each situation contains a single salient individual (see Sauerland 2009, for a substantial refinement of the semantics of these clauses).

   However, in section 2.3, I mentioned that my (and many of my informants') judgments allow for CLLDed QPs in episodic (non-generic) contexts as well. To the extent that this is towards the right direction, there appear to be several factors which rule in or rule out such sentences. Based on Anagnostopoulou (1994: chapter 4), I argue that the following 'referentiality hierarchy' seems to reflect the acceptability of sentences with CLLDed quantificational elements (see also Baker & Kramer 2018: section 6.1):[8]

(CLLD in (ii)): one on the dislocated topic-phrase and one for the 'nucleus' of the sentence that follows. The topic-phrase is separated from what follows with a 'comma pause' (see section 2.2., Chapter 2):

(i) KaNEnan   dhen   ton apoliun   etsi.

(ii) KaNEnan,   DHEN   ton apoliun   etsi.

   no-one   not   CL fire-3SG   like-this

   'No one gets fired like that.'

[8] See also the discussion in Giannakidou (2000: section 6), however one must be careful with the sentences with left-dislocated *emphatic neg-words* she gives (see Giannakidou 2000: 512-513):

(i) [KANENAN] dhen idha.

   'I saw NOBODY.'

(ii) [KANENA FTITI] dhen (ton) idha na erhete stin ora tu.

   'I saw NO student arriving on time.'

(27) Overt partitive QPs > Restricted DPs > Bare quantifiers

where, *X* > Y = sentences with CLLDed *X* are more acceptable than sentences with CLLDed *Y*

(28) a. ?*[Kanenan], dhen ton idha sto parti.

b. ?[Kanena fititi], dhen ton idha sto parti.

c. [Kanenan apo tus fitites], dhen ton idha sto parti

   'I saw nobody/no student/none of the students at the party.'

(29) a. *[Kathenan], ton ksero apo palia.

b. ?[Kathe fititi], ton ksero apo palia.

c. ?[Kathenan tus], ton ksero apo palia.

d. [Kathenan apo tus fitites], ton ksero apo palia.

   'I have known everybody/each student/each of them/each of the students for many years.'

One more accommodative factor for clitic resumption is mentioned in Kotzoglou & Varlokosta (2005). The authors mention that clitic resumption in relatives is facilitated if the relative clause contains a *'heavy element'*. As far as I can see this extends to clitic resumption of CLLDed QPs as well. Compare the following examples:

(30) a. *Kanena   dhendro,   dhen to fitepsa.

   b. Kanena   dhendro,   dhen to fitepsa   monos mu

     no   tree   not   CL planted-1PL alone me

     'I didn't plant any of the trees (on my own).'

Giannakidou (2000) calls (i) and (ii) "topicalization sentences". Nevertheless, as explained in fn.8, these sentences do not show the standard topic-marking intonation. Rather they exhibit a focus-fronting intonational pattern. Giannakidou (2000: fn.16) herself detects this issue. Abstracting away from the label to be used for the sentences (i)-(ii), it must be made clear that these sentences are not the ones studied in the present chapter. If one is committed to Giannakidou's analysis and terminology, it might be a good idea to explore the possibility that what is examined here is a topic-marking construction with left-dislocated *non-emphatic neg-words* (in Giannakidou's terms).

The sentence (30b) is improved, compared to (30a), because of the adverbial phrase that follows. According to Kotzoglou & Varlokosta (2005), a heavy element allows the d-linking interpretation of the dislocated phrase.

6.3.2. Properties of CLLDed negative and universal QPs

Three properties seem to be common in all the preceding CLLD sentences, irrespective of the quantificational element (negative, universal etc.). First of all, in all the above sentences the partitive reading of the topic phrase is mandatory, even if no partitive structure is involved. For instance, *kathe fititi* (every student) is understood as 'each of the students'. In support of this, the CLLDed negative QP 'no student' in (28b) presupposes the existence of a set of students and is interpreted as a covert partitive (no one of the students, no one of the contextually relevant set of students).[9] This is probably relevant to the acceptability scale of the dislocated and clitic-resumed quantificational elements. As the "referentiality hierarchy" in (27) shows, topic phrases that are closer to a partitive reading such as overt partitives, are more acceptable than the ones that lack a restrictor altogether (i.e., bare quantifiers). As mentioned above, in the fully grammatical cases of CLLDed quantified DPs, the NP-restrictor is understood as the embedded DP in a covert partitive which denotes a contextually salient set of entities.

The next property is present, it seems, in all Greek CLLD sentences, and it concerns the WCO diagnostic. CLLDed bare quantifiers/quantified DPs/quantified partitives do not show WCO effects (see also Alexopoulou 2009).[10]

(31)   [Kathe fititi]$_1$,   ton   aghapane [i   ghonis   tu$_1$].
       Every student   CL   love-3SG   the   parents   his
       'His parents love each student.'

---

[9] These semantic effects remind us of the Turkish data presented in Enç (1991). The author notes that accusative-marked strong quantifiers necessarily receive a partitive reading.

[10] Spathas (2005: ex156) notes that in long-distance QP-CLLD, an intervening pronoun in the matrix clause does not trigger WCO:

(i) [Kathe pedhi]$_1$, [i mama tu$_1$] nomizi oti oli to aghapun.

  'Every kid, his mother thinks that everybody loves him.'

As explained in 4.6.3, such examples challenge the view that CLLD obviates WCO through an intermediate A-movement above the subject-DP.

(32) [Kanenan fititi]1,   dhen ton   aghapa [i   ghata tu1].
      no-one   student   not   CL   love   the   cat   his
      'His cat loves no student.'

In addition, in the CLLD sentences examined in chapter 4, no scope interaction effects are observed. The CLLDed phrase is always interpreted in its surface position (see Alexopoulou & Koliakou 2002; Oikonomou et al. 2020). To be more accurate, we argued that DP-topics in CLLD are referential, thus they are not scopal elements in the first place. From this perspective, it is of a particular interest to see whether the scopal behavior of CLLDed QPs aligns with or diverges from the (non-)scopal behavior of the CLLDed non-quantificational phrases. What we observe is that the narrow scope readings of the CLLDed QPs in the following examples are blocked:[11]

(33)   Kanena   arthro, dhen   to   perasan   dhio   krites.
       no   paper   not   CL   approved-3PL two   referees
       'None of the papers was approved by two referees.' (no-paper>2)

Focusing on (33), imagine that I have submitted three papers for publication and each paper was assigned to four referees. In order for any paper to be published it needs to be approved by (at least) two of the referees. According to the surface scope reading, none of these papers was approved by two reviewers; therefore, none of the papers is going to be published. On the inverse scope reading, for two of the reviewers it is true that they did not approve any article. Having said that, the following illustration distinguishes between the two readings:

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[11] It is well-known that the narrow scope of a dislocated universal QP is entailed by the surface scope reading. In the following, I examine the scope reconstruction in the CLLD/Topicalization sentences with the dislocated negative QPs.
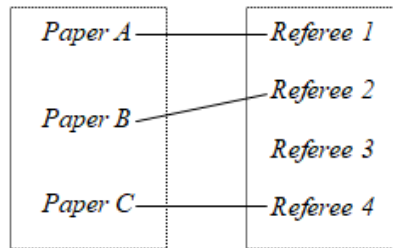
Figure 1. Surface-scope scenario (false in inverse scope reading)

In *Figure 1*, we have the column of the submitted papers on the left, and the referees in the right column. The lines linking the two columns denote an approval relation. *Figure 1* confirms the surface scope reading, since no paper convinced more than one referee. On the other hand, the inverse scope reading does not hold in the scenario of *Figure 1* because only one reviewer rejected all the papers. The fact that (33) is true, given the scenario in *Figure 1*, shows that it is the surface scope reading that is at issue.
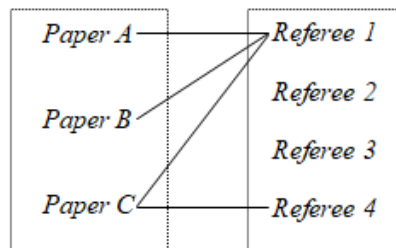
Figure 2. Inverse-scope scenario (false in surface scope reading)

The inverse scope reading of (33) would be true in the scenario illustrated by *Figure 2*: there are two referees who rejected all the papers. On the other hand, the surface scope interpretation is falsified, since there is one paper that got approved by two referees. The fact that (33) is false under the scenario in *Figure 2* shows that the narrow scope reading of the CLLDed quantified DP is blocked.

At this point, it should be emphasized that all the CLLDed QPs examined in section 6.2.2 (bare/modified numeral QPs, weak QPs) share these properties.

(i) WCO insensitive:

(34)　　[*Q-det*　vuleftes]$_1$, tus　katighorun　[i　psifofori　tus$_1$].

　　　　　　PMs　　CL　　accused-3PL　the　voters　　their

　　'[*Q-det* PMs] are accused by their own voters.'

(ii) Wide-scope reading:

(35)   [*Q-det*   vuleftes]₁, tus   ipostiriksan   [dhio komata].

     PMs   CL   supported-3PL   two   parties

  '[*Q-det* PMs] are supported by two political parties.' (Q-det>2)

Q-det: *kapjus* (some), *pede* (five), *polus* (many), *dhiaforus* (several), *kapjus lighus* (a few), *tus perisoterus* (lit. the most), *olus tus* (all the), *lighus* (few), *perisoterus apo pede* (more than five), *lighoterus apo pede* (less than five), *tulahiston pede* (at least five).

To illustrate, (36) describes a situation where a unique group (or plurality) of PMs, whose cardinality is more than five, is supported by two political parties. According to the inverse scope reading, two political parties possibly support different groups of PMs. (36) excludes the inverse scope reading.

(36)   [Perisoterus   apo   pede   vuleftes]₁,   tus ipostiriksan   [dhio komata].

  more   than   five   PMs   CL supported-3PL two   parties

  'More than five PMs are supported by two political parties.' (more-than-5>2)

These properties of the CLLDed QPs are summarized and compared to the properties of Topicalized QPs below (section 5).

6.4. Topicalized (universal, negative and other weak) QPs

Up to this point, the discussion revolved around the clitic-resumption of topic-marked QPs, i.e., CLLDed QPs. Now we are turning to Topicalization sentences with QPs, which, as we will see, show different distributional and syntactic properties.

6.4.1. Distribution of Topicalized negative and universal QPs

The distribution of dislocated QPs in Topicalization appears to be quite complex. In chapter 2, on the basis of examples like those in (37) below, I argued that quantificational elements allow Topicalization.

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(37)   a. Kanenan,   dhen   kalese   o   Petros.
            no-one   not   invited-3SG   the   Peter

       b. Kanena   fititi,   dhen   kalese   o   Petros.
            no   student   not   invited-3SG   the   Peter
          'Peter invited no one/students.'

As far as I can see, these examples become more natural with a focus pitch accent on *o Petros* as illustrated below:

(37a') [KaNEnan]CT, dhen kalese [o PEtros]F.

The topic phrase *kanenan* bears a pitch accent and is separated from the rest of the sentence by a comma pause. The post-verbal subject also bears a pitch accent. This intonational pattern is characteristic of contrastive topicalization sentences (see Büring (2003)). (37a) would sound natural in a context where some student did not invite anyone to his graduation ceremony, but I cannot recall who he is. Then someone can help me with (37a). This state of affairs suggests that a contrastive topic interpretation facilitates the left-dislocation of a topic-marked QP. This observation extends across the board of the Topicalized QPs. See also Giurgea (2015), É. Kiss & Gyuris (2003) for the same observation in topic-marking of QPs in Romanian and Hungarian, respectively. I return to this point below.

These examples reflect more or less the acceptability of several quantificational elements in Topicalization sentences. What can be observed is that the "referentiality hierarchy" is not relevant anymore. Bare quantifiers and quantified DPs are equally free to undergo Topicalization (see (23), (24)). Let's look closer at the syntactic/semantic properties of these sentences.

6.4.2. *Properties of Topicalized negative and universal QPs*

In this section I investigate Topicalization sentences with QP-topics in three aspects: referentiality/partitivity, WCO, scope reconstruction. As has been discussed, bare quantifiers may undergo Topicalization (38-39):

(38) Kati,   ipe   o   Janis.
     something   said-3SG   the   John
     'John said something.'

(39) Tipota,   dhen   tis   ipa.
     nothing   not   her   said-1SG
     'I didn't tell her anything.'

Bare quantifiers in these cases are hardly understood as referential or as covert partitive DPs. In addition, quantified DPs, as in (37b) do not presuppose a set of entities relevant to the NP-restrictor, a set of students, in contrast to CLLDed negative QPs. Therefore, the referentiality/partitivity factor is irrelevant to the distribution of Topicalized QPs.

Further, Topicalized QPs, in contrast to CLLDed QPs, may not bind an intervening pronoun within the subject DP. The following sentences are ruled out as instances of WCO violation.

(40) *[Kanena (fititi)]$_1$,   dhen   proselave [i   mitera   tu$_1$]
        no-one   student   not   hired-3SG the   mother   his
      'No student was hired by his mother.'

Turning to the scopal behavior of Topicalized QPs, in the previous section we showed that the narrow scope reading of the CLLDed QPs is blocked. In this, they follow the rest of the CLLDed topic phrases examined so far. A question that naturally follows is whether Topicalized QPs mandatorily receive narrow scope, as is typically the case with the Topicalized DPs in chapter 3. Indeed, in the following sentence, the Topicalized neg-word is forced to be interpreted in the scope of the subject numeral-DP *dhio krites*:[12]

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[12] The narrow scope reading of the Topicalized QPs is not derived after QR of the subject-QP. For instance, in (i), the Topicalized phrase *kanena arthro* in the matrix clause obligatorily scopes below the subject QP in the embedded clause:

(i) [$_{CP-1}$ [Kanena arthro], ematha [$_{CP-2}$ oti dhen perasan [dhio krites]]].

    'I found out that two referees did not accept any paper.'

Since *quantifier-raising* (QR) is clausebound, in (i) it cannot be the case that *dhio krites* QRs over the topic QP in the matrix clause.

(41) Kanena   arthro, dhen perasan   dhio   krites.

     no   paper not   pass-3PL two   referees

     'Two referees did not accept any paper.' (*no-paper>2, 2>no-paper)

In order to explore the scopal behavior of Topicalized QPs, we apply the test with the two contradicting scenarios, one for the surface scope reading and one for the inverse scope reading. In this way we can see under which of the two scenarios the sentence in (41) is true.

Imagine that I have submitted three papers for review and each paper was assigned to four referees. In order for any paper to be published it needs to be approved by (at least) two of the referees. In *Figures 3* and *4* below, the lines linking the papers with the referees denote an approval relation. *Figure 3* represents a scenario which is compatible with the surface scope reading of (41) according to which none of the papers was approved by two referees. At the same time, this specific scenario falsifies the inverse scope reading.
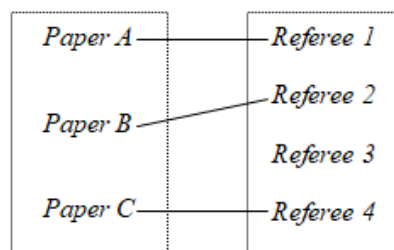
Figure 3. Surface-scope scenario (false in inverse scope reading)

On the other hand, *Figure 4* represents a scenario which is compatible only with the inverse scope interpretation of (41): there are two referees (2 and 3) for whom it is true that none of them accepted any of the papers. Figure 2 is incompatible with the surface scope reading, because Paper C was accepted by Referee 1 and Referee 4.
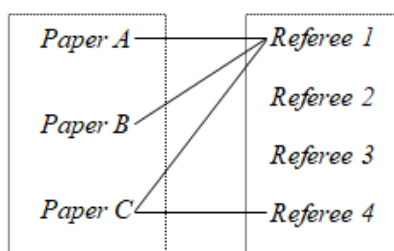
Figure 4. Inverse-scope scenario (false in surface scope reading)

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It turns out that (41) can be used to describe the scenario illustrated by *Figure 4* but cannot characterize the surface scope context in *Figure 3*. This means that the Topicalized QP obligatorily receives a narrow scope reading.

A note is in order before we proceed. As noted in the previous section, Topicalization sentences sound much more natural with a focus pitch accent on the postverbal subject. In (41) the topic phrase *kanena arthro* bears a pitch accent and is separated from the rest of the sentence by a comma pause. The post-verbal subject *dhio krites* also bears a pitch accent, as in (41').

(41')   [KaNEnan arthro]CT, dhen perasan [DHIO krites]F.

As I have already mentioned, this intonational pattern is characteristic of contrastive topicalization (CT) sentences (Büring 2003). This state of affairs suggests that a CT interpretation facilitates the Topicalization of a QP. Given the contrastive-topicalization intonation as represented in (41'), it could be argued that the wide-scope reading of *dhio krites* over the Topicalized phrase is related to the focus-pitch accent on the former. However, note that the contrastive topic-related focus-pitch accent does not necessarily fall on the postverbal subject-QP. The focus pitch accent may well be assigned to some other sentence-final phrase.

(42)   [Kanena   arthro]CT , dhen   edhosan   [dhio   kathighites]   [STON   JANI]F.
       no   paper   not   gave-3PL   two   professors   to-the   John
       'Two professors gave no papers to John.' (*no>2, 2>no)

Crucially, this does not affect the scopal behavior of Topicalized QPs, which is forced to scope below the post-verbal subject. Therefore, the contrastive topic-intonation and the focus pitch-accent on the postverbal subject in (41) should be dissociated from the narrow scope readings of Topicalized QPs.

As a conclusion, Topicalized QPs are restricted to narrow scope readings. Crucially, this behavior is not expected under the view that these elements are true quantificational phrases. It is a well-known fact that true QPs give rise to scope ambiguities. Consider sentence (43) with a focus-fronted negative QP which takes either wide or narrow scope with respect to the subject. Syntactically, the QP-object *kanena arthro* is generated in the object position (t_1) and it moves to the left periphery (spec,FocusP) by A'-movement

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(Rizzi1990; see Tsimpli 1990; Agouraki 1990 among others on Greek focus-fronting sentences). Prosodically, there is a single pitch accent, assigned to the dislocated element (on *kanena arthro* in (43)) while no pause follows the focus-fronted phrase (see fn. 8; see also section 2.2, Chapter 2).

(43)   [KANENA ARTHRO]$_1$ dhen perasan   dhio krites t_1.
         no   paper   not   pass-3PL   two referees
       'NO PAPER was accepted two referees.' (no >two, $^?$two>no)

How is the focus-fronting example in (43) relevant to the discussion on Topicalized QPs? (43) shows that focus-fronting does not affect the quantificational force of QPs and both wide and narrow scope readings are allowed. On the other hand, the fact that Topicalization restricts the possible readings of dislocated QPs, as in (41) and (42), indicates that the quantificational force of Topicalized QPs is suppressed.

   There is thus independent motivation for assigning a non-quantificational analysis to Topicalized neg-words and other (modified) numeral-DPs. Before I close this section, I would like to return to the quantificational determiners examined in section 6.2 (e.g., weak, bare numeral and modified numeral QPs) to explore their compatibility with Topicalization.

6.4.3. Topicalized (modified) numeral and other weak QPs as properties
We have shown that a number of QPs allow CLLD. We should now investigate the distribution of Topicalization among these QPs.

(44)   [*Q-det*   arthra (pano sto thema)],   dhimosiefse   o   Kostas.
                  papers (on this topic)   published-3SG   the   Kostas

   a. OK: *kapja* (some), *pede* (five), *pola* (many), *dhiafora* (several), *kapja ligha* (a few), *ligha* (few), *perisotera apo pede* (more than five), *lighotera apo pede* (less than five), *tulahiston pede* (at least five), *katholu ... dhen* (not any … not)
   b. *: *ta perisotera* (lit. the most), *ola ta* (all the)

   The vast majority of Q-determiners more or less allow Topicalization. Weak indefinites (some, many etc.), numeral QPs and modified numeral QPs are perfectly fine

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in (44). Furthermore, the Topicalized Q-det in (44) show the same properties as any other Topicalized phrase. The following Topicalization sentences, irrespective of the choice of the Q-determiner, are WCO-sensitive as in (45) and they mandatorily receive an inverse scope reading. In other words, in (46) the Q-det is interpreted within the scope of the subject-QP.

(i) *WCO sensitive:*

(45)   *[*Q-det*   arthra]$_1$,   kritikare   [o   sighrafeas   tus$_1$].

                      papers   criticized-3SG   the   author   their

        [Q-det PMs] were criticized by their own author.'

(ii) *Narrow-scope reading:*

(46)   [*Q-det*   arthra (pano sto thema)],   dhimosiefsan dhio   erevnites.

                        papers   (on this topic)   published-3PL two   researchers

        '[Q-det papers] were published by two researchers.' (2>*Q-det*)

Q-det: *kapja* (some), *pede* (five), *pola* (many), *dhiafora* (several), *kapja ligha* (a few), *ligha* (few), *perisotera apo pede* (more than five), *lighotera apo pede* (less than five), *tulahiston pede* (at least five).

To illustrate, in (47) below the topic-phrase *perisoterus apo pede vuleftes* receives narrow scope with respect to the subject numeral DP.[13] As a result, (47) describes a situation in which there are two parties, such that each of them supports a (possibly different) set of PMs and that this set includes more than five PMs. I leave it to the reader to compare (36) (wide scope reading) with (47) (narrow scope reading) and verify for himself/herself the scopal difference between CLLDed QPs and Topicalized QPs, respectively.

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[13] Interestingly, obligatory narrow scope readings in (contrastive) Topicalization constructions have been observed in other languages as well (see for instance Krifka 1998 for German; É. Kiss & Gyuris 2003 for Hungarian; Constant 2014 for English; Giurgea 2015 for Romanian).

(47) [Perisoterus apo pede vuleftes]₁, ipostirizun [dhio komata].

      more   than five PMs   support-3PL two parties

      'More than five PMs are supported by two political parties.' (2>more-than-5)

In sum, there is a set of topic-QPs which allow Topicalization, i.e., they are topic-marked without being clitic-resumed. Interestingly, these topic-phrases do not show any specificity/partitivity effects, in contrast to the CLLDed QPs. Moreover, QP-Topicalization aligns with the Topicalization cases examined in chapter 3, in that it triggers WCO-effects and that it mandatorily gives rise to inverse scope readings. In chapter 3, we argued that the aforementioned properties stem from the semantic type of the topic phrase. More specifically we argued that the topic phrase in Topicalization is a property ($<e,t>$) and that moved properties exhibit a specific behavior at LF: they must undergo total reconstruction which results to narrow scope readings (see Chapter 3). If this idea extends to Topicalization of the Q-determiners in (46) as well, it means that the topic-marked Q-det is exclusively interpreted in its base position, as in (48):

(48) [TopP *Q-det* ~~arthra~~ [CP . . . [TP . . . [VP . . . *Q-det* arthra]]]]

The question that arises with respect to (48) is whether there is any evidence that the Q-determiners that undergo Topicalization can be construed as properties. Crucially, this would allow Topicalized QPs to fall into the Propertyhood Condition of Topicalization. I argue that such evidence can be found in the existential construction in Greek with the impersonal verb *ehi* 'has' (see chapter 2, section 2.5), as in (46).

(49) Ehi   chionia.

      has-3SG   snow

      'There is snow.'

In section 2.5 of Chapter 2, I argued that the existential sentences in Greek, follow their English counterparts (McNally 1998, on 'there-be' sentences) in that they require a property-denoting phrase in the object position (e.g., bare nominal, non-specific indefinite DP). From this perspective, the existential sentences in Greek can be used to test whether the Q-determiners in question may be construed as properties.

What we predict at this point is that the distribution of Q-determiners as topic-phrases in Topicalization sentences in (44) must coincide with the distribution of these phrases in the existential construction with the verb *ehi*, since both constructions impose identical semantic restrictions. (50) illustrates which of the Q-determiners may undergo Topicalization (repeated from (44)).

(50) [*Q-det*   arthra (pano sto thema)],   dhimosiefse   o   Kostas.
               papers (on this topic)   published-3SG   the   Kostas

    a. OK: *kapja* (some), *pede* (five), *pola* (many), *dhiafora* (several), *kapja ligha* (a few), *ligha* (few), *perisotera apo pede* (more than five), *lighotera apo pede* (less than five), *tulahiston pede* (at least five), *katholu … dhen* (not any … not)
    b. *:*ta* (the), *ta perisotera* (lit. the most), *ola ta* (all the), *to kathe* (each)

(51) depicts the compatibility of several Q-determinrers with the impersonal verb *ehi*.

(51)   Ehi   [*Q-det*   vivlia] pano   sto   trapezi.
      has-3SG   books on   to-the table
     'There are Q-det books on the table.'

    a. OK: *kapja* (some), *pede* (five), *pola* (many), *dhiafora* (several), *kapja ligha* (a few), *ligha* (few), *perisotera apo pede* (more than five), *lighotera apo pede* (less than five), *tulahiston pede* (at least five), *katholu … dhen* (not any … not)
    b. *: *ta* (the), *ta perisotera* (lit. the most), *ola ta* (all the), *to kathe* (each)

As shown in (50) and (51) our prediction is borne out. Q-determiners in (51a) are perfectly fine as complements of the impersonal *ehi*. This means that they have access to a well-defined property denotation ($<e,t>$) (along with their individual-denotation presented in section 6.2.2). Consequently, there is nothing wrong with assuming a property-denotation for the topic-marked Q-determiners in (50a). By extension, the fact that the existential sentences with the Q-determiners are degraded or ungrammatical in (51b) shows that these QPs may not be construed as properties ($<e,t>$). This is in accordance with the fact that these Q-det may not undergo Topicalization, as the Propertyhood Condition predicts.

With respect to the property-level denotation of Topicalized QPs, it is generally assumed that *generalized quantifiers* ($<<e,t>t>$) turn into properties ($<e,t>$) through the type-shifting function *BE* (Partee 1987; see also McNally 1998). In essence, this function generates the set of entities (that arise as singletons) in the domain of a generalized quantifier (52). For plural QPs like 'two students', the resulting denotation involves non-atomic individuals (53).

(52)   *BE*(QP$_{<<e,t>t>}$) = λx.QP(λy.y=x)

(53)   *BE*(two-students) = λx.two-students(λy.y=x) = λx.two-students(x)

How this approach applies to the full range of the Topicalized quantificational determiners in (50a) should be examined in a future occasion.

6.5. Summary of the properties of CLLDed/Topicalized QPs

The properties of QP-topics in Greek CLLD and Topicalization are summarized in the following table.

	CLLDed QPs	**Topicalized QPs**
Referentiality effects	YES	NO
WCO-sensitivity	NO	YES
Wide vs. Narrow scope	Only wide scope	Only narrow scope

Table 1. Properties of CLLDed and Topicalized QPs

From this table, one gets a sense of complementarity between CLLDed and Topicalized QPs. This should not come as a surprise given the complementary relation between CLLD and Topicalization with respect to their distribution and to other syntactic/semantic properties, exhibited in chapters 2 and chapters 3-4, respectively.

More specifically, in the previous chapters it was argued that these syntactic-semantic properties are associated with the individual or property-type denotation of CLLDed and Topicalized phrase respectively. Along these lines, I already argued that CLLDed weak QPs (e.g., numerals, modified numerals) are of type *e* (6.2.2), while Topicalized weak DPs are of type <e,t> (6.4.3). Recall that independent evidence for the individual-type denotation of CLLDed QPs and the property-type denotation of Topicalized QPs comes from appositive relatives and existential sentences respectively. In what follows I turn to the semantic type of negative and universal QPs.

6.6. Topic-marked negative and universal QPs

6.6.1. CLLDed/Topicalized neg-words

First of all, recall that I use the label 'QP' (Quantificational Phrase) descriptively for the group of phrases exhibited in this chapter. Indeed, whether the neg-word 'kanenas' (no one), for instance, is a true quantificational element or not is quite an open issue (see Zeiljstra 2004: 7.4, for an overview of the different views). At this point I would like to make clear that it is not my intention to discuss the semantic type of the Greek QPs in general. Rather, I only discuss the semantic type of the QPs which head a topic-marking dependency. Thus, the following discussion is restricted to topic-marked QPs.

In this section I will argue that the Propertyhood Condition on Topicalized phrases forces a property-type denotation (<e,t>) for the Topicalized neg-words. Following Zeijlstra (2004) for instance, we can argue that the neg-words in Greek, like 'kanenas' (nobody) are *non-negative indefinites* that introduce a free variable, in the sense of Heim (1982) (see also Tsimpli & Roussou 1996 on Greek neg-words). In the present study, indefinites are treated as phrases of type <e,t>.[14] The existential sentences in Greek have been used as a test for phrases of a property semantic type (<e,t>). More concretely, the impersonal verb *ehi* (lit.: has) in the existential sentences requires a complement of type <e,t>. Against this background, a Greek neg-word must be able to occur as the complement of the existential verb, if it is of type <e,t> (see McNally 1198). This is what we find in (54).

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[14] Zeijlstra (2004) assumes an <<e,t>t> semantic denotation for indefinites. The semantic denotation of the neg-word 'kanenas' (nobody) would be λP.[person(x) & P(x)].

(54) a. Dhen ehi [kanena vivlio] pano sto trapezi.
        not has-3SG no book on to-the table
        'There is no book on the table.'

    b. Dhen ehi [kamia fotoghrafia] pano sto trapezi.
        not has-3SG no picture on to-the table
        'There is no picture on the table.'

    c. Dhen ehi [kanenan] sto parko.
        not has-3SG nobody at-the park
        'There is nobody at the park.'

As one can see in the above examples, Greek is a *negative concord language* which means that in negation contexts, the neg-word co-occurs with a preverbal negation item like *dhen* or *min* (not) in the specifier position of a Negation Phrase, which is interpreted as a negative operator (cf. Zanuttini 1991).[15]

(55) *(Dhen) irthe kanenas.
        not came-3SG nobody
        'Nobody came.'

Semantically, the negative operator introduces an existential quantifier that binds any free variable in the structure (cf. Giannakidou 2000). Therefore, the free pronoun introduced by the indefinite neg-word gets bound by the negation-associated existential quantifier:

(56) [NegP ¬∃x [Neg' dhen [vP irthe kanenas(x)]]]

What is crucial for the purposes of the present study is that under the property-level analysis of neg-words, Topicalized negative QPs fall into the Propertyhood generalization of Topicalized phrases.

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[15] Zeijlstra (2004) argues that Greek negative sentences involve a covert negative operator and that *dhen* or *min* are not true negative items. This view is absolutely compatible with the discussion that follows.

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What about the CLLDed neg-words? Let me remind you of the main characteristics of the sentences with CLLDed QPs. In (57), the left dislocated *kanena arthro* is clitic resumed and it must be interpreted in its surface position. In addition, CLLD constructions headed by neg-words are WCO immune.

(57) Kanena   arthro, dhen to perasan   dhio   krites.
       no   paper not   CL approved-3PL two   referees
      'None of the papers was approved by two referees.' (no-paper>2)

In chapter 2 we showed through a handful number of different cases that only individual-denoting phrases undergo CLLD in Greek. For CLLDed indefinites, we argued for a choice function analysis (see Reinhart 1997; Winter 1997; Kratzer 1998). This fits well with the fact that these indefinites receive a referential/specific interpretation. We can now extend this account to the CLLDed neg-words as well.

What is crucial in these cases is that there is a choice function applying to the neg-word indefinite *kanena arthro* 'no paper' (λx.[thing(x) & paper(x)]). The choice function variable (f) extracts an individual from the set of the papers.

(58) ⟦kanena arthro⟧ = $f^{cf}(\lambda$x.[thing(x) & paper(x)])

With respect to the derived interpretation of (57), the existential quantifier which is introduced by the negative operator ($\neg\exists$) binds the choice-function variable (f^{cf}), as in (59).

(59) [$\neg\exists f^{cf}$[approved(dhio krites) (f^{cf}(⟦kanena arthro⟧))]]

The desired interpretation for (57) follows from (59): "it is not the case ($\neg$) that there is some choice function f ($\exists f^{cf}$) such that two referees (*dhio krites*) approved the individual paper selected by f (f^{cf}(⟦kanena arthro⟧))".

It was noted earlier that the CLLDed negative neg-word *kanena arthro* 'no paper' in (57) does not deny the existence of papers. On the contrary, it seems that it presupposes a set of contextually relevant papers. These facts are captured in (59) in the following way: first, the negative/existential operator is not associated with the paper-variable

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(which would translate as "there is no x, such that x is a paper"). Rather it binds a choice function variable: "there is no *f*, such that *f* is a choice function"). Second, the fact that (59) presupposes a set of papers is related to the definition of choice functions, which dictates that a choice function requires a non-empty set (Reinhart 1997). One more point to consider is that the neg-word *tipota* (nothing), following other bare quantificational elements (like *kati* (something)), can hardly get clitic-resumed (see (20)). Above we argued that this restriction might be related to the choice function analysis of CLLDed QPs. Bare quantifiers like *tipota* 'nothing' and *kati* 'something' are typically incompatible with choice functions due to their lack of an NP-restrictor. The absence of a restrictor makes it hard (for the hearer) to identify the set which the choice function applies to.

In what preceded, we attempted to derive the distribution and the properties of the CLLDed and the Topicalized neg-words, based on the assumption that neg-words are indefinites. In Topicalization, as the Propertyhood condition requires, the property type of neg-words is preserved. Topicalized neg-words get existentially closed by a DP-external operator, like any other weak indefinite) and, being of type <e,t>, they must be interpreted in their base position (i.e. they undergo total reconstruction) for compositionality reasons. CLLDed neg-words on the other hand involve a choice function that extracts an individual out of the set that the indefinite denotes. Having said that, CLLDed neg-words align with the Individualhood Condition on CLLDed phrases. We have seen that the choice function analysis derives the desired interpretation of these sentences, with a partitive reading upon CLLDed neg-words.

6.6.2. CLLDed/Topicalized universal QPs: '(to) kathe'

The last step for this analysis is to demonstrate that topic-marked QPs 'kathe NP' (every/each) denote properties in Topicalization and individuals in CLLD. This move will immediately explain the properties of CLLDed/Topicalized 'kathe', in the same way we have explained the properties of the rest CLLDed/Topicalized QPs.[16] Below, I give some data which possibly point to this direction. Further research howerver is needed.

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[16] Recall the problem with the detection of the narrow scope reading of the dislocated 'kathe DP', since it is entailed by the surface scope reading.

To begin with, there is a crucial difference between Greek *kathe* and English *every/each*: as illustrated in (60) *kathe* may co-occur with the definite article *to* (see Giannakidou 2004; Lazaridou-Chatzigoga 2009; Margariti 2014 among others).

(60) a. kathe   arthro
           every/each   paper

       b. to   kathe   arthro
          the   every/each   paper

       '(*the) every/each paper'

It has been observed that 'kathe' translates as 'every', while 'to kathe' is better understood as 'each' (see Anagnostopoulou 1994; Margariti 2014). Below I will argue that there is a complementarity in the distribution of the two types of 'kathe' with respect to the two topic-marking strategies in Greek, CLLD and Topicalization, approximately as in (61). (61) is substantially amended below.

(61)   a. [to kathe NP], *(clitic) . . .   (= CLLD)

        b. [kathe NP], (*clitic) . . .   (= Topicalization)

For convenience, consider (62)-(63) which illustrate the distribution of '(to) kathe' topic phrases more transparently:

(62)   *CLLD*
        a. [to kathe NP], clitic . . .
        b. *[kathe NP], clitic . . .

(63)   *Topicalization*
        a. [kathe NP], . . .
        b. *[to kathe NP], . . .

I will start with the Topicalization sentences, whose distribution with respect to the universal 'kathe' can be demonstrated in a straightforward manner. More specifically, (64) replicates the points (63a) and (63b): 'kathe NP' can undergo Topicalization, whereas 'to kathe NP' cannot.

(64)   [(*To) kathe arthro],   aperipsan   dhio   krites.
       the   every paper   rejected-3PL   two   referees
       'Two referees rejected every paper.'

A question worth asking is why Topicalization excludes 'to kathe NP'. We know from Chapter 2 that Topicalization excludes individual denoting topic phrases. By extension, one could argue that 'to kathe NP' denotes an individual, a point that needs further investigation. The presence of the definite article might be perceived as reminiscent of such an analysis. I discuss this option below.

The distribution of '(to) kathe' in CLLD is a fairly complex issue. According to (63), only 'to kathe NP' can be CLLDed. In (63b) more specifically I argue that CLLD excludes a 'kathe NP' topic. Unfortunately, this seems to go against the examples given below. Consider (65) for instance, which clearly shows that in a CLLD sentence 'kathe' and 'to kathe' can be used interchangeably.

(65)   [(To) kathe arthro],   to aperipsan   dhio   krites.
       the   each paper   CL rejected-3PL   two   referees
       'Each of the papers was rejected by two referees.'

In what follows I will argue that (65) only apparently contradicts (63b). More concretely, I will show that CLLDed 'kathe NP' systematically behaves as 'to kathe NP' even if the definite determiner is not overtly present.[17]

Several studies in the last two decades have revealed certain differences between 'kathe' and 'to kathe'. Here I will only refer to three of these differences. First, Etxeberria & Giannakidou (2010: 107) show that 'to kathe NP', unlike 'kathe NP', is

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[17] Recall that in Chapter 2.3., I argued that CLLDed nominalized clauses may involve a null definite determiner.

presuppositional, in the sense that it presupposes that the set denoted by the NP-restrictor is a non-empty set.

(66)   a. Thelo na vris [to kathe lathos] se afto to arthro.
       b. Thelo na vris [kathe lathos] se afto to arthro.
         'I want you to find [every/each mistake] in this paper.'

In (66a), *to kathe lathos* presupposes the existence of mistakes in the paper. Interestingly, this difference is eliminated when these phrases undergo CLLD. CLLDed 'to kathe NP' is presuppositional and CLLDed 'kathe NP' is presuppositional as well.

(67)   [(to)   kathe   lathos],   theli   na to vri   i   Maria.
        the   each   mistake   want-3SG   to CL find-3SG.SUBJ   the   Mary
         'Mary wants to find each mistake.'

Second, Margariti (2014) observes that 'kathe NP' can be modified by the adverb *shedhon* (almost), as in (68a), whereas this is not possible for 'to kathe NP' in (68b).

(68)   a.   I   Maria efaje   [DP   shedhon   kathe   milo].
       b. ?* I   Maria efaje   [DP   shedhon   to kathe   milo].
              the Mary ate-3sg   almost   the every apple
              'Mary ate almost every apple.'

As shown in (69) the CLLDed 'kathe' phrase, with or without the definite article cannot co-occur with the adverb *shedhon*. *Shedhon*, being a DP-internal nominal-modifier preposes along with the topic-DP.

(69)   ?*[DP shedhon   (to)   kathe milo], to efaje   i   Maria.
              almost   the   each   apple CL ate-3SG   the   Mary
           'Mary ate almost every apple.'

Comparing between the two types 'kathe' and 'to kathe', Lazaridou – Chatzigoga (2009; 2015) mentions that 'to kathe NP', unlike 'kathe NP', is subject to a *total*

distributivity condition (see Tunstall 1998). The following examples (slightly modified) and the discussion comes from Lazaridou – Chatzigoga (2015: 12).

(70) a. I Ino fotoghrafise [kathe zoo].
      b. I Ino fotoghrafise [to kathe zoo].
        'Ino photographed every/each animal.'

The difference between (70a) and (70b) is that the latter necessarily describes a situation where each animal must have been photographed separately. As Lazaridou – Chatzigoga (2009, 2015) explains in (70b) each animal is associated with a separate subevent, a picture-taking subevent. On the other hand, a totally distributive interpretation is not necessary when 'kathe NP' is involved. Therefore in (70a) it might well be the case that some of the animals (or all of them) were photographed together. Once more, this difference is vanished when it comes to CLLD. The choice between 'kathe' or 'to kathe' does not affect the fact that (71) is subject to the total distributivity condition.

(71) [(To) kathe zoo], to fotoghrafise i Ino.
     the each animal CL photographed-3SG the Ino
     'Ino photographed each animal.'

What we should keep in mind from this discussion is that the *CLLDed* 'kathe NP' shows the properties which are associated with 'to kathe NP', with the definite article. Capitalizing on this observation, I propose that in the examples given above, the CLLDed phrase is always a 'to kathe NP' topic-phrase with the definite article being overt or covert (see below). This immediately explains the properties of CLLDed 'kathe NP' exhibited above, which are related to the presence of a definite article (presuppositionality, impossible *shedhon*-modification, total distributivity condition). Related to this assumption are the cases of 'article-drop' examined in Chapter 2 and more specifically the case of CLLDed nominalized sentences, as in (72):

(72) [(To) oti perase], to ksero.
     the that passed-3SG CL know-1SG
     'I know that she passed.'

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The distributional and interpretational properties of CLLDed CPs show that either with or without a definite article at the surface, these CLLDed constituent behave like nominalized CPs, with an overt or a covert D-head (thus they are of category DP) and a semantic iota-operator deriving an individual-type denotation.

Along these lines, I showed that, when CLLDed, the universal 'kathe'-phrase invariably behaves like 'to kathe NP'. As (73) illustrates a CLLDed universal QP may appear with an overt definite artice (**to**) or with a covert definite article (*to-ø*).

(73)   CLLDed 'kathe NP' with or without an overt definite article (*to*):
       a. [DP **to** kathe NP]
       b. [DP **to-ø** kathe NP]

In this way we end up with a one-to-one mapping between [kathe NP] with Topicalization on the one hand and [<to> kathe NP] with CLLD on the other. Henceforth, the angle brackets for the definite article (*<to>*) in CLLDed phrases denote its *optional phonetic realization*.

(74)   CLLD: [<to> kathe NP], clitic . . .
       Topicalization: [kathe NP], . . .

How can one capture the distribution of *kathe*-topics demonstrated in (74)? In line with what we have been arguing so far, in what follows I will propose that the presence of the overt/covert definite determiner in CLLDed universal QPs indicates the presence of an iota-operator which in turn suggests an individual-type denotation for CLLDed 'to kathe NP'.

At this point I would like to bring to the reader's attention the properties of the CLLDed 'to kathe' and Topicalized 'kathe'. Briefly, CLLDed 'to kathe' receives a partitive reading and it does not trigger WCO-effects. In contrast, Topicalized 'kathe' resists a specific/partitive reading and is sensitive to WCO. As clarified above, all these properties will be explained at once if we treat the CLLDed 'to kathe' as an individual denoting phrase and the Topicalized 'kathe' as a property. This view completely overlaps with É. Kiss & Guyris (2003)'s conclusions with respect to topic-marked universal QPs in Hungarian. In particular, É. Kiss & Guyris (2003: 393) propose that

"when such a universal DP appears as a contrastive topic, it either denotes an individual or a property, as other contrastive topics do".

For É. Kiss & Guyris a universal QP (e.g., *minten kutyát* 'every dog') has a well-defined property denotation ($<e,t>$) which denotes "the property of being the sum of all atomic individuals in the denotation of 'dog'" (p.394.), which is abbreviated as follows:

(75)   λx.ALL-DOGS(x)

É. Kiss & Guyris (2003: 393) explain that "this property is possessed by one individual only, the maximal individual in the semilattice corresponding to the noun denotation". This individual corresponds to the individual denotation (*e*) of the universal QP 'minten kutyát' ('every dog').

Given this analysis, it could be argued that, in Greek, a topic-marked [*iota*-OP <to> kathe NP] phrase corresponds to the individual denotation described above. Left-dislocation of this phrase would give rise to a CLLD dependency (see (76)). On the other hand, a topic-marked [kathe NP] has the property denotation and is left-dislocated through Topicalization (see (77)).

(76)   topic-marked ⟦<to> kathe arthro⟧ ∈ D$_e$: head of CLLD chains

(77)   topic-marked ⟦kathe arthro⟧ ∈ D$_{<e,t>}$: head of Topicalization chains

In particular, I claim that 'kathe NP' is a property of type $<e,t>$, for the property of being the sum of all the atomic individuals in the denotation of the NP.

Let us now explore the meaning of the individual denoting constituent [(to)-iota-OP kathe NP]. The basic idea is that this constituent denotes the unique individual which appears in each subevent. A similar idea is developed with respect to the universal 'every' in generic contexts. Fox & Sauerland (1996) observe that the universal quantifier in these contexts shows properties that cannot be explained under the standard theory of quantification (e.g., they seem to violate the clause-boundedness of QR). For instance, an embedded universal quantifier appears to receive a wide-scope reading with respect to a matrix existential quantifier ((78) from Fox & Sauerland 1996: ex2a):

(78)   In general, [a guide]$_\exists$ ensures [$_{CP}$ that [every tour to the Louvre]$_\forall$ is fun].

$$(\exists > \forall, \text{illusionary } \forall > \exists)$$

This scopal ambiguity is blocked in episodic contexts. The authors resolve this puzzle by assuming that the Generic operator breaks the world in many situations and that each situation involves a single tour and a unique guide. The surface scope reading ($\exists > \forall$) in this context (79a) derives the illusionary wide scope of the universal element as well (79b).

(79)   a. In every situation S there is exactly one guide x and exactly one tour y, such that x ensures that y to the louvre is fun.

        b. For every tour y, there is one guide x, such that x ensures that y to the louvre is fun.

More relevant is the discussion on Greek 'kathe' in Alexopoulou (2009) and Sauerland (2009). These authors adopt the idea of Fox & Sauerland (1996) and argue that in generic contexts a CLLDed '(to) kathe NP' is trivialized in situations that contain only one individual that satisfies the NP-restrictor. Although the idea of trivialized universal phrases will prove useful for the CLLD cases at hand, the analysis as demonstrated above does not extend to the episodic (non-generic) examples discussed in this chapter.

Recall the interpretation of CLLDed '<to> kathe', which according to Lazaridou & Chatzigoga (2009, 2015) is subject to the *total distributivity condition* (Tunstall 1998).

(80)   [(To) kathe zoo],   to fotoghrafise   i   Ino.
        the   each   animal   CL photographed-3SG   the   Ino
        'Ino photographed each animal.'

The total distributivity condition dictates that for (80) to be true, these must be a separate picture-taking event for each animal of the set of the contextually relevant animals (see *Figure 5*, retrieved from Lazaridou – Chatzigoga 2015).
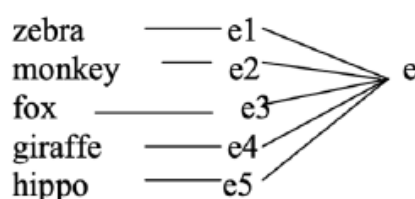
Figure 5. Total distributivity scenario

Figure 5 demonstrates that the event structure of (80) is divided into several subevents (e1, e2, e3…). Specifically, we get a separate subevent for each member of the set of animals. Each animal creates its own separate event. As a result, in each subevent the NP-restrictor is a singleton set, with only one animal. As Lazaridou – Chatzogoga notes, the presence of the definite article in *to kathe zoo* is strictly related to the total distributive interpretation since it ensures that a unique animal exists in each subevent (cf. Giannakidou 2004; Etxeberria & Giannakidou 2010) . More specifically, according to her analysis, the definite article introduces the pragmatic conditions of *familiarity* and *uniqueness* ('weak familiarity' and 'count as unique' in her terms, respectively) for the quantificational element 'to kathe'. I depart from Lazaridou – Chatzogoga (2015) in that I argue that *uniqueness* is a semantic, rather than a pragmatic effect, which comes from the iota operator ($\iota x.animal(x)$ in the subevent e).

Although a formal analysis is missing, in the following paragraphs I provide empirical evidence in favor of this suggestion. I will focus on certain binding relations in Greek which however are only apparent. Fox & Sauerland (1996) use the term "binding illusion", in order to show that no true binding chain is formed in these cases.

Binding illusion no.1:
Consider the following pair from Tsili (2001) (cited in Lazaridou – Chatzigoga 2009):

(81)   a. *[I   mitera tu$_1$]   sinodheve   [kathe pedhi]$_1$.

          the   motherhis   accompanied-3SG   every child

b. [I mitera tu[1]] sinodheve [**to** kathe pedhi][1].[18]

　the mother his accompanied-3SG the each child

'Each child was accompanied by his mother.'

According to the intended reading, which is derived in (81b) but not in (81a), the pronominal *tu[1]* in the DP-subject co-varies with the universal QP-object. It seems that in the well-formed (81b) the universal *to kathe pedhi* binds the pronominal *tu*. However, this is not possible, for the object-QP does not c-command the subject-internal pronominal. One could argue that the QP-object QRs to a c-commanding position. This is not possible either, because the QR of the QP-object is blocked by WCO. Under the view that **to kathe pedhi** (each child) may refer to the unique child in some subevent, the relation between the pronominal *tu[1]* and the QP-object is a coreference rather than a binding relation.

Binding illusion no.2:
The QR solution is also excluded by examples like (82), where the QP 'to kathe NP' would be in need to cross a CP-boundary. Compare between (82a) with 'to kathe NP' and (82b) with 'kathe NP'.[19]

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[18] A number of authors report examples like (88b) as ungrammatical (Alexiadou & Anagnostopoulou 1997, Spathas 2005, Angelopoulos 2019b). It would be useful to give some context behind this judgement. The minimal pair that is given by those authors highlights how clitic-doubling extends the binding possibilities of 'to kathe NP' The following examples come from Alexiadou & Anagnostopoulou (1997: 4a,4b).

(i) *?[O skilos tis[1]] akoluthise [tin kathe jineka][1] padu.

(ii) [O skilos tis[1]] **tin** akoluthise [tin kathe jineka][1] padu.

　'Her dog (**clitic**) followed every woman everywhere.'

I agree with the reported contrast between (i) and (ii). However, this does not eliminate the contrast between (81a) and (81b).

[19] If the reader finds it hard to accept (82a), such examples are further improved with focus on the DP that contains the pronoun as in (i), or we can add the intensifier 'i idja' (lit. the same, "her own") in the relevant DP, as in (ii).

(i) [CP [I MAMA tu[1]] me estile [CP na paro [to kathe pedhi][1]]].

　'His MOTHER told me to pick up each child.'

(ii) [CP [I idŋja tu i mama[1]] me estile [CP na paro [to kathe pedhi][1]]].

　'His own mother told me to pick up each child.'

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(82)   a. [CP [I mama tu1] me estile [CP na paro [**to** kathe pedhi]1]].

        b. *[CP [I mama tu1] me estile [CP na paro [kathe pedhi]1]].

          'His1 mother told me to pick up each/every child.'

The covariation in (82) cannot reflect a binding relation. In this sense, it is an instance of a 'binding illusion'. In these cases, the pronoun is coreferential with the individual denoting *to kathe pedhi*.

Binding illusion no.3:

The last example of binding illusion that I have in mind concerns the VOS order and is offered by Kupula (2014) (see 5.3.2, for a detailed presentation of this point). Kupula observes that in VOS orders the object seems to be able to bind into the subject. The example that Kupula (2014: ex.20b) gives involves a universal QP with a definite article as in (83):

(83)   Sinadise   [**to**   kathe   koritsi]1   [o pateras   tu1].
        met-3SG   the   every   girl   the father   his
        'His father met every girl.'

However, in 5.3.2, I argued in detail that the QP-binding relation in (83) cannot be real. In (84) the "bare" universal QP cannot bind the subject-internal pronoun.

(84)   *Sinadise [kathe koritsi]1 [o pateras tu1].
        'His father met every girl.'

This casts doubt on the assumption that, in VOS, the object may bind into the subject. As a matter of fact, relevant evidence clearly shows that, in VOS orders, it is the subject that c-commands the object and not the other way around. Consider the following examples, repeated from Chapter 5.

(85)   a. *Dhen prosehi [ton Jani]1 [o eaftos tu]1.
           'Himself does not take care of John.'

Crucially, the strategies in (i) and (ii) would not make (90b) any better.

b. Dhen prosehi [ton eafto tu]$_1$ [o Janis]$_1$.

'John doesn't take care of himself.'

These examples point to one direction: in VOS the subject c-commands (and may bind into) the direct object and not vice versa. A crucial question that arises is how the direct object binds the subject-internal pronoun in (83)? For the present thesis the answer to this question is simple: it doesn't. What is perceived as QP-binding is a co-reference relation between the pronoun *tu*$_1$ and the [**to** kathe NP] constituent. The presence of the definite article is what exactly allows the QP-object to (co)refer, as individual-type phrases do. In conclusion, the covariation between the pronominal and the 'to kathe NP' in the three cases presented above can only be a coreference relation, a relation which holds between two individual denoting expressions.

To sum up, *topic-marked universal QPs* come in two versions: the individual-denoting [<to> kathe NP] which heads a CLLD chain and the predicate-denoting [kathe NP] in Topicalization sentences. Although further analysis is needed, I claimed that the former denotes the unique individual that is involved in each sub-event (see Lazaridou – Chatzogoga (2015)), while the latter denotes the property of being the sum of all atomic individuals in the denotation of the NP-restrictor (see É. Kiss & Guyris 2003). With these assumptions in place, the interpretational properties and the WCO/reconstruction behavior of the two chains are captured without further assumptions.

6.7. Conclusion

In this chapter I dwelled on a wide range of phrases which are typically assumed quantificational phrases (QP), such as (modified) numerals, negative words and phrases with universal determiners. I showed that the type-theoretic distinction between CLLD and Topicalization extends to the sentences with a QP-topic. In few words, CLLDed QPs are restricted to individual-level denotations, while Topicalized QPs are always of type <e,t>. Evidence for this claim comes from the distribution of these phrases as the former may head an appositive relative clause while the latter are compatible with the existential construction. Further support is lent by the syntactic behavior of these phrases. CLLDed QPs receive a partitive/wide-scope interpretation and they are immune to WCO. As explained above, these properties suggest an individual denotation. On the other hand, the narrow scope is the only option for Topicalized-QPs.

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This is associated with their property-type denotation and the fact that property-denoting traces do not exist.

Special attention was paid to the topic-marked universal QPs, where I argued for a strict mapping between universal QPs and the two topic-marking strategies in Greek: *kathe NP* (every) undergoes Topicalization while topic-marked *to kathe NP* (lit.: the every, 'each') phrases must be resumed by a clitic. Although the definite article of the latter can be dropped in CLLD sentences (<to> kathe NP), its interpretational effects (e.g., presuppositionality, total distributivity) are maintained. Regarding the semantic type of '<to> kathe NP' our hypothesis predicts that it must be of type *e*, referring to the unique individual that satisfies the NP-restrictor in a certain (sub-)event. An effect of this analysis is that in certain contexts these phrases are able to (co)refer ('binding illusions'), a property that points to an individual-type denotation.

Chapter 7. Resumptive and non-resumptive wh-questions

7.1. Introduction

This chapter investigates resumption in wh-questions in Greek, by comparing resumptive wh-questions to their "gap" counterparts. (1) and (2) illustrate a *gap wh-question* and a *resumptive wh-question*, respectively. Recall that in Greek, resumption is realized as clitic-resumption, thus the left-dislocated wh-phrase in (2) is resumed by a resumptive clitic.

(1)   Pjon   fititi   sinadise   i Maria sto   parko?
        which student   met-3SG   the Mary at-the park
        'Which student did Mary meet at the park?'

(2)   Pjon   fititi   ton sinadise i Maria sto   parko?
        which student   CL met-3SG the Mary at-the park
        'Which student did Mary meet at the park?'

One of the main goals of this thesis is to determine the syntactic and semantic conditions which give rise to resumption in Greek A'-dependencies. My proposal regarding this issue is that *resumptive clitics* mark traces which are interpreted as variables of semantic type *e*, as in (3).

(3)   Resumption Marks Individual Variables (*ReMIV*):
        Traces of A'-movement are interpreted as individual-type variables *iff* they are associated with a resumptive clitic.
        (A'-traces are interpreted as variables of type *e* ↔ A'-traces are associated with a resumptive clitic)

Up to this point, it was shown that ReMIV works fine with the topic-marking dependencies. More specifically, when an individual-denoting topic phrase (let's say a

definite DP) undergoes left-dislocation, it obligatorily leaves an individual-denoting trace, hence clitic resumption is mandatory (CLLD). On the other hand, it was shown that left dislocation of a property-denoting topic (e.g., a bare noun) cannot be mapped onto an individual variable. Thus, it is predicted that a resumptive clitic never resumes a property-denoting topic (Topicalization). This prediction was shown to be borne out.

So far so good. But do the observations on topic-marking dependencies suffice to confirm our account? The answer is no, because the proposed account, as stated above, should also cover (at least) the standard cases of wh-questions. The most obvious question that probably has popped up in the readers' mind while going through the previous chapters is the following: If a resumptive clitic arises in A'-dependencies which map onto individual variables, why don't we constantly find resumptive clitics in wh-questions, which according to the classic view (Kartunnen 1977; Heim & Kratzer 1998 among others) involve an individual variable?

(4) Pjon   fititi λx sinadise   i   Maria x?
     which   student   met-3SG   the   Mary
     'Which student did Mary meet?'

Given ReMIV, there is only one way to respond to this question: gap wh-questions do *not* involve abstraction over individual variables, in contrast to what is illustrated by (4). Indeed, in this chapter I am going to argue that, as the present thesis predicts, *only* and *all* resumptive wh-questions in Greek involve individual variables, while non-resumptive questions like (4) involve abstraction over a *choice function variable* $f_{<<e,t>e>}$. The next section reviews the discussion and the main arguments in favor of the choice function analysis of wh-questions. In addition, section 7.5, introduces an additional LF-representation for *gap what-questions*, thus we end up with a tripartite taxonomy of wh-dependencies in Greek.

In this chapter, I focus on (a) the distribution of resumptive clitics across different types of wh-questions and (b) the syntax-semantics behavior of resumptive dependencies. More precisely, with respect to the distribution of resumptive clitics in wh-questions, it will be made clear that not all wh-questions allow clitic resumption. Therefore, it should be examined which of the wh-questions allow it and which do not. This will help us to determine the structural (syntactic/semantic) conditions that facilitate clitic resumption in wh-questions.

Regarding (b), in the previous chapters, to a large extent, we determined the syntactic-semantic behavior of A'-dependencies with an individual variable (e.g., lack of WCO effects, wide scope readings, unavailability of parasitic gaps). Building on this background, we can, in a quite straightforward manner, test our account for the clitic-resumption in A'-dependencies. We expect that resumptive wh-questions map onto individual-denoting traces and show the effects mentioned above. On the other hand, gap questions are not expected to show the syntactic/semantic effects which are associated with the presence of an individual variable. Moreover, recall that in chapter 3 we also saw several syntactic properties which are characteristic of dependencies that undergo total reconstruction, with property-level copies in the trace position (e.g., they are compatible with existential sentences). Therefore, these properties will be used as a diagnostic tool to test the (non-resumptive) wh-dependencies for total reconstruction.

The present chapter is structured as follows: In section 2, I lay out the semantics of wh-questions that I presuppose in this thesis. Section 3 is an introduction to wh-questions in Greek. In section 4, I compare between the resumptive and the gap *which-questions* focusing on their syntactic and semantic properties, while section 5 investigates additional wh-chains (*what-questions, how many-questions, relative clauses*) which provide further support to the conclusion of this chapter.

7.2. Syntax-Semantics of which-questions

7.2.1. Basics of the syntax-semantics of wh-questions

With the term "classic analysis" of wh-questions I refer to the seminal studies on the semantics of wh-questions by Hamblin (1973) and Kartunnen (1977).[1] It has been established that a question denotes a set of propositions ($<<s,t>,t>$) which stands for the set of the possible/true answers to the question. A *proposition* is a set of worlds of type $<s,t>$, therefore the formula $\lambda w.Bill\text{-}came_w\text{-}in\text{-}w$ denotes the set of worlds in which 'Bill came'. This proposition can also be represented with the up-operator ($^\wedge$), as $^\wedge Bill\ came$. I adopt this last representation for expository reasons.

In addition, Kartunnen suggested that the wh-phrase is semantically interpreted as an existential quantifier which binds a variable in the question nucleus, as in (5c).

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[1] The present study does not examine Groenendijk & Stokhof's (1984) view of wh-questions.

(5)   a. Which student came?

        b. {^Mary came, ^John came, ^Paul came, . . .}

        c. $\lambda p_{<s,t>}$. $\exists x[x$ is a student & $p =$ ^x came$]$

Before we move on, this is a good point to explore how the semantic denotation of wh-questions corresponds to their (underlying) syntactic structure. Wh-questions involve movement of a wh-phrase (wh-movement) to the left periphery, e.g., the spec,CP. Moreover, it is commonly assumed that the interrogative nature of wh-questions is encoded by a C-head, as an Interrogative Operator.

(6)   a. Which student did Mary see?

        b. [spec,CP which student [did+C[+interrogative] [TP Mary see which student]]]

In feature-checking terms (Chomsky 1995, 2001), C bears two features which are related to wh-movement. First, an uninterpretable [$u$wh]-feature on C turns it into a *probe* which is looking for a matching interpretable [$i$wh]-feature. This feature is found on the wh-phrase which is a *goal* for an agreement relation with C.[2] C then Agrees with the wh-phrase and checks its uninterpretable [$u$wh]-feature. On top of that, C bears an [EPP] feature which requires the overt movement (or the internal merge of the copy) of the wh-phrase to the spec,CP.[3]

(7)   [CP [which student] [C' did+ C[$u$wh],[EPP] [TP Mary T [VP saw which student[$i$wh]]]]]

                                            AGREE

Empirical evidence for an interrogative feature on the complementizer in questions comes from the well-known complementizer alternation pattern in Irish (McCloskey

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[2] According to the Activation Principle (Chomsky 2000) an uninterpretable feature is what renders a phrase visible for AGREE/MOVE. Hence, [which student] requires an uninterpretable [uk], in addition to the [$i$wh].

[3] Different versions of Agree have been proposed since Chomsky (2000, 2001) (see Pesetsky & Torrego 2007; Bošković 2007; Zeijlstra 2012; Preminger 2013 among others). For instance, Pesetsky & Torrego (2007) replace 'feature checking' with 'feature sharing' and reexamine the correlation between feature-(un)valueness and feature-(un)interpretability; Zeijlstra (2012) proposes the 'upward AGREE' according to which targets of Agree c-command their probes.

1990, 2002). In Irish, a declarative (non-interrogative) sentence involves the complementizer *go*, while interrogative clauses are encoded by the [*u*wh]-complementizer *aL*. Importantly, McCloskey (2002) argues in detail that the complementizer alternation in interrogatives is directly related to the movement of the wh-phrase to spec,CP ((8) and (9), from McCloskey 2002: ex.8 and 10a; see below for embedded *aL-sentences*).

(8)   Creidim   gur   inis   se breag.
      believe-1SG   *go*-past=that tell   he lie
      'I believe that he told a lie.'

(9)   Ceacu ceann a   djiol   du?
      which one   *aL*   sell   you
      'Which one did you sell?

   Irish also provides empirical evidence for the claim that long-distance wh-dependencies are derived by *successive cyclic movement*. This means that a long-distance movement consists of shorter movement steps, which always target their closest spec,CP position (see Rizzi 1990; Chomsky 1995). In (10), the long-distance relative clause involves an interrogative [*u*wh]-C *aL* not only in the CP which is adjacent to the head of the relative clause, but also in the intermediate CP (cf. Bošković 2007 who doubts the presence of [*u*wh] on the intermediate Cs). Under the assumption that (10) (like English *that*-relatives) involves a null operator/relative pronoun which starts from the embedded clause, the alternation of the intermediate C shows that the null operator moves cyclically through the intermediate spec,CP.

(10) An   t-ainim   *a*   hinnseadh duin *a*   bhi   ar an   ait.
      the   name   aL   was-told to-us aL   was   on the   place
      'The name that we were told was on the place.'

We have seen the semantic denotation of *which*-questions and their syntactic structure, but we also need a syntax-semantics mapping for these sentences, showing how the underlying LF-representation of these sentences derives the suggested semantic

denotation. Let us assume for now (following Dayal 2016: 8) that the *wh*-question in (11) has the underlying LF-representation in (11').

(11)   Which student did Mary see?

(11')
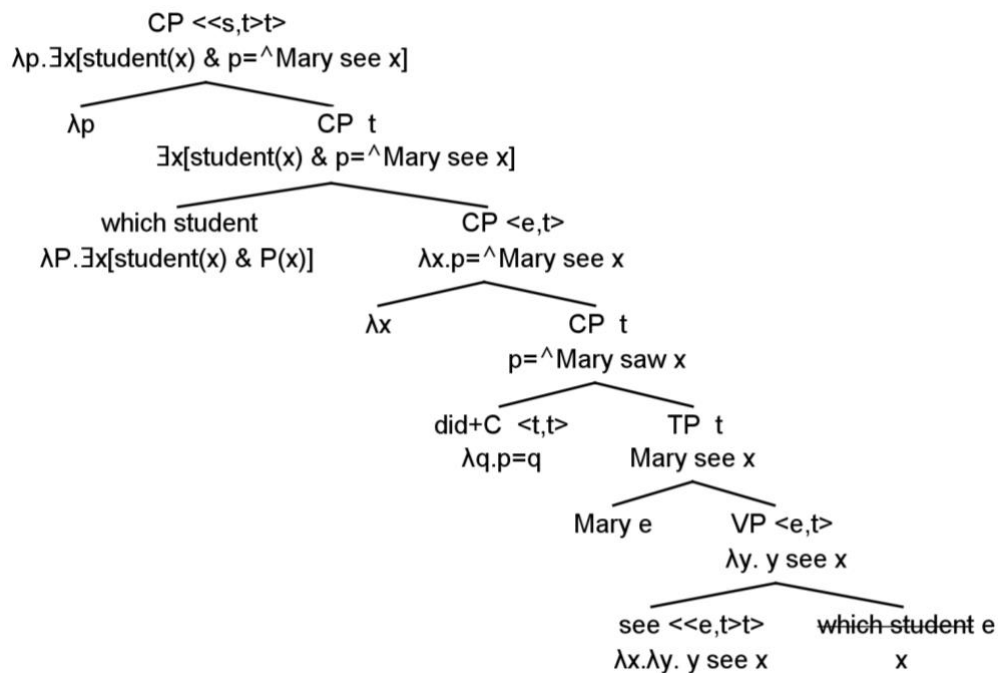
(11') illustrates how the syntax-semantics mapping for wh-questions derives the Kartunnen semantics of questions. The high copy of the wh-phrase along with the NP-restrictor is interpreted as an existential generalized quantifier while the low copy as an individual variable. The interrogative C-head inserts the propositional variable *p* to the question nucleus, a rule which is also called a *proto-question rule* (see Cresti 1995).

At first glance, this representation seems to work fine; however, it should be noted that it is incompatible with the developments within the framework of Minimalism, as it ignores the theoretical conceptualization of movement as *internal merge*: two or more copies of a single phrase merge separately in different positions (see (6b)). More specifically, the *copy theory of movement* posits a copy in the base position of the wh-phrase, rather than a plain variable (x). Indeed, there is vast empirical evidence for this claim from reconstruction and other phenomena (e.g., Antecedent Containment Deletion) (see Fox 1999; Sauerland 2004 among others).

The problem that arises at this point is that we need to maintain the analysis of A'-dependencies as operator – variable chains, while at the same time we want the foot of the chain to be occupied by a copy of the moved phrase. A solution to this problem came from Fox (2002) who suggested a *Trace Conversion Rule* for movement copies (see chapter 5 for more information on the Trace Conversion Rule). Briefly this rule turns the NP-restrictor into a complex predicate (variable insertion) and replaces the wh-operator with the definite determiner (determiner replacement).

(12)   [which student]   → [the [λy.student(y) & y=x]] (or [the$_x$ [student]])

The representation in (13) below, which is the starting point for the discussion on the syntax-semantics of questions in this thesis, is just a collection of some of the ideas presented above: (i) questions denote sets of propositions (Hamblin/Kartunnen semantics of questions), (ii) the wh-phrase is interpreted as an existential quantifier (Kartunnen 1977), (iii) the moved wh-phrase leaves a full-fledged copy in its external merge position (Chomsky 1995), (iv) the low copy of the wh-phrase undergoes trace conversion (Fox 2002).

(13) $\lambda p_{<s,t>}.\exists x[p=^\wedge$Mary see [the$_x$ [student]]]

A word of caution is in order with respect to (13). According to ReMIV, movement copies of type *e* give rise to resumptive clitics. Given that, wh-questions with a denotation along the lines of (13) are expected to trigger clitic resumption. In other words, the analysis of wh-questions as in (13), would predict that resumption of wh-phrases is more widespread than what we actually find (see section 7.4.1.). The analysis discussed below avoids this problem.

7.2.2. *Deviating from the classic view*

The classic semantic analysis of wh-questions, as *individual-variable binding chains*, presented in the previous section has been doubted by various authors who focused on the type of the variable interrogative quantifiers range over. An alternative analysis has been put forward by Reinhart (1992, 1998), according to which the existential quantifier in a wh-question does not bind an individual variable (x_e); rather, it binds a variable which ranges over choice functions ($f_{<<e,t>e>}$) (see also Engdahl 1980; Romero 1998;

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Sauerland 1998; Ruys 2000 among others). In this section I will briefly discuss some of the problems of the *individual-variable approach* as these have been presented in the literature. Next, I discuss the details of the *choice-function analysis* (abbreviated as CF-analysis), and then I present some of the advantages of adopting the latter over the former.

In the next few paragraphs, I mention two problems that the individual-variable approach faces, and which seem to point to a CF-analysis instead.[4] The first problem comes from questions with multiple readings (see Engdahl 1980; Chierchia 1993; Hagstrom 1998; Poole 2017). Consider the question in (14a) which can receive an *individual answer*, a *functional* or a *pair-list answer* as in (14b-d), respectively.

(14)   a. Who does everyone love?
          b. John (individual answer)
          c. His mother (functional answer)
          d. Mary loves John, Samantha loves Peter . . . (pair-list answer)

Following the individual-variable analysis of wh-questions, we could argue that the individual answer (14b) comes about if the wh-phrase outscopes the universal QP, while the functional and the pair-list answers (14c, d), which can be paraphrased as in (15), are derived by QR of the universal QP over the wh-phrase (May 1988).

(15)   For every x, which y does x love?

Chierchia (1993: section 5) however notes many serious technical problems with the QR-analysis in (15).[5] A problem which is easy to illustrate here has to do with long

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[4] The reader is referred to von Stechow (2000) for further problems of the individual variable analysis of wh-questions.

[5] See also Engdahl (1986: 164) and Sauerland (2004: 120) for an additional argument against the Quantifier Raising-analysis of pair-list/functional readings. These authors show that these readings are available even if the universal quantifier is interpreted below other scopal elements in the question nucleus, such as the intensional verb *expect* in (i). In (i) the addressee probably cannot identify the individuals/specific applicants who are expected to refuse to answer, which shows that *expect* scopes over the universal QP.

(i)   [Which of the questions he$_1$ got], did you <u>expect</u> [every applicant] to refuse to answer?

distance wh-extraction as in (16) (from Chierchia 1993: ex.78). (16) excludes quantifier-raising (QR) of 'everyone' above the wh-phrase, since QR is generally assumed to be clause-bound; nevertheless, a functional/pair-list answer is still possible.

(16)   [CP Who do you think [CP that everyone invited]]?

The standard analysis, with the individual variable, falls short when it comes to functional/pair-list readings. Chierchia (1993) concludes that the readings presented above show that wh-questions involve binding of a *function variable*, rather than an individual variable (see also Hagstrom 1998; Romero 1998; Agüero - Bautista 2001; Poole 2017).

The second problem is raised by Reinhart (1992, 1998) who shows that the standard analysis of wh-phrases derives very weak truth conditions for questions with the wh-phrases *in situ* (see also Romero 1998; Ruys 2000). Reinhart (1998: ex15), gives the following example:

(17)   Who will be offended if we invite which philosopher?

As we saw earlier, the semantics of wh-questions require an existential quantifier above the question nucleus. How is that possible for the wh-phrase 'which philosopher' which remains *in situ*? We can assume a base-generated existential quantifier at the left periphery, (unselectively) binding the variable which is associated with the wh-phrase in the object position (Pesetsky 1987). The base-generated operator approach derives the following representation for the wh-question in (17):

(18) $\lambda p_{<s,t>}.\exists <x,y>[p=^{\wedge}[[\underline{y \text{ is a philosopher}} \text{ \& we invite y}] \rightarrow [x \text{ is a person \& x will be offended}]]]$

Note that in (18) the NP-restrictor of the wh-*in-situ* (philosopher(y) = y is a philosopher) remains in the *if*-clause and is interpreted within the *logical antecedent* of the implication. This means that if we assign a value which makes the *antecedent* (*if*-clause) false, the sentence becomes necessarily true regardless of the value of the *consequent* (*then*-clause). Therefore, according to (18), the proposition 'Lucy will be offended if we invite <u>Donald Duck</u>' belongs to the set of propositions denoted by the

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question in (17). This is so because Donald Duck (who is not a philosopher) makes the logical antecedent false and concomitantly the sentence true.

Reinhart (1992, 1998) argues that the 'Donald duck' puzzle is avoided if we assume that the wh-question in (17) involves (unselective) binding of a choice function variable, rather than an individual variable. In (19) the *in situ* wh-phrase 'which philosopher' is interpreted as a choice function (CF) variable of type <<e,t>e> which applies to the set of philosophers. By definition, a choice function applies to a set and extracts a member of that set.[6] Hence, if *Donald Duck* is not a member of the philosopher-set there can be no choice function that returns *Donald Duck* when it applies to the set of philosophers. In this way, the representation in (19) excludes 'Lucy will be offended if we invite Donald Duck' as member of the set of propositions denoted by (17).

(19) $\lambda p_{<s,t>}.\exists<x,f>[p=^\wedge[[\text{we invite } f(\text{philosopher})] \rightarrow [x \text{ is a person } \& x \text{ will be offended}]]]$

Against this backdrop, Reinhart concludes that *in situ* wh-phrases introduce a variable which ranges over choice functions of type <<e,t>e> (see below). Moreover, as Reinhart (1997) and Ruys (2000) independently note, if a unified analysis for wh-phrases *in* and *ex situ* is to be preferred, nothing prevents us from extending the choice function analysis to the moved wh-phrases as well.

To sum up, in this subsection we have seen arguments that *ex-situ* wh-questions (functional readings of questions) as well as *in-situ* wh-questions (Donald Duck puzzle) should be analyzed along the CF-analysis.

7.2.3. The Choice Function analysis

The CF-analysis is wide-spread in the literature of wh-questions (Engdahl 1980; Reinhart 1992, 1998; Romero 1998; Sauerland 1998, 2004; Hagstrom 1998; Ruys 2000; von Stechow 2000; Cable 2010; van Urk 2015 among others). It should be kept in mind that the CF-analysis builds on the Hamblin/Kartunnen view that wh-questions denote sets of propositions (<<s,t>t>), and on the assumption that wh-phrases are associated with an existential quantifier. What is new is the type of the variable that the existential

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[6] This is guaranteed by the definition of choice functions (from Romero 1998: 176):

(i) A function *f* is a choice function (CH(*f*)) if, for every set P in its domain, *f*(P) is a member of P.

quantifier binds. (20) shows how the question 'which student did Mary see?' is to be interpreted according to the CF-analysis, where the existential quantifier ranges over choice function variables ($\exists f_{<<e,t>e>}$).

(20)   a. $\lambda p_{<s,t>}.\exists f[p=^\wedge[\text{Mary saw } f(\text{student})]]$
        b. $\{^\wedge\text{Mary saw } f_1(\text{student}), {}^\wedge\text{Mary saw } f_2(\text{student}), {}^\wedge\text{Mary saw } f_3(\text{student}), \ldots\}$

Now, a true answer to this question must provide a choice function (e.g., f_1, f_2, f_3), which when applied to the set of students extracts some individual student that Mary saw.

An issue arises concerning the syntactic structure that underlies the semantic representation in (20) (see Tsoulas & Yeo 2017, for an extensive discussion on this issue). For instance, which part of the tree corresponds to the existential quantifier in (20a)? Also, does the choice function variable f in (20a) have any syntactic substance? I will start with a simplified analysis of this matter as below:

(21)   a. [Which student] did Mary see [which student]?
        b. [Which ~~student~~] did Mary see [~~which~~ student]?
   c. $\exists f$ did Mary see $[f(\text{student})]$

(21b) follows the instructions of Chomsky's preference principle: the wh-phrase is interpreted high, while the NP-restrictor is interpreted in the lower ('trace') position.[7] Having said that, the following syntax-semantics mapping suggests itself: the low copy of the wh-determiner (which) is interpreted as the choice function variable f which applies to the set of students, while the wh-phrase in the operator position is interpreted as the existential quantifier (see Chierchia 1993; cf. Sauerland 1998; Ruys 2000).[8] (22)

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[7] It should be noted that the choice function analysis requires the deletion of the NP in the high copy for independent reasons. If the NP-restrictor was kept at the operator position, the choice function would apply to this set resulting to an individual, rather than an operator (Ruys 2000: 533).

[8] A number of studies suggest that the syntax-semantics mapping of wh-questions is mediated by a *Q-particle* (Cable 2010). More precisely, wh-phrases in several languages are realized as non-interrogative indefinites, accompanied by a question particle with interrogative semantics (Hagstrom 1998 for Japanese; Cable 2010 for Tlingit). Along these lines, it is assumed that it is this Q-particle that is responsible for the choice-function semantics, while wh-indefinites are interpreted along with the NP-restrictor (cf. Poole 2017):

illustrates the syntactic and semantic analysis of wh-questions, according to the version of CF-analysis I adopt in this study.[9,10]

(22)
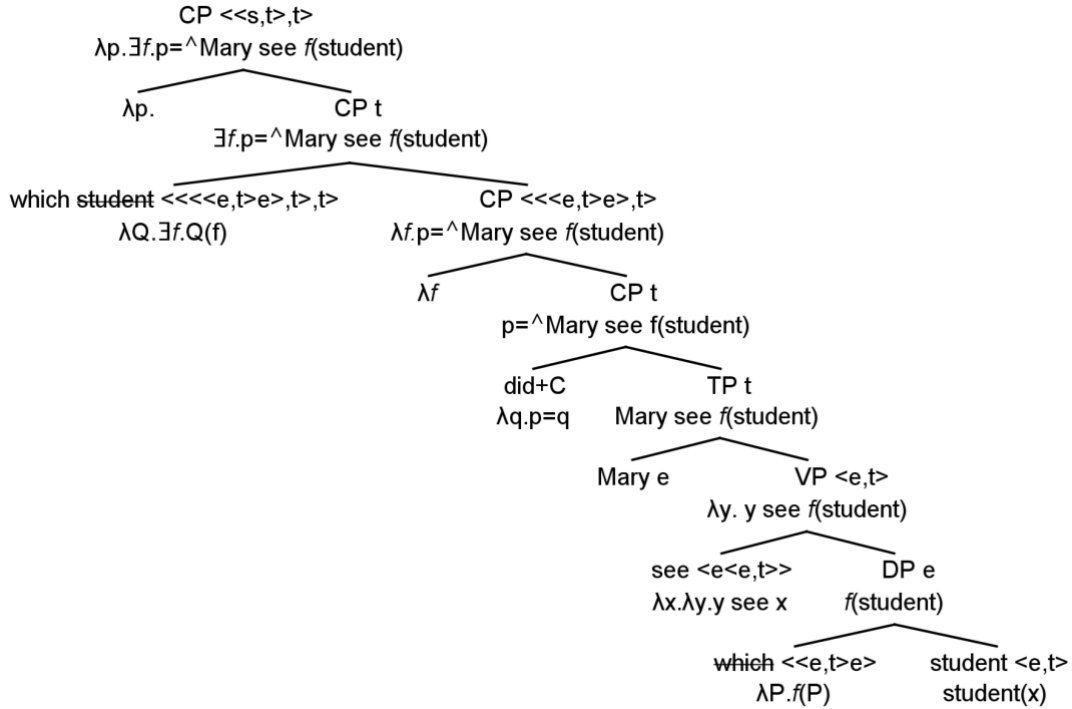
As can be seen in (22), the trace position is occupied by an individual-level phrase (f(student)$_e$), since choice functions, when applied to an NP-restrictor return an individual. Does this mean that the *CF-analysis* is equal to the *individual-variable analysis* presented in section 7.2.1? It should be clear that although both analyses derive an individual-denoting element in the trace position, they do so by different

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(i) a. [$_{CP}$ [$_{QP}$ **Q** [which paper]] [$_{C'}$ C [$_{TP}$ have you criticized [$_{QP}$ **Q** which paper]]]]

   b. [$_{CP}$ [$_{QP}$ ∃f ~~[which paper]~~] [$_{C'}$ C [$_{TP}$ have you criticized [$_{QP}$ f (which paper)]]]]

[9] λ-abstraction over p-variables is placed separately and above the existential quantifier of choice function variables in order to keep the denotations as simple as possible (see also Dayal 2016). In other studies abstraction over p takes place at C, below, or combined with the existential quantifier (Hagstrom 1998).

[10] It should be noted that the original proposals with binding of choice-function variables (Reinhart 1997; Kratzer 1998) as well as more recent choice-function accounts for wh-questions (e.g., Ruys 2000; Cable 2010) do not involve λ-abstraction over choice functions (λf). In the present study, I presume such a λ-abstraction step (as in Urk 2015; Bhatt & Keine 2019 among others), implying that movement is always associated with λ-abstraction, unless it resorts to total reconstruction. As far as I can see, the conclusions of this chapter do not hinge on this decision.

mechanisms: the former through *choice functions*, the latter through *trace conversion*. The effect of that is that in each analysis the trace involves a *bound variable* of a different semantic type. In particular, in trace-conversion, the copy is interpreted as an individual variable, while according to the CF-analysis, the interpretation of the copy requires a λ-binder ranging over choice function variables. As we will see in the next section, this difference is important when it comes to the syntactic/semantic properties of wh-dependencies.[11]

7.2.4. Advantages of the choice function analysis.

Given the shortcomings of the classic approach to the semantics of wh-questions, this study adopts the CF-analysis, according to which the wh-phrase is interpreted as an existential quantifier over choice function variables ($\exists f$). This section lists some of the advantages of the CF-analysis to wh-questions.

I will start with some cases I have already referred to in the previous chapters: weak crossover (WCO) and parasitic gaps. In chapter 4, I put forth an account for WCO, which is based on the CF-analysis of wh-questions (Sauerland 1998; Ruys 2000; van Urk 2015; Bhatt & Keine 2019). More specifically, the term WCO refers to the weak ungrammaticality that arises when an A'-moved phrase crosses a DP with a co-indexed pronoun:

(23)　*[Which student]$_1$ did [his$_1$ mother] see t$_1$?

In (23), the pronoun (*his$_1$*) shares the same index with the trace of the wh-phrase (t$_1$). Therefore, the meaning we are after requires the pronoun and the trace of the wh-phrase to be bound by the same binder. The option of accidental coreferentiality is excluded since wh-phrases inherently lack referential antecedents. The CF-analysis predicts the following LF-representation for the question in (23).

(23')　$\lambda p_{<s,t>}.\exists f_{<<e,t>e>}$ [p=$^\wedge$[[x$_e$'s mother] saw $f_{<<e,t>e>}$(student)]]

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[11] Note also that *ReMIV* (Resumption Marks Individual Variables) in (3) is defined in such a way so as for resumptive clitics to be sensitive to this distinction.

As the reader can observe, the wh-phrase involves an existential binder ranging over choice function variables ($f_{<<e,t>e>}$). On the other hand, the pronoun 'his$_1$' is semantically interpreted as an individual variable. This means, that the existential quantifier cannot bind the pronominal variable, and the intended reading cannot be derived.

Sentences (23) are often presented in contradistinction with sentences with A-movement chains. In (24), the A-movement of the DP 'a student' across a co-indexed pronoun does not trigger WCO effects.

(24)   [A student]$_1$ seems to [his$_1$ mother] to t$_1$ be smart.

This follows from the assumption that A-movement gives rise to λ-binding over individual variables. As a result, the λ-binder can now bind both the trace of the moved DP and the intervening pronoun (24'). It should be noticed that this is how we accounted for the WCO-immunity of CLLD, a construction which is restricted to individual variables.

(24')   [A student] λx$_e$ seems to [x$_e$'s mother] x$_e$ to be smart.

This line of analysis for the distinction between DP-movement and Wh-movement cannot be pursued given the standard approach to wh-questions.

One more A/A'-asymmetry concerns the parasitic gap (*pg*) licensing. The relevant pair which is also discussed in Chapter 4 is the following:

(25)   [Which articles]$_1$ did John file t$_1$ without reading *pg*?

(26)   *[John]$_1$ was killed t$_1$ by a tree falling on *pg*.

According to Nissenbaum (2000) parasitic gap licensing involves the semantic rule of predicate modification which combines two constituents of the same semantic type. In (25'), predicate modification combines the clausal adjunct and the vP, both being derived predicates: the former is derived by a null operator (OP) movement (see Chomsky 1977) and the latter by the object movement to the edge of vP.

(25')   [Which articles]$_1$ did John [[[$_{vP}$ t$_1$ [$_{vP}$ file t$_1$]] [OP$_2$ without reading *pg*$_2$]]?

Van Urk's (2015) account for the contrast between (25) and (26) considers the type of the λ-binder in each construction. In line with what I have been arguing for so far, A'-movement in English involves abstraction over choice functions, while A-movement over individuals. Hence, the OP-movement to the left periphery of the clausal adjunct gives rise to a set of choice functions ($<<<e,t>e>,t>$). As a consequence, this set can be combined with a predicate derived by an A'-movement chain, e.g., a wh-question:[12]

(25'')   [Which articles]$_1$ did John [[$_{vP}$ t$_1$ [$_{vP}$ λ$_{<<e,t>e>}$ file t$_1$]] [λ$_{<<e,t>e>}$ without reading
         pg$_2$]]?

A crucial assumption in van Urk's account is that the intermediate steps of an A'-movement (e.g., to the edge of vP) show A'-movement properties as well because they are triggered by an *A'-feature*. A-chains on the other hand (as well as Greek CLLD) involve λ-abstraction over individual variables and the derived predicate is of type $<e,t>$. This predicate cannot be composed with the OP-derived predicate. Again, such a line of analysis can be proposed in the framework of the CF-analysis of wh-questions, but not under the classic view of the semantics of wh-questions.[13]

The third point pertains to the close relation between indefinite DPs and wh-phrases, in several respects. It is a well-known fact that indefinite DPs may take 'exceptional' wide scope, in the sense that they can be interpreted as if they have moved to a position, beyond the scope of QR (see Chapter 2). More precisely, the underlined indefinite phrase in (27) (from Reinhart 1997) receives a wide scope reading, even though it cannot QR over the universal QP.

(27)   John gave an A to [every student] who recited [a difficult poem by Pindar]

It has been argued that the wide scope/'specific' reading in these sentences is derived through a choice function variable which applies to the set-denoting indefinite DP (Reinhart 1997; Kratzer 1998 among others).

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[12] In (25'') the parasitic gap position contains the NP-core of the moved phrase, feeding the choice function variable bound by the Null Operator: *pg$_2$* = *f*(articles). See van Urk (2015), for more details.

[13] See van Urk (2015) for a more complete presentation which also includes the licensing of depictives (cf. Pylkkänen 2005).

(27') John gave an A to every student who recited f_1(a difficult poem by Pindar)

Note that the CF-analysis for wh-questions suggests a correlation between indefinite DPs and wh-phrases. Indeed, there is wide-spread evidence pointing towards this direction. First, *in situ* wh-phrases, similarly to 'specific' indefinite DPs, allow exceptional wide scope readings. In (17), the *in situ* wh-phrase is associated with an operator position out of the *if*-clause, an island for syntactic movement. Given that, Reinhart (1997) treats specific indefinites and in situ wh-phrases alike, proposing a choice function analysis for both of them.

Second, the close semantic relation between wh-phrases and indefinites is morphologically realized in many languages, where the same lexical item may function as a wh-phrase or an indefinite DP (Bhat 2004). Furthermore, indefinites in many of these languages are accompanied by a Q-particle which also appears in wh-questions (Hagstrom 1998; Yatsushiro 2001; Cable 2010; see fn. 8). In Japanese for example, both non-interrogative indefinites ((28), from Hagstrom 1998: 17) and wh-questions (29) involve the wh-phrase *nani* and the Q-particle *ka*.

(28) John-ga   *nani-ka*-o   kata.
     John-NOM   what-Q-ACC   bought
     'John bought something?'

(29) John-ga   *nani*-o   kaimasita   *ka*?
     John-NOM what-ACC bought-polite   Q
     'What did John buy?'

Crucially, Hagstrom (1998) argues that in both cases *ka* is interpreted as a choice function variable. In indefinites, this variable gets existentially bound by a closure rule. In wh-questions, *ka* moves to C: the trace of *ka* is semantically interpreted as a choice function variable, while the upper copy of *ka* functions as the binder of this variable. As a result, the CF-analysis of wh-questions explains the presence of the Q-particle in both wh-questions and sentences with non-interrogative indefinites, in Japanese and in many

other languages (e.g., Tlingit, Sinhala).[14] Having laid our basic assumptions about the syntax and semantics of wh-questions, we can now focus on the resumptive and gap wh-questions in Greek.

7.3. Some preliminaries on wh-questions in Greek

7.3.1. Some preliminaries

Greek is a wh-movement language. This means that the wh-phrase arises in the left-periphery of the sentence:

(30) [Pjon fititi]   idhe   i Maria?

which student   saw-3SG   the Mary?

'Which student did Mary see?'

Given what has been said so far, the wh-phrase *pjon fititi* occupies the spec,CP position (see (6)-(7) above).

(30') [CP pjon fititi [C' C [TP idhe i Maria]]]

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[14] It is worth mentioning, that the CF-analysis has been proposed for non-interrogative quantifiers as well (see Ruys 1997; Sauerland 1998; von Stechow 2000; Abels & Martí 2010). More specifically, von Stechow (2000) discusses the view that no pied-piping is involved in QR. In other words, in QR-contexts, only the Q-determiner raises at LF, stranding the NP-restrictor *in situ* (see Hornstein & Weinberg 1990; Ruys 1997). This can explain the lack of adjunct Late Merge in QR (ii), in contrast to overt wh-movement chains (i).

(i) [Which book that John$_1$ read] did he$_1$ like?

    LF: [Which book that John$_1$ read] did he$_1$ like [which book]?

(ii) *He$_1$ read [every book that John$_1$ likes].

    LF: [Every] he$_1$ read [every book that John$_1$ likes].

As von Stechow (2000) observes, the LF of (ii) cannot be analyzed through the standard semantics of quantifiers, i.e., as elements which require two sets ($<<e,t>,<<e,t>,t>>$). On the other hand, it is straightforwardly analyzed if we treat QRed 'every' as a quantifier over choice functions (iii). As a result, a *generalized CF-analysis* (Sauerland 1998) can be proved beneficial for cases out of the realm of wh-questions as well.

(iii) [Every-*f* [λ*f* he read *f*(book that John likes)]]

In this subsection, I re-examine some of the open issues with respect to the syntax of wh-questions in Greek.[15] One point in (30') that is crucial for the syntax of Greek wh-questions is the surface position of the verb. The earlier studies on Greek wh-questions (Agouraki 1990; Tsimpli 1990, 1995) argue that the verb head-moves to the projection that hosts the wh-phrase (our CP). T-to-C movement in Greek is supported by the fact that the verb must be adjacent to the wh-phrase. For instance, the contrast between (31) with (32) shows that the subject may not intervene between the wh-phrase and the verb.

(31) Pjon   aghapa   i   Maria?
      who   love-3SG the   Mary
     'Who does Mary love?'

(32) ?Pjon i   Maria aghapa?
      who   the Mary   love-3SG
     'Who does Mary love?'

This pattern is replicated with preposed CLLDed phrases. As (33) shows, a CLLD phrase may not surface between the wh-phrase and the verb.

(33) [Ton Jani]$_1$, pjos   ton$_1$ kalese   sto   parti?
       the John   who   CL   invited-3SG to-the party
     'Who invited John to the party?'

---

[15] Given a cartographic approach to the CP-layer, wh-movement in Greek targets the spec,FocP (Tsimpli 1995; Agouraki 1990; Androulakis 1998 among others). The main observation that has led to this conclusion is that a wh-phrase cannot co-occur with a focus-fronted phrase which suggests that wh- and focus phrases compete for the same position, the spec,FocP:

(i) *Pjos TON JANI kalese?
   'Who invited JOHN?'

That wh-movement in Greek targets the spec,FocP has not been seriously doubted, however for expository reasons and as long as this decision does not affect the conclusions of the present study, I will be assuming that fronted wh-phases surface at spec,CP.

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(34) *Pjos [ton   Jani]₁, ton₁   kalese   sto   parti?
      who   the John   CL   invited-3SG   to-the   party
      'Who invited John to the party?'

Tsimpli (1995) argues that wh-phrases move to the left periphery to satisfy a wh-criterion. Simplified somewhat, the wh-criterion requires that the wh-phrase must be in a spec-head relation with C which bears the [+Q] feature. For Tsimpli, [+Q] acts like a bound morpheme which needs to attach to a lexical element, attracting therefore the verb to C.

Nevertheless, T-to-C movement in Greek has been questioned in the studies that followed which assume that the verb remains in T (Anagnostopoulou 1994; Kotzoglou 2005, 2006, Kotzoglou 2019; Vlachos 2012; Sinopoulou 2019). Anagnostopoulou (1994: Chapter 4) discusses in detail the pattern in (31) and (32), showing that the exclusion of preverbal subjects exhibits some systematic exceptions. More specifically she demonstrates that the grammaticality of wh-questions with a preverbal subject varies with the type (argument/adjunct) and the referential/d-linking properties of the wh-phrase (from Anagnostopoulou 1994: 164, 173).

(35) [Jati] o Petros ine   lipimenos?
      why   the Peter is-3SG sad
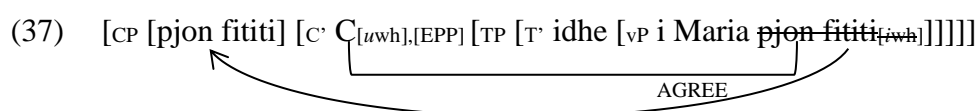   'Why Peter is sad?'

(36) [Pjon apo   tus   filus   su]   o Petros aghapai   perisotero?
      which of   the   friends   your   the Peter loves-3SG more
      'Which of his friends does Peter like most?'

Such examples pose a serious challenge to the assumption that wh-phrases in spec,CP are in a spec-head relation with the verb[+Q]. Anagnostopoulou (1994) suggests that the intervening elements in the examples (32) and (34) should be both treated as topicalized elements (in spec,TopP). Recall that the present thesis has independently adopted the assumption that CLLDed objects and non-focused preverbal subjects in Greek are topics. Against this backdrop, the ungrammaticality in (32) and (34) is attributed to a locality effect as the intervening topic in these cases interferes with wh-movement. As for the unproblematic (35) and (36), Anagnostopoulou assumes that the wh-adverbial

'why' as well as d-linked wh-phrases are base-generated in their surface position, thus no locality issues arise in the first place.

Kotzoglou (2005, 2006, 2019) who provides further arguments against the T-to-C movement analysis, suggests that the obligatory *wh-phrase-verb adjacency* in the above examples reflects a constraint which requires the wh-phrase to be adjacent to the [T+verb(+particle/clitic)] complex in T. For Kotzoglou (2019), the (apparent) subject – verb inversion reflects the need of T to be close enough to C, for feature inheritance purposes. More precisely, under the assumption that in wh-questions a Q-feature is inherited from C to T, the intervening topic phrase does not allow a local relation between C and T.

All in all, the recent literature has been providing more and more arguments against the T-to-C movement analysis. Along these lines, I argue that in wh-questions the verb remains in T. Furthermore, as standardly assumed in the Minimalist Program (Chomsky 1995, 2000), wh-movement follows an AGREE chain between a Probe and a Goal. Thus, as (37) demonstrates, C (the *Probe*) enters an AGREE relation with the wh-phrase (goal). C has the uninterpretable [$u$wh] feature, which is interpretable on the wh-phrase. On the other hand, the wh-phrase is active as a *Goal* on the basis of a uQ feature. Moreover, the [EPP] feature on C triggers second merge with a copy of the wh-phrase, which gives rise to the projection of spec,CP (see 7.2.1)

(37)   [CP [pjon fititi] [C' C$_{[u\text{wh}],[\text{EPP}]}$ [TP [T' idhe [vP i Maria ~~pjon fititi$_{[u\text{wh}]}$~~]]]]]

AGREE

Of course, this is not to be taken as an exhaustive presentation of the previous literature on Greek wh-questions. Also, as I have already mentioned, technical details are left aside (e.g., CP vs. FocP), as long as they do not affect the discussion in any significant way.

I will close this preliminary section with a few words on wh-phrases in Greek. First, wh-movement may target either an argument or an adjunct. (38) demonstrates several adjunct wh-phrases in Greek.

(38)   Pu/   Pote/ Pos/   Jati   efajes   susi?
        Where when how   why   ate-2SG   sushi
        'Where/when/how/why did you eat sushi?'

Moreover, a wh-movement chain can be headed either by a bare wh-phrase, as in (39) or with a 'complex' wh-phrase, that is a wh-phrase with pied-piped material (40-42):

(39)   Pjon   idhes?
       who   saw-2SG
       'Who did you see?'

(40)   [Pjon fititi]   idhes?
       which student   saw-2SG
       'Which student did you see?'

(41)   [Pjanu   fititi]   djavases tin   erghasia?
       whose   student   read-2SG the   assignment
       'Whose student did you read the assignment?'

(42)   [Apo pjon fititi]   pires   kali   erghasia?
       from which student   get-2SG   good   assignment
       'Which student have you got a good assignment from?'

A crucial distinction - which the structure of the rest of the chapter is based on - pertains to the form of wh-phrases. Consider the following taxonomy of wh-phrases in Greek: (i) *ti* corresponds to 'what'; (ii) *pjos* corresponds to 'who/which' and (iii) *poso* to 'how many/much'. All these elements may appear as bare wh-operators or along with a restrictor:

(43)   [Ti]/ [Ti   fajito] efaghes?
       what what   food   ate-2SG
       'What (food) did you eat?

(44)   [Pjon]/[Pjon   fititi]   sinadises?
       who   which   student   met-2SG
       'Who/Which student did you meet?

(45) [Poso]/   [Poso   krasi]   aghorases?
      how-much   how-much   wine   bought-2SG
      'How much wine did you buy?'

As a side note, the paradigm of wh-phrases in several languages overlaps with that of non-interrogative indefinites (Haspelmath 1997; Bhat 2004). For instance, *nani-(ka-)o* in Japanese expresses either the non-interrogative ('something') or the interrogative ('what') indefinite phrase. The partial resemblance between non-interrogative indefinites (e.g., *kapjos*, *kati*) and wh-phrases (e.g., *pjos*, *ti*) seems to suggest a correlation between the two paradigms in Modern Greek (see Roussou & Vlachos 2022). On the other hand, data from Classic Greek point to a common form for indefinites and wh-phrases. Consider for instance the pair *tis* ('someone') and the focus-accented *tís* ('who'), or the pair *ti* ('something') and accented *tí* ('what') (see Roussou (1998) and Mathieu & Sitaridou (2005) for a diachronic view of the development of these elements and some related problems).

7.3.2. The proposal

The present thesis proposes that resumptive clitics in A'-movement dependencies indicate an individual variable (more accurately, a copy that undergoes trace conversion) at the foot of the movement chain (ReMIV):

(46)   XP$_1$ . . . clitic . . . ~~XP$_1$~~   →   [XP] λx . . . x

This analysis has been tested exhaustively in the domain of topic-marking constructions in Greek (CLLD and Topicalization), in the previous chapters. It has been shown that (46) makes quite accurate predictions regarding the distribution of resumptive clitics in topic-marking sentences, as well as the syntactic/semantic behavior of resumptive and non-resumptive topic dependencies.

The main goal of this chapter is to show that this analysis is equally successful when it extends to wh-dependencies. More precisely, I will argue that a resumptive clitic in a wh-question indicates an individual variable (in line with ReMIV). Below I lay out the proposal of the present chapter with respect to the LF-representation of the different types of wh-questions.

Let me start with *gap which-questions* as in (47). In section 7.2., I argued in detail in favor of the CF-analysis of wh-questions (see Reinhart 1998; Sauerland 1998; Ruys 2000). More specifically, I presented some problems that are associated with the individual-variable view and I referred to some of the benefits of the CF-analysis. As a result, I will argue that in gap *which*-questions, the interrogative-existential quantifier binds a choice function variable. The choice function variable applies to the NP-core of the copy of the wh-phrase in the trace position.

(47)   *Non-resumptive which-questions:*

   a. [Pjon   fititi]   sinadise   i   Maria?
      which   student   met-3SG   the Mary
      'Which student did Mary meet?

   b. Pjon-f [λf sinadise i Maria [$_{DP}$ f [$_{NP}$ fititi]]]

   c. $\lambda p_{<s,t>}.\exists f_{<<e,t>e>}$ [p=$^\wedge$Mary saw $f_{<<e,t>e>}$(student)]

Moving on, according to ReMIV, resumptive clitics in A'-dependencies indicate an individual variable. I argue, therefore, that *resumptive wh-questions* involve binding of a variable of semantic type *e*. More accurately, in line with the analysis of chapters 4 and 5, the low copy of wh-phrases is interpreted as an individual variable through trace conversion. In what follows, I abstract away from the actual material of the item in the trace position (plain variable vs. full copy), unless this issue affects the discussion.

(48)   *Resumptive which-questions:*

   a. [Pjon   fititi]   ton sinadise   i   Maria?
      which   student   CL met-3SG   the Mary
        'Which student did Mary meet?'

   b. Pjon-x [λx sinadise i Maria [$_{DP}$ the$_x$ [$_{NP}$ fititi]]]

   c. $\lambda p_{<s,t>}.\exists x_e$ [p=$^\wedge$Mary saw [$_{DP}$ iota-OP [λy.student(y) & y=x]]]

Yet, this is not an exhaustive list of wh-question types found in Greek. I will argue that there is a third type of wh-question with a significantly different semantics, which is instantiated by *what*-questions. This type of question involves neither a choice function variable, nor an individual variable. Rather, it involves total reconstruction of the NP-core of the wh-phrase which is left unmodified in the trace position.[16]

(49)   *What-questions:*
    a. [Ti   fajito] efaje   i   Maria?
       what food   ate-3SG   the Mary
        'What did Mary eat?

    b. Ti ~~fajito~~ [efaje i Maria [DP fajito]]

In what follows I will argue in favor of this tripartite taxonomy of wh-questions based on their syntactic and semantic behavior. It should be stressed that the lexical type of the wh-phrase (i.e., 'which' vs. 'what' vs. 'how much/many') which heads the wh-dependency is not in a 1-to-1 relation with the question-types presented above. For instance, a *which*-question may arise as a resumptive wh-question (with an individual variable) or as a gap wh-dependency (binding a choice-function variable). Similarly, in section 7.5.2, it will be shown that *how many-questions* may realize any of the three question types presented above. As expected, their syntactic-semantic behavior changes as they jump from one category to another.

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[16] The explicit semantic representation of (49) is not central to the goals of the present study, but thus will not prevent me from offering a short note on this issue. According to (49b) the trace position is occupied by the property-level NP-restrictor of the wh-phrase. How does this phrase combine with the verb? Recall that we encountered the same problem in Topicalization sentences (see Chapter 3), where we proposed an account along the lines Chung & Ladusaw (2003) (see also Van Geenhoven 1998). Applying this analysis to *what-questions*, the property-denoting NP-restrictor merges as a restrictive modifier of the verb. As a result, we end up with a two-place complex-predicate at the VP-level, which is firstly saturated by the subject, while the object position is subsequently closed by the existential operator.

(i) $\lambda p_{<s,t>}.\exists x_e [p = {}^{\wedge}\text{Mary ate\&food}(x)]$

    It should be stressed that the representation in (i), although it involves binding of an individual variable, does not predict clitic-resumption. Recall from chapter 5, that resumptive clitics are analyzed as iota-operators needed for and introduced by the trace conversion rule (Fox 2002). In (i) the NP-core is not turned into an individual variable by trace conversion, so clitic resumption is not really expected.

The next section compares *gap which-questions* with *resumptive which-questions* in Greek regarding a number of properties which indicate an individual variable. It is shown that, on the one hand in resumptive wh-questions, the copy of the wh-phrase is interpreted as a variable of type *e* (through trace conversion) (see 48), as ReMIV predicts. On the other hand, non-resumptive questions involve binding of a higher-type variable, and more specifically of a choice-function variable along the lines of (47).

7.4. Resumptive vs. Non-resumptive wh-questions

7.4.1. Resumptive wh-questions in Greek

Before I proceed, an introduction to resumptive wh-questions in Greek is necessary. Recall that resumption in Greek is realized as clitic-resumption. The present thesis has analyzed clitics as D-heads and resumptive clitics as overt realizations of the iota-operator that turns a copy into an individual variable, along the lines of Fox's (2002) Trace Conversion Rule.

In the brief literature review that follows I am mainly concerned with two questions which are more relevant to the goals of this chapter. The first question pertains to the distribution of resumptive clitics in wh-questions. The second is about the syntactic analysis that has been proposed for resumptive wh-questions. The first issue is subject to some controversy, while a broad consensus seems to exist on the second.

The first systematic study of the distribution of clitics in wh-questions comes from Theofanopoulou – Kontou (1986) (see also Stavrou 1985, for clitic resumption in relative clauses). Since then, there have been different views in the literature, which in my view can be divided into two categories. The first category comprises the more *permissive* views of resumption in wh-questions (see Theofanopoulou – Kontou 1986; Anagnostopoulou 1994; Iatridou 1995; Androulakis 1998; see Stavrou 1985; Efthimiou 1997; Kotzoglou & Varlokosta 2005 on resumption in restrictive relative clauses). A more *restrictive* view is expressed by Tsimpli (1999) and Alexopoulou (2009) (see Alexopoulou 2006 on resumption in restrictive relative clauses).

According to the permissive view, wh-phrases can in general be resumed. The following examples (from Androulakis 1998: ex. 3a, 2a) involve a partitive wh-phrase and a wh-phrase with an NP-restrictor (or a 'd-linked' wh-phrase in Pesetsky's (1987) terms):

(50)　[Pja　apo　tis jinekes]　ti dhagose　o　Patroklos?

　　　which of　the women　CL bit-3SG　the　Patroclus.

　　　'Which of the women did Patroclus bite?'

(51)　[Pja　jineka]　ti dhagose　o　Patroklos?

　　　which woman　CL bit-3SG　the　Patroclus.

　　　'Which woman did Patroclus bite?'

It is worth mentioning that Anagnostopoulou (1994) and Iatridou (1995) reject the sentences with clitic resumption of bare (non-'d-linked') wh-phrases:

(52)　[Pjon] (*ton) idhes?

　　　who　CL　saw-3SG

　　　'Who did you see?'

However, I agree with Androulakis (1998: ex.25), that in certain contexts such sentences become fully acceptable. In (53) the wh-phrase is linked to the object position of the embedded clause (see also Tsimpli 1999: ex.25b).[17]

(53)　[Pja]　idhe　i　Maria na　ti dhagoni　o　Patroklos?

　　　who　saw-3SG　the　Maria to　CL bite-3SG　the　Patroclus.

　　　'Who did Maria see Patroclus biting?'

　　Two additional points are worth our attention. First, there is a clear contrast between *pjos* (which) and *ti* (what) questions, with respect to resumption. As Anagnostopoulou (1994: ex39a) shows, *ti*-questions with resumptive clitics are significantly less acceptable than resumptive *pjos*-questions.[18]

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[17] To be more accurate, Androulakis (1998: 132) argues that resumption of bare wh-phrases, without reference to specific syntactic conditions, is still acceptable for some speakers.

(i)　%[Pja] ti　dhagkose　o　Patroklos?

　　　who CL　bit-3SG　the　Patroclus

　　　'Who did Patroclus bite?'

While I find (i) good, I still detect a contrast between (i) and (52) in the main text.

[18]　See Dobrovie – Sorin (1990) for similar observations in Romanian.

(54) *[Ti (fajita)] ta majirevis ghrighora ke efkola?

      what dishes CL prepare-3SG quickly and easily

      'What kind of dishes do you prepare them quickly and easily?'

This point is relevant to the 'referentiality hierarchy' that Anagnostopoulou (1994: 173-175) proposes, according to which resumed partitive wh-phrases are better than resumed wh-phrases with a pied-piped NP, which are in turn better than resumed bare wh-phrases. Accordingly, 'what'-phrases and 'aggressively non-d-linked' wh-phrases (*ti sto dhjaolo* 'what the hell') do not allow resumption.

Moreover, resumption is facilitated by additional background information in the wh-question, through extra lexical material (e.g., an adverbial, an embedded clause), which is often referred to as a 'heaviness' effect (see the studies cited above). Let us look at the sentences in (55) (from Androulakis 1998: ex. 12a-b), which show that the addition of the adverbial 'on your own' gives significantly better results.

(55) a. *[Pjo dhendro] to fitepses?

    b. [Pjo dhendro] to fitepses monos su?

      Which tree CL planted-2SG alone your

      'Which tree did you plant (on your own)?

The studies with a *restrictive view* on the distribution of resumption, such as Tsimpli (1999) and Alexopoulou (2009) argue that d-linked and bare wh-phrases, being true quantificational operators (in Lasnik & Stowell's (1991) terms), are inherently incompatible with clitic resumption.[19] As shown above this claim (along with their judgments) is too strict therefore I adopt the more permissive view on resumption in wh-questions.

Turning to the syntactic analysis of resumptive wh-questions, it is commonly assumed that they involve a base-generated wh-phrase in an operator position (e.g., spec,CP) binding a pronominal variable (pro or the clitic itself) (Anagnostopoulou 1994; Iatridou 1995; Androulakis 1998). This analysis basically reflects the view that

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[19] According to Alexopoulou (2009), wh-phrases do allow clitic-resumption in generic contexts. In these cases, a generic operator ranging over situations trivializes the interrogative quantifier, in the sense that each situation contains an individual satisfying the NP-restrictor of the wh-operator (see also Sauerland 2009).

resumptive wh-questions should be analyzed on par with CLLD. For instance, Androulakis (1998) treats resumed wh-phrases as "(wh-)topics" (see also Grohmann 2006), while Iatridou (1995) argues that the same syntactic position (DL, for D-linking) may host either a CLLDed or a resumed wh-phrase.[20]

The base-generation analysis of resumptive wh-questions is mainly based on the syntactic/semantic behavior of this dependency:

a. They do not trigger WCO-effects

b. They do not license parasitic gaps

c. They do not allow narrow-scope readings

d. They are insensitive to weak islands

In chapter 4, I argued in detail that these diagnostics do not necessarily indicate a base-generation dependency. As a matter of fact, they are all well compatible with a movement dependency with a λ-binder ranging over individual variables. I return to these diagnostics in the next section where resumptive wh-questions are compared to their gap counterparts.

In the present thesis I argue for a movement analysis for both resumptive and non-resumptive wh-questions. Specifically, following the practice of chapter 3 and 4, I assume that reconstruction effects indicate a movement derivation. Below, I provide evidence for reconstruction for Condition C, pronominal QP-binding, anaphor DP-binding and idiom interpretation. Recall that the term *reconstruction* refers to the fact that the low copy of a moved phrase is present at LF and this has certain *interpretational (reconstruction) effects* (Chomsky 1995; Fox 1999). Reconstruction thus indicates the existence of a copy; therefore, by extension, reconstruction detects movement. Having said that, the reconstruction properties of resumptive and gap wh-questions suggest a movement analysis.

In the following examples, clitics are in brackets denoting that they are optional. Without clitics, we get gap wh-questions, whereas with clitics we get resumptive wh-questions. As exemplified below, reconstruction effects obtain in both cases, showing that both types of wh-question involve movement. The following sentence in (56) is

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[20] Similarly, Kotzoglou & Varlokosta (2005) argue that resumptive relative clauses have topic-marking (d-linking) properties and suggest a base-generation analysis, on par with other topic-marking constructions, like CLLD.

ruled out by Condition C if the pied-piped NP *tu Kosta* and the null subject are coindexed. This means that there must be a copy of the (resumed) wh-phrase along with the NP-restrictor (henceforth wh-NP) below pro$_1$. This follows straightforwardly from a movement derivation.

(56) *[Pja   fotoghrafia   tu Kosta$_1$]   (tin)   pro$_1$ estile   tris   fores
     which   picture   the Kostas   CL   sent-3SG   three   times
     sti   Maria?
     to-the   Mary
     'Which photo of Kostas did he sent to Mary three times?'

In (57) the pronominal variable *tis$_1$* gets bound by the negative quantifier in a lower position. This results in a question with a functional reading which seeks for an answer like 'no student invited her own grandfather' (see Chierchia 1993). The key here is that a movement analysis of wh-questions presumes a copy of the wh-NP in the object position (or in some other position below the quantified DP). This offers the c-command relation between the pronominal-variable and the QP-binder that is required for pronominal QP-binding.

(57) [Pjon   sigeni   tis$_1$]   dhen   (ton)   kalese   [kamia   fititria]$_1$
     which   relative   her   not   CL   invited-3SG   no   student
     stin   apofitisi tis?
     to-the   graduation her
     'Which relative of her did no student invited to her graduation?'

Moving on, the (resumptive) wh-question in (58) displays reconstruction for anaphor binding. This essentially means that an anaphor within the NP-restrictor of the wh-phrase refers to an antecedent in a lower position. Again, the movement derivation posits a copy of the wh-NP in the object position, from where the anaphor can be locally bound (as Binding Condition A desires) by its antecedent *o Kostas*.

(58)　　[Pjan　apo　tis　　　fotoghrafies　tu　eaftu　tu]　　(tin)　aghapai　perisotero

　　　　　which　from　the　　　pictures　　　the self　his　　CL　　love-3SG　more

　　　　　o　　　Kostas?

　　　　　the　　Kostas

　　　　　'Which picture of himself does Kostas like the most?'

The last piece of evidence for a movement analysis comes from reconstruction for idiom interpretation. The idiom *travao fotoghrafia* (lit. pull photo) means 'take a picture'. The idiom interpretation requires that the parts of the idiom form a constituent at LF. Having said that, the idiom interpretation in (59) indicates a movement derivation and a copy of the NP-restrictor (*fotoghrafia*) next to the verb (*travikses*).

(59)　　[Pja　　fotoghrafia]　(tin)　　travikses　monos su?

　　　　　which　photo　　　　　CL　　　took-3SG　alone　your

　　　　　'Which picture did you take on your own?'

These reconstruction diagnostics make a compelling case for a movement analysis of resumptive and gap wh-questions in Greek. Therefore, we have sufficient empirical evidence in favor of wh-movement of (resumed) wh-phrases to the left-periphery of sentences (see also Aoun et al. 2001; Boeckx 2003). A question that follows then is what the differences are between resumptive and non-resumptive wh-questions on the empirical level and what these differences tell us about the LF-representation of the two constructions. This is the subject of the next section.

7.4.2. On the differences between resumptive and non-resumptive wh-questions

The previous literature has repeatedly noted certain asymmetries between resumptive wh-questions and their gap counterparts. These pertain to (i) WCO-sensitivity, (ii) parasitic gap licensing, (iii) (lack of) narrow scope readings and (iv) sensitivity to weak islands. It should be highlighted though, that these properties have been systematically evoked as evidence for a base-generation analysis of resumptive wh-questions. Of course, this is clearly at odds with the conclusion of the previous section that resumptive wh-questions involve movement. Therefore, this section reintroduces the above properties, this time not as diagnostics for a movement derivation but as individual-variable detectors.

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To start with, it has been observed that while gap wh-questions trigger WCO effects, this is not the case for the resumptive wh-questions (Iatridou 1995; Androulakis 1998; Alexopoulou & Kolliakou 2002; Alexopoulou 2009). In (60) the wh-NP moves to the operator position crossing a DP with a coreferential pronoun. This wh-movement triggers WCO effects.

(60) ?*[Pjo   pedhi]$_1$ malose   [i   mitera   tu$_1$]   t$_1$?
        which   child   scolded-3SG   the   mother   its
        'Which child did its mother scold?

No WCO effects arise in the resumptive wh-question below. (60) and (61) are modified from Iatridou (1995: fn. 20).

(61) [Pjo   pedhi]$_1$ to malose   [i   mitera   tu$_1$]   t$_1$?
        which child   CL scolded-3SG   the   mother   its
        'Which child did its mother scold?'

In previous studies, the immunity of resumptive wh-questions to WCO is attributed to the assumption that the resumed wh-NP is base-generated in its surface position, hence no crossing of the subject DP occurs in (61). An alternative explanation is needed here, since we have abandoned the base-generation analysis of this construction.

In several parts throughout this thesis, I have argued that an alternative explanation is possible if we consider the syntax-semantics aspect of this phenomenon. In particular, following Sauerland (1998), and Ruys (2000), I assume that WCO-effects reflect a semantic-type mismatch between the λ-binder which is associated with the moved phrase and the pronominal variable. We have already argued that the gap wh-question in (60) involves a λ-binder which ranges over choice function variables (of type $<<e,t>e>$). Hence this λ-operator cannot bind the intervening pronominal variable which is of type e.

(60') LF: [Pjo [λ$f_{<<e,>t>e>}$. malose [i mitera **tu**$_e$] f(pedhi)]]

On the other hand, if our analysis of resumptive chains is correct, the resumptive wh-question in (61) involves binding of an individual variable, as in (61'). It follows then

that the λ-binder may bind the pronominal variable without problems. As a conclusion, the WCO-diagnostic confirms our analysis of resumptive and gap wh-questions.

(61') LF: [Pjo pedhi] λx_e . [i mitera **tu**$_e$] malose [the$_x$ [pedhi]]]

Turning to parasitic gap (*pg*) licensing, Iatridou (1995: 28) observes the following contrast between gap and resumptive wh-questions (see also Androulakis 1998):

(62) %[Pjon andhra] pandreftike horis na aghapa *pg*?
     which man married-3sg without to love-SUBJ-3SG
     'Which man did she marry without loving?'

(63) *[Pjon andhra] ton pandreftike horis na aghapa *pg*?
     which man CL married-3SG without to love-SUBJ-3SG
     'Which man did she marry without loving?'

(62) shows that, at least for some speakers, gap wh-questions allow parasitic gaps. Parasitic gaps in resumptive wh-questions on the other hand are totally ungrammatical, as illustrated by (63). Given that licensing of parasitic gaps has been considered as evidence for a (A') movement derivation, Iatridou (1995) and Androulakis (1998) conclude that the contrast between (62) and (63) suggests a base-generation analysis for resumptive wh-questions.

Recent literature however has shown that the unavailability of parasitic gaps does not necessarily indicate lack of movement. Starting from Nissenbaum's (2000) proposal, parasitic gaps involve predicate modification, a rule which combines two constituents of the same semantic type. In (62), a null-operator movement to the edge of the clausal adjunct turns it into a predicate (see Chomsky 1977). vP is a derived predicate too, due to object movement to the edge of vP. Predicate modification then combines the clausal adjunct and the vP without problems (see the discussion in 4.3.4, Chapter 4).

This line of analysis is followed by van Urk (2015), who nevertheless suggests some modifications. According to the choice function analysis of wh-questions, wh-movement chains translate as binding of a choice function variable. Similarly, the adjunct-internal movement that targets an operator position gives rise to a predicate of

choice functions. As a conclusion, predicate modification in parasitic gap constructions combines two predicates of type $<<<e,t>e>t>$.

(62') [Pjon]$_1$ ... [[$_{vP}$ t$_1$ $\lambda f_{<<e,t>e>}$ pandreftike t$_1$] [NOp $\lambda f_{<<e,t>e>}$ horis na aghapa *pg*]]

Crucially, the type-mismatch approach explains the well-known unavailability of parasitic gaps in A-movement chains as in *John was killed by a tree falling on pg*, because A-movement derives predicates of individuals ($<e,t>$) rather than predicates of choice functions (Sauerland 1998; Ruys 2000). The effect of that is that the predicate which is derived by passivization and the clausal adjunct are of a different semantic type and as a result they cannot be combined via predicate modification (van Urk 2015). This line of analysis clearly applies to resumptive wh-questions as well, if we assume that they involve a binder which ranges over individual variables, as in (67').[21]

(63') [Pjon andhra]$_1$...[[$_{vP}$ t$_1$ λx_e ton pandreftike t$_1$] [NOp $\lambda f_{<<e,t>e>}$ horis na aghapa *pg*]]

The parasitic gap data and the contrast between (62) and (63) in particular lend further support to the proposal of this chapter that resumptive wh-questions involve binding of an individual variable as opposed to gap wh-questions which involve binding of a choice function variable.

The next point is related to Androulakis' (1998) observation that clitic-resumed wh-phrases in Greek are restricted to wide scope readings. However, here I consider a somewhat different set of data from hers. More precisely, while Androulakis (1998:

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[21] A. Roussou (personal communication) asks about the sentence in (i) which is grammatical in gap and resumptive wh-questions:

(i) [Pjon   andra   (ton)   pandreftike   horis   na   <u>ton</u>   aghapa]
    which   man   CL   married-3SG   without to   CL   love-SUBJ.3SG
    'Which man did she marry without loving (him)?'

This example involves <u>a clitic</u>, rather than a parasitic gap, in the clausal adjunct. As far as I can see the grammaticality of these examples is trivial, because this clitic may well be construed as a non-resumptive pronoun. Hence this pronoun is construed as a bound/free variable which corefers under binding/accidental coreference without being part of the movement dependency. The following example shows that a (resumed) wh-phrase may bind/corefer with the possessive pronoun into the clausal adjunct:

(ii) [[Pjon andhra]$_1$ (ton) pandreftikes [horis na to kseri i mitera <u>tu</u>$_1$]

    'Which man did she marry without his mother knowing?'

158) examines the scopal behavior of 'how many' phrases, as in (64), in the following paragraphs I focus on *which*-questions and I return to 'how-many-phrases' in section 7.5.2.

(64) [Posus   mathites] tus   eksetase   kathe kathighitis?
      how-many   students CL   examined-3SG   every teacher
      'How many students did every teacher examine?' (n-many>∀, *∀>n-many)

It should be noted that the obligatory wide scope reading of clitic-resumed wh-phrases led Androulakis to the conclusion that these wh-phrases are not quantificational items. Here I disregard this line of analysis, as it is not clear to me how a wh-interrogative meaning can be derived in the absence of an existential quantifier. Moreover, Alexopoulou's (2009) proposal presupposes that resumptive wh-questions are only allowed in generic contexts (see fn.19). Nevertheless, a wide group of studies, including the present thesis, seem to find this claim too strict (see the discussion above).

I deviate from Androulakis (1998) in one more respect. Androulakis clearly expresses her analysis in terms of scope interaction, i.e., the wh-phrase takes scope over or below some other quantificational phrase (see the relevant discussion in section 7.2.2). Below I make clear that this line of thinking cannot be straightforwardly applied to *which*-questions. For this reason, a more descriptive terminology is to be preferred for purposes of presentation. I have already referred to the different readings that a wh-question with a quantifier may receive. Namely, the question in (65) can be answered with an *individual* answer, a *functional* or a *pair-list* answer.

(65)   a. Who does everyone love?
           b. John (individual answer)
           c. His mother (functional answer)
           d. Mary loves John, Samantha loves Peter . . . (pair-list answer)

In what follows, I examine the possibility of *pair-list readings* in gap and resumptive wh-questions with a quantifier, in a purely descriptive manner, without referring to the source of this reading. This issue is touched upon later.

Consider the following pairs of wh-questions with a universal quantifier. Each pair consists of a gap and a resumptive wh-question. As can be seen, the gap question in (66)

admits both individual answers, as in (66b) and pair-list answers (66c). The pair-list answer continues until each member of the domain of the universal quantifier (each student) is paired with some computer.

(66) a. [Pjon   ipolojisti] hrisimopii kathe   fititis?
         which computer uses-3SG   every   student
         'Which PC does every student use?

      b. 'Every student uses computer A (since it's the fastest of all the computers
          in the lab).'
      c. 'Mary uses computer 1, John computer 2, …'

On the other hand, the resumptive wh-question in (67), seems to allow only individual answers.

(67) a. [Pjon   ipologhisti]   ton   hrisimopii kathe fititis?
         which computer   CL   uses-3SG   every student
         'Which PC does every student use?'

      b. 'Every student uses computer A.'
      c. *'Mary uses computer 1, John computer 2, …'

Look also at the following pair, with the wh-phrase *pja dhio vivlia* ('which two books'). The non-resumptive wh-question (68) can receive either an individual reading or a pair-list reading.

(68) a. [Pja   dhio   vivlia] dhjavase kathe fititis?
         which two   books read-3SG every student
         'Which two books has every student of linguistics read?

      b. Every student read 'Petros' war' and 'Farewell Anatolia', because they are
          taught in school.
      c. Mary read 'Anna Karenina' and 'The idiot', John read 'The lord of the rings'
          and 'A song of ice and fire' …

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This is not the case for resumptive wh-questions which exclude a pair-list answer.

(69)   a. [Pja   dhio   vivlia] ta djavase   kathe   fititis?
            which   two   books CL read-3SG   every   student
            'Which two books has every student of linguistics read?'

             b. 'Petros' war' and 'Farewell Anatolia'.
             c. *Mary read 'Anna Karenina' and 'The idiot', John read 'The lord of the
               rings' and 'A song of ice and fire' …

As a conclusion, while resumptive questions allow only individual answers, their gap-counterparts allow pair-list answers in addition to individual answers. Two questions arise at this point. The first question is more general: how do pair-list readings arise in questions with a quantifier? The second one is more relevant to the purposes of this chapter: why do we find this contrast between resumptive and non-resumptive questions? And more specifically, which property of non-resumptive questions blocks the pair-list reading?

In taking up the first question, a pair-list answer seems to indicate not one but multiple questions. More specifically it seems that there is one question for each member of the domain of the universal quantifier. Consider a model with only three students: Mary, John, Peter and the following question-answer pair:

(70)   a. Which book did every student read?
        b. Mary read 'The idiot', John read 'The lord of the rings', and Peter 'Don
           Quixote'.

In (70b) we have a different book for each student. It could be argued that the question that actually preceded was a question with the following representation:

(71)   For every student x, which book y did x read?

This implies that in (70a), the universal quantifier outscopes the interrogative existential quantifier (May 1977; Higginbotham 1991). Later studies however, rejected this (QR) approach (see Engdahl 1986; Chierchia 1993; Sauerland 1998; and section 7.2.2).

There is one more approach that considers the pair-list readings as a pure "scope-interaction" phenomenon (i.e., at LF, the universal quantifier c-commands the existential quantifier). In chapter 3, we have shown that *total reconstruction*, allows a moved phrase to be interpreted in the scope of a QP in a lower position:

(72)   *Total reconstruction*: [QP]₁ . . . QP₂ . . . [QP]₁

As a result, in (72) the surface scope relations are changed, a situation which is called '*scope reconstruction*'. Is (72) the underlying representation of wh-questions with pair-list readings? It should be noticed that this approach would explain the unavailability of the pair-list readings in resumptive questions. Given that resumptive questions obligatorily map onto an individual variable, resumed wh-phrases are always interpreted in their surface position.

However, the vast majority of studies on scope reconstruction in wh-questions are restricted to 'how-many'-questions (see Cresti 1995; Romero 1998; Fox 1999; Fox & Nissenbaum 2004; Keine & Poole 2018). On the other hand, the studies explicitly arguing in favor of total reconstruction of a 'which'-phrase are rare (see Sportiche 2016). Indeed, there is a crucial difference between 'how-many' and 'which'-phrases which explains this discrepancy between the two types of interrogative phrases. Within the Kartunnen framework of wh-questions, it is assumed that the semantics of a wh-question require that the wh-associated existential quantifier outscopes the question nucleus (see Saito 1992; Sauerland & Elbourne 2002). This obviously prevents the wh-phrase from reconstructing to a lower position (73).

(73)   LF: *[CP [wh wh-phrase]₁ C [TP . . . [WH wh-phrase]₁ . . .]

Crucially, this problem does not arise with 'how-many' phrases, because they are standardly decomposed into two quantificational items: the interrogative operator *how* and the existential DP *many-NP* (see Romero 1998; Fox 1999 among others):

(74)   [WH how [∃ many NP]]

Given this structure of *how-many* phrases, scope/total reconstruction is restricted to the existential n-many phrase, as in (75a) which is roughly interpreted as in (75b)

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(75)   a. [How ~~many books~~] should Mary read [n-many books]?   (should>n-many)

         b. For what n(umber), Mary should read n-many books

Therefore, in (79a) the interrogative part of the wh-phrase ('how') remains in the operator position, as required (I will return to these cases in section 7.5.2.). This however is not possible for *which*-phrases, because they cannot be decomposed into two quantificational parts.

     Against this background, in this thesis I do not consider the pair-list readings in wh-questions with a universal QP as a pure scope-interaction phenomenon (either after QR of the universal QP or scope-reconstruction of the wh-phrase). I assume that some kind of *skolem function* ($f_{<e,e>}$) is required, instead (see below). There are two proposals available in the literature. According to the first one, proposed by Engdahl (1986) and Chierchia (1993), the trace position is occupied by a skolem function which takes an individual variable ($f_{<e,e>}(x)$). According to the second one, called *skolemized choice function* approach (see Agüero - Bautista 2001; Poole 2017), the skolem function takes a complex item which consists of a choice function and the NP-core of the moved wh-phrase (($f_{<e,e>}(f_{<et,e>}(NP))$)). As the reader may have realized, only the latter line of analysis is compatible with the theoretical claims of this thesis. In particular, I presuppose that at least the NP-core of the moved phrase obligatorily reconstructs in the trace position which is incompatible with the simpler skolem function approach which assumes a plain variable instead of a copy. For this reason, in this thesis I adopt the *skolemized choice function approach* (Agüero - Bautista 2001; Poole 2017), which is briefly presented below.

     Consider again (70) (repeated here as (76)), a wh-question with a pair-list reading. Let us assume a model with only three students: (Mary, John, Peter) and three books ('The idiot', 'The lord of the rings', and 'Don Quixote'). In this model (76a) derives the pair-list answer in (76b). Accordingly, each student in the model is mapped to a different book.

(76)   a. Which book did every student read?

         b. Mary read 'The idiot', John read 'The lord of the rings', and Peter 'Don Quixote'.

To derive this reading with a skolem-function account the lower copy needs to get doubly bound: by the higher copy and the intervening universal quantifier.

(77) [Which book]$_1$ did [every student]$_2$ read [which book]$_1{}^2$?

More specifically, the doubly bound copy in (77) is analyzed as (i) a skolem function variable (f^{sk}) which is bound by the universal quantifier, (ii) a choice function variable (f^{cf}) which is bound by the interrogative existential operator, and (iii) the NP-restrictor of the wh-phrase which saturates the choice function variable:

(78) [Which book]$_1$ did [every student]$_2$ read [f^{sk}_{-2} (f^{cf}_{-1} (book))]?

In (78), the skolem function f^{sk}_{-2} maps every student (x) to a book-choice-function (f^{cf}_{-1} (book)): f_{sk-2} <x, f^{cf}_{-n}(book)>. Thus, each of the students in our model is mapped to a different choice function which essentially extracts a different book from the set of books in our model:

(79) a. f_{sk}<Mary, f_{cf-1}(book) = The idiot>
       b. f_{sk}<John, f_{cf-2}(book) = The Lord of the rings>
       c. f_{sk}<Peter, f_{cf-3}(book) = Don Quixote>

In (79) we have the list of pairs we need for the pair-list answer.[22]

The next question that we should worry about is why resumptive wh-questions do not permit pair-list answers (see (67), (69)). The present thesis analyzes resumptive wh-questions in Greek as binding chains of an individual variable. As Chierchia (1993: 194) points out, binding of an individual variable may not give rise to a pair-list reading. Therefore, resumptive wh-questions are restricted to individual ('wide scope') readings. As a result, the lack of the pair-list reading in resumptive wh-questions further supports

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[22] It should be noted that double binding comes for free in Agüero – Bautista's (2001) original proposal, who, building on Kratzer (1998), posits an implicit variable in the denotation of the copy of the wh-phrase. This is the variable that the universal quantifier binds triggering the pair-list reading. For more information, the reader is referred to Agüero – Bautista (2001: 97-108).

the view that these dependencies involve an individual variable binding.[23] The data presented above suggest a clear-cut distinction between resumptive and non-resumptive questions which pertains to the semantic type of the variable in the trace position.

 Additional support for this claim comes from a quite unexpected domain, the extraction out of weak islands. Androulakis (1998) detects a clear contrast between resumptive and gap wh-questions with respect to their capacity to extract out of weak islands. The presence of the resumptive clitic in (80) facilitates the extraction of the wh-phrase out of the wh-island. On the other hand, the gap wh-question across a wh-island in (81) is reported as ungrammatical (Androulakis (1998: 160) while I have kept the original judgments).

(80) ?Pja jineka mu ipe o Nikolis [$_{island}$ pote tha ti horisi]?
      which woman me told-3SG the Nikolis when FUT CL divorce-3SG
      'Which woman did Nikolis tell me when he will divorce?'

---

[23] A short note on functional readings as in (i). In general, *functional readings*, similarly to *pair-list readings*, are excluded from resumptive wh-questions. This is what Engdahl (1986) and Chierchia (1993) would predict, since they subsume pair-list readings under functional readings (i.e., pair-list readings as extensional presentations of a function). However, I think that one may come up with examples of resumptive wh-questions where functional answers are (marginally) permitted. (i) involves a *negative QP*, thus pair-list answers are automatically excluded.

(i) a. Pjo dhoro dhen to ektimise kanena pedhi?
       which gift not CL appreciated-3SG no-one kid
       'Which gift did no kid appreciate?'
    b. ?Tis mamas tu.
       His mother's

Given that skolemized choice functions are not possible in resumptive questions, functional answers should come as a surprise. As Agüero – Bautista (2001: Chapter 2, section 2.9) however notes, there seems to exist an additional source of functional answers: *E-type traces*. *E-type pronouns* are required for cases where bound-variable readings are allowed in contexts where they are not expected as in (ii)

(ii) Kathe aghori milise me tin kopela tu. Kanena dhen **tin** kalese sto parti.
      'Each boy talked with his girlfriend. None of them invited **her** to the party.'

In (ii), binding of the individual-denoting pronoun (in bold) yields the reading 'no boy invited **his girlfriend**'. According to the E-type analysis, certain pronouns exhibit a complex internal structure with a variable R for a relation which is *contextually salient* (*girlfriend-of* in (ii)) and a pronominal variable which is bound by the clausemate quantifier. Agüero – Bautista (2001) suggests the extension of this analysis to wh-traces (E-traces), as in (i).

(81) *pja jineka   mu ipe   o Nikolis [island pote tha   horisi]?
      which woman   me told-3SG the Nikolis   when FUT   divorce-3SG
      'Which woman did Nikolis tell me when he will divorce?'

In chapter 4 we saw that the same is true for CLLD. So, a more general observation which seems to hold is that resumptive A'-dependencies are insensitive to weak islands. In the previous studies, this observation has led to the conclusion that resumed phrases are base-generated in their surface position (Anagnostopoulou 1994; Androulakis 1998).

However here and in chapter 4 I rejected the base-generation approach to resumptive dependencies, based on the evidence from reconstruction provided throughout (e.g., reconstruction for Condition C, pronominal QP-binding, anaphor DP-binding, idiom interpretation); see especially section 4.4.4, where I show that resumptive dependencies across weak islands show disjoint reference effects with a pronoun within the island domain. How then can the weak-island immunity of these constructions be handled? In chapter 4, I presented Cresti's (1995) account for extraction out of weak islands, without assuming a base-generation derivation. More specifically, I adopted Cresti's hypothesis that weak islands provide an escape hatch which is nevertheless accessible only to individual denoting phrases. As a reminder, Cresti (1995) is based on Longobardi's (1987) observation that dependencies across weak islands are restricted to wide scope readings, concluding that these chains obligatorily map onto individual denoting traces (see section 4.4.4, for more details). In resumptive wh-questions the foot of the chain is interpreted as an individual variable (more accurately as an individual-denoting trace-converted copy). This means that a resumed wh-phrase may make use of the escape hatch, because by moving through this position it will leave an individual denoting copy (in bold), satisfying the condition proposed by Cresti (1995):

(80') [[Pja jineka] λx . . . [escape hatch **[the$_x$ jineka]**$_e$ [island . . . [the$_x$ jineka]$_e$ . . .]]]

A gap question involves abstraction over a choice function variable. Accordingly, a successive cyclic A'-movement involves a choice function λ-binder in the intermediate position (van Urk 2015). This binder however does not sit comfortably in the escape

hatch position, because this position can only host individual-denoting elements. This situation gives rise to the weak island effects in (81).[24]

The following table summarizes the differences between resumptive and non-resumptive wh-questions in Greek. Although all of them have been more or less reported by previous studies, it is the first time that they are taken as evidence arguing that the variable involved in the two types of questions is of a different semantic type.

	Non-resumptive wh-Q $(\lambda f_{<<e,t>e>})$	**Resumptive wh-Q** (λx_e)
Weak crossover effects	yes	no
Parasitic gap licensing	yes	no
Pair-list readings	yes	no
Weak island effects	yes	no

Table 1. Resumptive vs. Non-resumptive wh-questions.

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[24] A. Roussou points out that resumptive wh-questions may violate strong islands (e.g., adjunct islands) as well (see (ii)). (i) illustrates that this is not the case for gap wh-questions:

(i) *[Pja jineka harike o Nikolis [islands molis idhe]]?

(ii) [Pja jineka harike o Nikolis [islands molis tin idhe]?

   'Which woman did Nikolis rejoice when he saw her?'

I claim that the extraction out of strong islands with resumptive dependencies is only apparent. In chapter 4, section 4.4, I argued that CLLD dependencies across strong islands involve a base-generation derivation, with the CLLDed phrase generated outside the island domain. As evidence for this claim, I showed that these dependencies do not reconstruct within strong islands for Condition C. It seems that this pattern is found in resumptive wh-questions well (iii).

 (iii) [Pjo ergho tu Jani₁] ghnorizis [island tus pelates stus opius pro₁ tha to pulisi]?

   'Which painting of John do you know the people to whom he is going to sell it?'

(iii) should be further examined with more native speakers for any safe conclusion. If (iii) obviates Condition C it means that in resumptive wh-questions across strong islands there is no copy of the resumed wh-phrase inside the relative clause island:

Recall that each criterion has been independently argued to indicate a dependency with an individual variable: insensitivity to weak-crossover (Sauerland 1998; Ruys 2000); lack of parasitic gaps (van Urk 2015), exclusion of pair-list readings (Chierchia 1993), extraction out of weak islands (Cresti 1995).

There is one more point that I would like to add before I close this section. In section 7.4.1, I explored the distribution of resumption in wh-questions, and I presented the consensus view that resumption is facilitated by two factors (see Androulakis 1998: fn.8). The first one is the amount of the material that is pied-piped along with the wh-phrase. This observation is often referred to as a 'referentiality hierarchy' and it implies that a partitive wh-phrase gets more easily resumed than a wh-NP and that a resumptive clitic is more comfortable with a wh-NP (83) rather than with a bare wh-phrase (82).

(82) *[Pjon]   ton   idhe   o Petros?
        who   CL   saw-3SG   the Peter
      'Who did Peter see?'

(83) [Pjon fititi]   ton   idhe   o Petros?
      which student   CL   saw-3SG   the Peter
      'Which student did Peter see?'

The second factor, often called 'heaviness effect', refers to the extra material in a wh-question, which provides additional contextual information.

(84) a. *[Pjo   dhendro] to fitepses?
      b. [Pjo   dhendro] to fitepses   monos   su?
          which   tree   CL planted   alone   your
          'Which tree did you plant (on your own)?'

It seems that both factors have the same effect on wh-questions: they render the set which the wh-operator ranges over more salient. Starting from the contrast between (82) and (83), in (82) the domain of the wh-phrase is wide open, and resumption seems impossible. In (83) the domain of the interrogative operator is restricted to a set of students and the sentence is significantly better, if not perfect. Moving to (84), in both sentences we have a wh-phrase with a pied-piped NP. However (84b) is significantly

improved by the presence of an adverbial 'on your own'. Without further information, it is not easy for the addressee of (84a) to define a contextually relevant set of trees that restricts the wh-phrase. On the other hand, (84b) seems to promote a set of trees that were planted by the speaker with some help from his friends and it also presupposes a (unique) tree that the speaker planted on his own. The key here is that (84b), due to the additional adverbial, seems to involve a severely restricted domain compared to (84a).

This shows that resumptive wh-questions are more acceptable as the domain which the wh-phrase ranges over shrinks. Integrating this conclusion to the proposed analysis of resumptive wh-questions, it would mean that a binder which ranges over *individual* variables (resumptive wh-questions) prefers *narrower, d-linked domains*, while binders of choice functions (gap wh-questions) are not affected by the size of the restrictor.[25]

7.5. More types of wh-chains

7.5.1. What-questions

The previous section explored the distinction between gap and resumptive wh-questions in Greek and the syntactic/semantic effects of resumption. I now turn to a further distinction within gap questions which pertains to the type of the wh-phrase involved. As we will see, the so-called *existential construction* suggests a different underlying structure for what-questions and which-questions. It should be emphasized that this section is not irrelevant to the discussion on resumption. Recall from section 7.4.1, that while which-questions allow clitic-resumption (under certain conditions), resumptive clitics seem to be totally excluded in 'what'-questions. Therefore, the investigation of what-questions may hopefully shed more light on the licensing conditions of resumptive clitics in wh-questions in Greek.

It has been long noticed that *what*-questions and *which*-questions in English are not equally compatible with the *existential construction there-be*. The following examples are provided by Heim (1987: 27).

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[25] As for the correlation between *d-linking* and *individualhood*, relevant is the discussion in Szabolcsi & Zwarts (1997: Chapter 7, section 5.2) who argue that *contextualization* (discourse linking) forces individualhood either by individuating domains of non-individuals or by enhancing the processing of domains of individuals.

(85) a. [What] is there in Austin?

b. ?[Who] was there in the room when you got home?

c. ?*[Which actors] were there in the room?

d. ?*[Which one of the two men] was there in the room?

As can be seen, the grammaticality status of these sentences reflects a 'referentiality/definiteness' hierarchy, identical to the one introduced above with respect to the availability of resumptive clitics (Anagnostopoulou 1994). Let us focus on the distinction between *which/what*-questions: *what*-phrases are freely inserted in the post-copular position of the existential construction (85a), while this is not the case for *which*-phrases.

Interestingly, this pattern extends to Greek, as the following existential sentences with the impersonal verb *ehi* (lit. has) show (see Chapter, 2, section 2.5). *Ti*-phrases (what-phrases) in (86) and (87) may target the pivot of the existential sentences. Of course, the personal-possessive reading of *ehi* is possible as well (*what does s/he have on the table?*). On the other hand, *pjos*-phrases in (88) and (89) block the existential reading of the verb. As a result, the verb *ehi* is restricted to its possessive reading.

(86) [Ti]   ehi   pano   sto   trapezi?
      what   has-3SG   on   to-the table
      'What is there on the table?'

(87) [Ti   praghmata]   ehi   pano   sto   trapezi?
      what things   has-3SG   on   to-the table
      'What things are there on the table?'

(88) [Pjo] ehi   pano   sto   trapezi?
      which has-3SG   on   to-the table
      'Which (thing) does (s)he have on the table?'

(89) [Pja   praghmata]   ehi   pano   sto   trapezi?
      what   things   has-3SG   on   to-the table
      'Which (things) does (s)he have on the table?'

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Moreover, the pivot of the existential construction may not be targeted by a clitic-resumed wh-phrase. As a consequence, *ehi* in (90) can only be construed as a (3rd person – singular) possessive verb.

(90)   [Pja   praghmata]   ta   ehi   pano   sto   trapezi?
       which things   CL   has-3SG   on   to-the   table
       'Which things does (s)he have on the table?'

These distributional restrictions of existential sentences (in English) have been interpreted in various ways in the literature (see Milsark 1977; Heim 1987; McNally 1998; see section 2.5, for a more complete presentation). In the present thesis I have adopted the view proposed by McNally (1998) and recently defended by Poole (2017) that only property-denoting DPs (of type <e,t>) may arise in the post-copular position (pivot) of existential constructions:

(91)   *there be XP*, if *XP* is not of type <e,t>

Before we proceed to *ti*-questions (what-questions), let me explain how the constraint in (91) derives the fact that resumptive and gap *pjos*-questions (which-questions) are incompatible with the existential *ehi*.

To begin with, resumptive questions have been argued to involve an individual variable (of type *e*) in the trace position. This clearly violates (90), namely that existential constructions require a property-denoting pivot. Turning to gap *pjos*-questions, in the previous sections I argued that they are interpreted through binding of a choice function variable ($f_{<<e,t>e>}$). The choice function variable applies to the NP-restrictor of the wh-phrase which has been reconstructed in the trace position, as in (92). This means that the trace position is actually occupied by an individual denoting phrase (of type *e*) which is the result of the choice function having applied to the NP.

(92)   [Which NP] $\lambda f_{<<e,t>e>}$ . . . ehi [f(NP)]$_e$

Therefore, it should be clear that, although resumptive and gap *pjos*-questions involve a λ-binder of a different semantic type (*e* and <<e,t>e>, respectively), the trace position in

both cases is filled with an individual-denoting phrase. As a result, both resumptive and gap *pjos*-questions are excluded from the existential construction.

The question that arises at this point pertains to the specific LF-representation that allows *ti*-questions to target the pivot of the existential construction. Heim (1987) has argued that *what*-questions range over kinds, therefore *what* may be semantically translated as *something of kind x* in the trace position:

(93)　a. What is there in Austin?

　　　b. What-x there is [something of kind x]$_{<e,t>}$ in Austin.

The grammaticality of (93a) is now accounted for, since non-specific/narrow-scope/weak indefinites are independently argued to have a property denotation (Heim 1982; Diesing 1993; see chapter 2).[26]

There is a lot one could add about *ti*-questions; however, what has been said so far is sufficient to explain the crucial contrast between *ti*-phrases and *pjos*-phrases with respect to their ability to get clitic-resumed. More specifically, the previous studies seem to agree that *ti*-phrases, in contrast to *pjos*-phrases, resist clitic-resumption (Anagnostopoulou 1994: ex39a; see section 7.4.1):

(94)　*[Ti　　fajita] ta majirevis　ghrighora ke　　efkola?
　　　　what　dishes CL prepare-3SG quickly　and　　easily
　　　　'What kind of dishes do you prepare them quickly and easily?'

Why is resumption excluded in *ti*-questions? Recall that, following Heim (1987) and given the compatibility of *ti*-questions with the existential construction, I have argued that in *ti*-questions the trace position is occupied by a phrase of type <e,t> (with kind interpretation, which I disregard below), roughly as follows:

(95)　a. [Ti　　pulia] fotoghrafizi　　o Kostas?
　　　　　what　birds　photoghraph-3SG the Kostas
　　　　　'What kind of birds does Kostas photoghraph?'

---

[26] Here I abstract away the exact kind-denotation of *what* in the trace position.

b. [CP [Ti p̶u̶l̶i̶a̶] [TP fotoghrafizi o Kostas [pulia]$_{<e,t>}$]]^{27}

It is worth mentioning that an analysis along these lines is also argued for 'how many'-questions with narrow scope readings (see next section). The representation in (95b) clearly does not license resumption, since resumptive clitics indicate copies that are interpreted as individual variables. Having said that, *ti*-questions parallel (Greek) Topicalization sentences (see Chapter 3) in that both constructions are compatible with the existential construction (which shows that they involve a property-denoting element in the trace position) and they disallow resumptive clitics (in fn.15 I suggest a specific semantic representation along these lines).

So far, we have argued that a wh-dependency may be associated with one of the following LF-representations:

(96)　　a. resumptive *pjos*-questions: pjos-NP λx_e . . . x . . .

　　　　b. gap *pjos*-questions: pjos- $\lambda f_{<<e,t>e>}$ . . . *f*(NP) . . .

　　　　c. *ti*-questions: ti-NP . . . NP . . .

It should be kept in mind that the taxonomy in (96) is empirically driven. I argued that resumptive dependencies involve a λ-binder ranging over individual variables and that the copy in the trace position is interpreted as an individual variable via trace conversion. The syntactic and semantic properties of resumptive wh-questions such as WCO-insensitivity, lack of parasitic gaps, immunity to islands and lack of pair-list readings follow from the representation in (96a). On the other hand, gap 'which'-

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[27] This representation raises further questions regarding the reconstruction behavior of *ti*-questions which will be not explored here. For instance, this representation predicts that a pied-piped anaphor can be bound only in the trace position, since the higher copy is deleted at LF. If this is true, the following sentences should be ungrammatical since the only gender-matching antecedent is not in a local relation with the copy of the wh-phrase in the trace position. At first glance, the following sentences seem grammatical, though the judgments are subtle and further investigation is needed.

(i)　[Ti fimes ja ton eafto tu] ipe o Kostas oti dhiadhidhi I Maria?

　　　'What kinds of rumors about himself did Kostas say that Mary spreads?'

(ii)　O Kostas anarotjete [ti kutsobolia ja ton eafto tu] dhiadhidhi I Maria?

　　　'Kostas wonders what kind of rumors about himself Mary spreads.'

questions contain a binder ranging over choice functions. The representation in (96b) has been independently argued to derive the syntactic-semantic behavior of wh-questions (WCO, parasitic gaps, pair-list readings). In this section we saw that the representation in (96c) is needed to account for the dependencies that are compatible with the existential construction. Recall that *ti*-phrases, in contrast to *pjos*-phrases (resumed or not), may target the object of the impersonal existential verb *ehi*, a position which can only host property-denoting phrases. For this reason, it is assumed that, in *ti*-questions, the trace position is occupied by the property-denoting NP-restrictor which has undergone reconstruction. The next section is devoted to Greek 'how-many'-questions. The interesting thing about these questions is that they may realize all the three representations listed above.

7.5.2. How-many/much questions

The main goal of this section is two-fold. First it aims to lend additional support to the taxonomy of wh-questions in (96). I will provide empirical evidence showing that *how many-questions* in Greek may instantiate any of the wh-representations above. More specifically, I will argue that how many-questions allow reconstruction of the [many NP] part for narrow scope readings. On the other hand, wide scope readings can be achieved with a *gap how many-question*, or with a *resumptive how many-question*. Crucially, while gap *how many*-questions are subject to WCO, resumptive *how many*-questions are insensitive to this effect. This suggests that the former involves binding of a variable of a higher type (e.g., a choice function variable *f*), whereas resumptive *how many*-questions involve binding of an individual variable. This suggestion is definitely in line with ReMIV according to which, resumptive A'-dependencies necessarily involve binding of an individual variable. In the second part of this section, I provide additional, novel, evidence supporting this claim. This is the second goal of this section.

To begin with, in Greek, both *how-many* and *how-much questions* are instantiated by the amount wh-phrase *pos-o* (-o: neuter, singular, nominative/accusative), with or without an NP-restrictor:

(97) Posa   (vivlia)   dhjavase o   Kostas?
     how-many books   read-3SG the   Kostas
     'How many books did Kostas read?'

(98) Poso   (krasi) ipje   o   Kostas?
      How-much   wine   drank-3SG   the   Kostas
      'How much wine did Kostas drink?'

In the previous section I referred to wh-questions which may target the pivot of the existential construction. At least since Heim (1987), it is well-known that *how many*-phrases behave like *what*-phrases in being compatible with the existential construction *there be*.

(99)   [How many books] do you think there are?

Heim (1987) proposes that in these cases, the *many NP*-part is interpreted in the trace position, obviating the definiteness restriction of this position (see the discussion in the previous section). Also, having assumed that the post-copular position in the existential sentences may only host property-denoting phrases (see (91)), the question in (99) may involve neither an individual variable nor a choice function variable. I return to the interpretation of (99') below.

(99')   [How ~~many books~~] do you think there are [many books]$_{<e,t>}$?

   Quite unsurprisingly, the same pattern is observed in Greek. *Poso*-questions, like *ti*-questions, may target the object position of the impersonal existential *ehi*.

(100) Posa   vivlia   ehi   pano   sto   trapezi?
      how-many   books   has-3SG   on   to-the   table
      'How many books are there on the table?'

It should be noted that in Greek, *how-many* is instantiated by the single wh-phrase *poso*. Below I assume that *poso* is morphologically decomposed into the "wh"-morpheme *p-* and the amount-denoting pronoun *os(o)* which is found in various contexts: *Oso* in (101) is a relative amount pronoun; *t-oso* in (102) arises as an amount demonstrative; *kan-p-oso* in (103) is an amount-denoting weak indefinite.[28]

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[28] Thanks to A. Roussou (p.c.) for the discussion on these data.

(101) Thelo   *osa*   (lefta)   mu   iposhethikes.
      want-1SG as-much money   me   promised-2SG.
      'I want as much (money) as you promised me.'

(102) Dhe   hriazome *tosa*   avgha.
      Not   need-1SG that-many eggs
      'I don't need that many eggs.'

(103) Efagha   *kabosa*   mila
      ate-1SG   many   apples
      'I ate many apples.'

In the following examples, I assume that *p-* corresponds to the existential-operator *how* and *–osa* to the weak indefinite *many/much*. Having said that, the existential construction in (100) forces the NP-restrictor along with the weak indefinite *-osa* to reconstruct into the object position of the impersonal verb. In essence, this follows from Heim's analysis (1987) for the existential constructions in English (compare (99') with (100')).

(100') [P-~~osa~~ ~~vivlia~~] ehi [-osa vivlia]$_{<e,t>}$ pano sto trapezi.

Up to this point, it seems that *poso*-questions in Greek may realize the representation proposed for *what*-questions in the previous section. This representation requires that *how-many* in English and *poso* in Greek are decomposed into a *how*-operator and a *many*-part. This move is independently justified by sentences where *how-many* phrases interact with other scopal elements (Frampton 1990; Cresti 1995).

Consider the following sentences which show that the wh-phrase (more accurately a part of it) is interpreted above or below the modal *prepi* (should) (see Longobardi 1987; Cinque 1990; Cresti 1995)

(104) [Posa   vivlia]   prepi na dhjavasi   i   Maria?
      how-many   books   should to read-SUBJ.3SG   the   Mary
      'How many books should Mary read?'

(104) is two-way ambiguous (*de-dicto* readings are disregarded here), depending on the scope position of *-osa vivlia*. If *-osa vivlia* is interpreted in its surface position, above *prepi*, then we are talking about *a set of specific books* that Mary should read, and we are just asking about the amount of this set.

A different reading arises if the phrase *-osa vivlia* is interpreted in the scope of the modal. According to the narrow scope reading of (103), Mary should read *a certain number* of books without any reference to *particular* books though. For English, the narrow scope reading is argued to stem from the (syntactic) reconstruction of the [many NP]-phrase in a lower position, along the lines of (98') (see Romero 1998; Fox 1999 for evidence in favor of the syntactic reconstruction view).[29] Analogously I assume the following representation for the narrow scope of (103'):

(104') [P-~~osa vivlia~~] prepi na dhjavasi [-osa vivlia] i Maria?

A question now arises for the representation that is required for the wide scope reading. Before going into this issue, I would like to introduce *resumptive how many-questions* in Greek which also express wide scope readings. The following example comes from Androulakis (1998: 136):

(105) [Posus   mathites] tus   eksetases?
        how-many   students   CL   examined
        'How many students did you examined?'

The resumed wh-phrase in (105) receives a partitive interpretation (i.e., how many of the students) (see Anagnostopoulou (1994: 175), for whom resumption of non-partitive 'how-many' phrases is not fully acceptable). Crucially, these resumptive dependencies are restricted to wide scope readings. In (106), *posa vivlia* obligatorily outscopes *prepi*.

(106) [Posa   vivlia]   prepi   na ta dhjavasi i   Maria?

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[29] Note further that, as the presentation above predicts, existential sentences force the narrow scope reading (Cresti 1995: 87):

(i) [How many people]$_1$ do you need there to be t$_1$ at the meeting? (need>n-many / *n-many >need)

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how-many   books   should   to CL read-3SG   the   Mary

'How many books should Mary read?'

At this point we have two dependencies with wide scope, over *prepi* 'should': the gap-question in (104) and the resumptive dependency in (106). Should these two sentences be assigned a unique representation? WCO effects seem to argue otherwise. The following sentence shows that a wide-scope gap-question is subject to WCO:

(107) *[Posus   erghazomenus]   prepi na apolisi   [to   afendiko tus]?
      how-many   employees   should to fire-SUBJ.3SG the   boss   them
      'How many employees should be fired by their boss?'

On the other hand, clitic-resumption obviates WCO:

(108) [Posus   erghazomenus]   prepi na tus apolisi   [to   afendiko
      how-many   employees   should to CL fire-SUBJ.3SG the   boss
      tus]?
      them
      'How many employees should be fired by their boss?'

According to the *type-mismatch view of WCO*, WCO-effects arise due to the type-mismatch between the λ-binder which is associated with the moved phrase and the intervening pronoun (Sauerland 1998; Ruys 2000). Since pronouns are of type *e*, a λ-binder of a higher type will be unable to bind the offending pronoun. First, the absence of WCO in (108) suggests that resumptive *poso*-question involves binding of an individual variable, as exemplified below.[30]

(109) a. [Posa   vivlia] ta dhjavase i   Maria?
         how-many   book CL read-3SG the   Mary
         'How many books did Mary read?'

      b. LF: [how λn [n-many books λx [Mary read [the$_x$ [books]]]]

_____

[30] The representation in (109b) implies a short movement step of 'how' which gives rise to abstraction over *numbers* (λn).

c. λp. ∃n [n ∈ *N* & ∃x [p=^Mary read [ιy.[books(y) & y=x]] & |ιy.books(y)| = n]

In (109c) *how* is interpreted as an existential quantifier over numbers (*N*), while the 'n-many books' involves binding of the individual variable x which stands for the unique non-atomic individual that satisfies the predicate 'Mary read y'. In other words, (109) asks about the number that corresponds to the cardinality of the sum of books that Mary read.

Accordingly, the WCO effects in (107) indicate a binder of a higher type in wide-scope gap questions. For reasons of uniformity, I assume that they involve a λ-operator ranging over choice function variables exactly like their *pjos* counterparts (see Romero 1998; Agüero - Bautista 2001; Poole 2017 for relevant proposals).

(110) a. [Posa   vivlia] dhjavase i   Maria?
          how-many book   read-3SG the   Mary
          'How many books did Mary read?'

   b. LF: [how λn [n-many λ*f* [Mary read [*f*(books)]]]

   c. λp . ∃n [n ∈ *N* & ∃*f* [*f* ∈ CF & p=^Mary read *f*(books) & |*f*(books)| = n]]

In (110c), the choice function variable applies to the set of books denoted by the plural noun *vivlia,* which contains all the individual books (e.g., *a, b*) and their sums (e.g., *a+b*) (Link 1983).[31] A choice function variable then extracts a specific sum of books, while the *how*-operator asks about the cardinality of this sum (e.g., |a+b| = 2). If the analyses in (109) and (110) are on the right track, then *poso*-questions in Greek realize all the three wh-representations presented so far.

What is really crucial however, for the purposes of the present thesis is the proposed analysis of resumptive *poso*-questions in (109). The main claim that this thesis argues for is that resumptive dependencies in Greek are interpreted as binding of an individual variable (ReMIV). The structure in (109) is definitely in line with this claim. I proposed (109) based on the scopal behavior and the WCO-insensitivity of these sentences. In the following paragraphs I provide additional evidence for this analysis.

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[31] In contrast to Poole (2017: 75ff), where the choice function applies to a set of degrees.

In the rest of this section, I briefly present some syntactic contexts which exclude individual variables (or individual-denoting copies through trace conversion). This means that the proposed analysis of resumptive *poso*-questions predicts that resumptive clitics are strictly excluded from these contexts. For instance, I have already referred to the existential construction with the impersonal verb *ehi*, which excludes individual-denoting complements (see Heim 1987). We expect then that a resumptive *poso*-question may not target this position. This prediction is borne out, as (111) shows.

(111) Posa   vivlia (*ta) ehi   pano sto   trapezi
      how-many   books CL   has-3SG on   to-the   table
      'How many books are there on the table?'

Furthermore, (109) predicts that resumptive *poso*-questions are restricted to wide scope readings. I have already shown that a resumed *poso*-phrase obligatorily outscopes a modal (106), while this is not the case for their non-resumed counterparts. There are a couple of contexts that highlight further this property of resumptive *poso*-questions.

First, a *creation verb* (*invent*, *compose*, *write* etc.), in a modal context, forces the narrow scope reading (see Heycock 1995; Romero 1998). This is so because in a question like (112) below, the wide scope reading presupposes that there are a number of particular stories that Kostas should invent. That is to say, these stories must have already existed before Kostas invented them. It becomes obvious then that the wide scope reading is excluded for pragmatic reasons.

(112) How many stories should Kostas invent?

Having said that, the pragmatic oddity of (113) receives a straightforward explanation. The resumptive clitic indicates an individual variable in the trace position, which forces the infelicitous wide scope reading.

(113) #[Poses   istories] prepi   na tis efevri   o   Kostas?
      how-many stories   should   to CL invent-3SG   the   Kostas
      'How many stories should Kostas invent?'

Moving on, I would like to draw the readers' attention to the representation of 'how-many' questions, where the *many*-NP part is interpreted in the trace position (see (98')). As an indirect piece of evidence for this claim, Heycock (1995) points out that in French *how many-questions*, the NP-restrictor may overtly appear in the trace position (see also Dobrovie-Sorin 1992). Interestingly, these *split constructions* admit only the narrow scope reading (Fox 1999).

(114) Combien$_1$ as-   tu   lu   [t$_1$ <u>de livres</u>]?
        how-much   have   you   read   of books
        'How many books have you read?'

Split constructions are allowed in Greek as well, at least for some of the speakers, as (115) illustrates. As in French, (115) blocks the wide scope reading.

(115) %Posus$_1$ thelis   na kalesis   [t$_1$ kathighites]?
        how-many   want-2SG   to invite-SUBJ.2SG   professors
        'How many professors do you want to invite?'

                                                    (want>n-many, *n-many>want)

The narrow scope reading is incompatible with an individual variable. Hence, *split resumptive constructions* must be impossible. This is confirmed by (116).

(116) *Posus$_1$ thelis   na tus   kalesis   [t$_1$ kathighites]?
        how-many   want-2SG   to CL   invite-SUBJ.2SG   professors
        'How many professors do you want to invite'

The last argument comes from amount questions with *mass* NP-restrictors, which in English require the wh-phrase *how-much*. In Greek, mass nouns co-occur with the amount wh-phrase *poso*, which is insensitive to the mass/count distinction. Crucially, *how much-questions* (i.e., amount questions which target a mass noun) have been argued to be incompatible with individual readings (Cresti 1995; Romero 1998).

Therefore, we predict that in Greek wh-phrases with mass nouns exclude resumptive clitics, as in (117), because they are associated with individual readings. [32]

(117) Poso   krasi (*to) ipje   o   Kostas?
       how-much   wine   CL   drank-2SG the   Kostas
       'How much wine did Kostas drink?'

To conclude, resumptive 'how-many' questions in Greek are strictly associated with a λ-binder ranging over individual variables. This conclusion fits perfectly with the claim of this chapter that resumptive wh-questions obligatorily involve an individual variable (actually a copy which is interpreted as a variable of type *e)* in the trace position, as well as with the wider claim defended by this thesis that resumptive dependencies in Greek are necessarily interpreted as individual variable binding (ReMIV).

7.6. Conclusion

In this chapter I dwelled into the resumptive and gap wh-questions in Greek. The ultimate goal of this chapter was to present the syntactic and the semantic effects that a resumptive clitic has on these dependencies. Comparing between resumptive and gap wh-questions, I showed that a resumptive clitic indicates an individual-level variable in the trace position (a copy that has undergone trace conversion), in line with ReMIV. I explained in detail how this accounts for the behavior of these chains with respect to several syntactic/semantic phenomena such as WCO, parasitic gaps, scope reconstruction and sensitivity to weak islands.

In addition, I proposed that non-resumptive, gap dependencies in Greek exclude individual variables at the foot of the chain. More specifically, I argued that a further distinction is required between the two types of gap wh-questions. On the one hand, *which/pjos*-questions in Greek involve binding of a choice function variable, while in

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[32] Some of my informants find (117) good, while the counterpart of (117) with a partitive structure (*poso apo to krasi* 'how much of the wine') is further improved:

(i) [Poso apo to krasi] to ipje o Kostas?
     'How much of the wine did Kostas drink?'

I leave the investigation of this construction to future research.

what/ti-questions the trace position is occupied by the property-denoting (explicit or implicit) NP-core of the moved wh-phrase. The key difference between *pjos*-questions and *ti*-questions that has led to this distinction concerns the compatibility of these dependencies with existential constructions, which require a property-level phrase in the complement position of the impersonal existential verb *ehi*. (118) summarizes the three representations for wh-questions in Greek, as described above.

(118)   a. pjos-NP λx_e . . . x . . .   resumptive *pjos*-questions

   b. pjos- $\lambda f_{<<e,t>e>}$ . . . *f*(NP) . . .   gap *pjos*-questions

   c. ti-~~NP~~ . . . NP . . .   gap *ti*-questions

In section 7.5.2, I showed that *how-many/poso*-questions in Greek may realize all the three representations listed in (118). A resumptive *poso*-question involves an individual-denoting copy in the trace position. This has significant syntactic and semantic effects on the behavior of this dependency which is predicted to be (i) WCO-immune, (ii) restricted to wide scope readings (several tests were provided above with respect to this parameter, e.g., creation verbs in modal contexts) and (iii) incompatible with the existential construction. These predictions are clearly borne out. Nevertheless, a wide scope reading can be also achieved without a resumptive clitic. These *poso*-questions involve a choice function variable, on par with gap *pjos*-questions. Narrow scope readings on the other hand require total reconstruction of the 'n-many NP' part of the wh-phrase in the trace position. Indeed, narrow scope *poso*-questions, like *ti*-questions, may target the pivot of the existential construction. As a conclusion, this chapter has shown that the main claim of the present thesis about resumption in Greek A'-dependencies seems to successfully extend to wh-dependencies.

Chapter 8. Conclusions and extensions

This final chapter summarizes the conclusions of this thesis, as presented in the previous chapters. I close this thesis with a discussion on the implications of the present study to the standard taxonomy of movement chains.

8.1. Concluding remarks

The present thesis aimed to investigate the syntactic representation and the syntax-semantics mapping that give rise to clitic-resumption in Greek A'-dependencies. The main claim of the present thesis is that resumptive clitics mark movement traces which are interpreted as variables of type *e*. A more formal description of this claim is provided in (1), under the acronym *ReMIV*:

(1)   Resumption Marks Individual Variables (*ReMIV*):
        Traces of A'-movement are interpreted as individual-type variables *iff* they are associated with a resumptive clitic.
        (A'-traces are interpreted as variables of type e ↔ A'-traces are associated with a resumptive clitic)

As explained, (1) comes with certain predictions, not only about the distribution of resumptive clitics, but for the syntactic/semantic properties of resumptive A'-dependencies as well. Moreover, (1) implies that gap A'-dependencies in Greek never trigger abstraction over individual variables, resorting to other semantic strategies for their interpretation. Towards this direction, I investigated two gap A'-dependencies, *Greek Topicalization* and *gap wh-extraction*, showing that they exclude individual variables in their trace position, as predicted by (1). Below I provide a more detailed summary of the conclusions of the previous chapters which support the main claim of this thesis about the distribution of resumption in A'-dependencies.

Chapter 2 opened the discussion of topic-marking dependencies in Greek. Greek is equipped with two topic-marking dependencies: *Clitic Left Dislocation* (CLLD) with

obligatory clitic-resumption and *Topicalization*, which excludes resumptive clitics altogether. Building on the previous literature, I argued that these constructions are in a complementary distribution based on the semantic type of the topic-phrase. More precisely, topic phrases of type *e* undergo CLLD (see 2), whereas Topicalization is restricted to topics that denote properties ($<e,t>$) (see 3).[1]

(2)   *Individualhood of CLLDed phrases*
        [XP]$_{1-e}$ . . . . . . *(cl) . . . _$_1$

(3)   *Propertyhood of Topicalized phrases*
        [XP]$_{1-<e,t>}$ . . . . . . (*cl) . . . _$_1$

What is crucial to note is that the distribution of resumptive clitics in CLLD and Topicalization follows directly from the ReMIV generalization. More precisely, obligatory resumption in CLLD follows from the fact that when an individual denoting phrase moves, it necessarily leaves a trace of type *e* in its base position. This activates (1a), and a resumptive clitic is inserted to mark the individual variable in the trace position. Moreover, the absence of clitics in Topicalization follows from (1b): given that a movement chain headed by a phrase of type $<e,t>$ may not map onto individual variables (a claim that is argued for in chapter 3), Topicalization never involves an individual variable in the trace position and resumptive clitics are excluded.

Chapter 3 focused on the syntactic derivation and the LF-representation of Topicalization (see 3). Topicalization involves movement of a property-denoting phrase to a left-peripheral topic projection. However, what is special about this construction is that the dislocated phrase obligatorily undergoes *total reconstruction*. This roughly means that the topic phrase in Topicalization is interpreted in its base position rather than in its surface position, as in (4):

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[1] More accurately, the *Individualhood* and *Propertyhood* generalizations for CLLD and Topicalization respectively should be defined as below:

(i)   *Individualhood of CLLDed phrases*
      [$_{TopP}$ [XP]$_{1-\sigma}$ [. . . . . . cl . . . _$_1$]], where $\sigma \neq e$

(ii) *Propertyhood of Topicalized phrases*
      [$_{TopP}$ [XP]$_{1-\sigma}$ [. . . . . _$_1$, where $\sigma \neq <e,t>$

(4)   Topicalization: ~~[XP]~~_{~~1-<e,t>~~} . . . . [XP]$_{1-<e,t>}$

As explained in Chapter 3, the total reconstruction pattern in (4) is aligned with our claim that Topicalization – a gap-dependency – never maps onto individual variables. It should also be stressed that (4) lends a novel piece of evidence in favor of the assumption that property-level traces do not exist in natural languages (see Poole 2017).[2]

In chapter (4), I explored the syntactic and the semantic analysis of CLLD, an A'-dependency which obligatorily involves clitic resumption. First, in this study I sided with the movement analysis of Greek CLLD, which is mainly based on its reconstruction properties. More crucial however is the representation of CLLD chains at the syntax-semantics interface. For the reasons explained above, CLLD is interpreted via λ-abstraction of an individual-denoting variable:

(5)   CLLD: [XP]$_e$ λx$_e$ . . . . x$_e$

The main point of chapter 4 is that the representation in (5) accounts for a set of syntactic/semantic properties, such as lack of WCO or obligatory wide scope readings, which were previously taken as evidence for a base-generation or a mixed-chain analysis. As we saw in chapter 7, these properties characterize not only CLLD but all the resumptive dependencies across the board (e.g., resumptive wh-questions, resumptive relative clauses).

Chapter 5 developed a novel analysis of resumptive clitics as *D-heads* (definite determiners). More specifically, the discussion built on the conclusion that resumptive chains are movement dependencies which involve an individual variable in the trace position. Under standard assumptions, movement copies turn into individual variables through a *trace conversion algorithm* which inserts an indexed definite determiner (with the standard iota-operator semantics) and attaches a variable to the NP-core of the copy (Fox 2002).

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[2] Recall that in this thesis, the term "trace" refers to movement copies that are interpreted as semantic variables giving rise to λ-abstraction. Consequently, total reconstruction in (4) is an alternative way of interpreting a movement chain without λ-abstraction.

Against this background, I argued that the indexed definite determiner survives the PF-deletion (chain reduction), arising as a resumptive item. To explain the surface position and the clitic-status of resumptive items in Greek, I argued that the inserted definite determiner is cliticized (i.e., moves and attaches to a verbal form) to satisfy a PF-filter, which disallows morphophonologically deficient items to form separate phonological units. Note that the proposed analysis explains in a straightforward manner several puzzling properties of clitic-resumption, such as the morphological resemblance between resumptive clitics and definite articles and the reconstruction properties of resumptive constructions.

More crucially however, this analysis provides a principled account for the ReMIV generalization, that is, the correlation between resumptive clitics and individual-denoting traces: copies that are interpreted as individual variables are generated through the trace conversion rule which, as we have seen, inserts a definite determiner/resumptive clitic in the derivation of an A'-dependency. As shown in chapter 5, this step is crucial to make sense of the complex distributional pattern of resumptive clitics across the A'-dependencies in Greek.

Chapter 6 looked into CLLD and Topicalization dependencies which are headed by expressions that are standardly considered quantified phrases (QPs), such as (modified) numerals, negative words and phrases with universal determiners. The main conclusion of this chapter is that the type-theoretic conditions regulating the distribution of topic-marking dependencies extends to CLLDed/Topicalized QPs as well. More specifically, I gave syntactic and semantic evidence that CLLDed QPs denote individuals, complying thus with the *Individualhood Condition on CLLDed phrases*, while Topicalized QPs are of type <e,t> as dictated by the *Propertyhood Condition on Topicalized phrases*. The evidence provided pertains to the availability of CLLDed/Topicalized QPs in constructions with semantic-type restrictions (e.g., appositive relative clauses and existential constructions), to the sensitivity of CLLDed/Topicalized QPs to WCO, and to the scopal behavior of these chains.

Finally, chapter 7 investigated gap and resumptive wh-questions in Greek, aiming to show that (1) is not restricted to topic dependencies, but it constrains resumption in Wh-dependencies as well. In line with (1), it was shown that resumptive wh-questions are necessarily interpreted through λ-abstraction over individual variables, while gap-questions resort to other semantic strategies.

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More analytically, I argued that three distinct LF-representations are relevant to the interpretation of wh-questions in Greek. First, as has been already said, ReMIV predicts that resumptive clitics in *resumptive pjos/which-questions* indicate an individual variable in the trace position (see (6a) below). Indeed, the syntactic and semantic properties of resumptive questions (e.g., immunity to WCO, lack of pair-list readings) provide strong support to this analysis. On the other hand, it was shown that *gap-questions* exclude individual variables in the trace position, as ReMIV predicts. In particular, a further distinction is required between two types of gap wh-questions: *gap pjos/which-questions* in Greek involve binding of a choice function variable, as in (6b), while in *ti/what-questions* the trace position is occupied by the reconstructed property-denoting NP-core of the wh-phrase as in (6c). The key difference between *pjos-questions* and *ti-questions* that has led to this distinction is the (in)compatibility of these chains with the existential construction, which requires a property-denoting phrase as the object of the impersonal/existential verb.

(6)   a. *pjos*-NP λx_e x   *resumptive pjos/which-questions*

        b. *pjos* $\lambda f_{<<e,t>e>}$ . . . . . . *f*(NP)   *gap pjos/which-questions*

        c. *ti*-~~NP~~ . . . . . . NP   *gap ti/what-questions*

Furthermore, the examination of *poso-questions* (how-many-questions) demonstrated that these chains may instantiate any of the representations listed above: (i) *resumptive poso-questions* are interpreted as in (6a), (ii) *wide-scope gap poso-questions* involve a λ-binder which ranges over choice function variables as in (6b), and (iii) *narrow-scope poso-questions* are analyzed on par with what-questions in that they require reconstruction of the NP-restrictor into the trace position as in (6c).

As a conclusion, the investigation of the syntax-semantics of a wide range of (topic and wh-) A'-dependencies showed that resumptive clitics in Greek A'-dependencies indicate a variable of type *e* in the trace position, and that individual variables in an A'-trace position always give rise to resumptive clitics.

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8.2. Extensions: Decomposition of the taxonomy of movement dependencies

In this section I discuss the implications of the results of the present study to the taxonomy of movement dependencies. I will show that the standard A/A'-movement distinction does not suffice to capture the properties of the resumptive dependencies examined in this thesis (e.g., CLLD). Building on ideas developed in previous studies (Sauerland 1998; Ruys 2000; Takahashi & Hulsey 2009; van Urk 2015 among others), I conclude that the syntactic and the semantic behavior of a certain movement chain cannot be predicted unless all the details about its LF-representation are considered.

One of the wide-agreed minimalism assumptions is the unifying view of movement, according to which syntactic movement, of any type, is analyzed as *internal merge* (Chomsky 1995, 2001; see the relevant discussion in Chapter 1). Therefore, from the perspective of narrow syntax, one does not expect to find significant variation among different cases of movement. In fact, the word '*taxonomy*' itself seems to contradict the minimalist theorization of movement. However, one should keep in mind that the minimalist perspective of movement does not exclude variation at the interfaces. Indeed, in recent approaches, the standard *A/A' asymmetries* such as the sensitivity to WCO or the licensing of parasitic gaps, are attributed to some property of the LF-representation of movement chains, rather than to some inherent syntactic property of the moved constituent or the status of the landing position (see van Urk 2015). The discussion on the classification of movement chains that follows should be understood in the context outlined in this paragraph.

It is a well-known fact that A- and A'-chains show a number of discrepancies (see Safir 2019 for an overview). In this section I restrict myself to two of them. First, A'-movement, in contrast to A-movement triggers *WCO effects* (Postal 1971; Wasow 1972, Lasnik and Stowell 1991). This roughly means that an A'-moved phrase cannot bind a pronominal variable from its landing position (7). This observation does not hold for A-moved phrases, as (8) illustrates (see Safir 2017 and references therein):

(7)   *[Which student]$_1$ did [his$_1$ mother] see t$_1$?

(8)   [A student]$_1$ seems to [his$_1$ mother] to t$_1$ be smart.

An additional, well-documented, asymmetry between A- and A'-chains concerns their behavior with respect to *reconstruction for Condition C* (Freidin 1986; Lebeaux 1988; Chomsky 1995). In A'-chains, an R-expression within the moved phrase may not corefer with a pronoun that c-commands the trace position. To account for these cases, we assume that A'-movement leaves a full copy which is visible to Condition C (9). For ease of reference, this situation is described with the term *obligatory reconstruction*. On the other hand, A-movement typically bleeds Condition C. In (10) the R-expression 'John' is free to corefer with the intervening pronoun 'him'. Therefore, it seems that low copies of A-moved phrases may be interpreted as variables (i.e., without the NP-core of the moved phrase, a.k.a. "impoverished traces"), unless they are forced to leave a full copy for scope purposes (Fox 1999). Therefore, syntactic reconstruction in A-movement is only *optional*.

(9)   *[Which picture of John$_1$]$_2$ does he$_1$ like <which picture of John$_1$>$_2$?

(10)   [This picture of John$_1$]$_2$ seems to him$_1$ to t$_2$ be nice?

The following table summarizes the behavior of the A-chains and A'-chains with respect to these two diagnostics:

	A-movement	**A'-movement**
WCO-sensitivity	✗	✓
Obligatory reconstruction	✗	✓

Table 1. A/A'-movement asymmetries

This is not an exhaustive list of the A/A' asymmetries, but as we will see below it is sufficient to highlight the problems with the classification of some constructions into the one category or the other. Considering the properties of resumptive dependencies in Greek (e.g., CLLD or resumptive wh-questions), we can see that this taxonomy fails to classify these dependencies as A- or A'-chains. In the discussion that follows the

behavior of resumptive dependencies is exemplified through CLLD (topic-marking) sentences. First, as the following example shows, CLLD is insensitive to WCO:[3]

(11) [Kanena vulefti]$_1$ dhen ton   dhieghrapse [to   koma   tu$_1$].
      No   PM   not   CL   deleted-3SG the party his
      'His party deleted no PM.'

Therefore, in this respect CLLD aligns with A-movement dependencies. This is not the case however with the behavior of CLLD regarding reconstruction for Condition C.

(12) *[Ton filo tu   Kosta$_1$]$_2$ pro$_1$ dhen ton   kalese.
       The friend the Kostas   not   CL   invited-3SG
      'He didn't invite Kostas' friend.'

In (12), the R-expression 'Kostas' cannot corefer with the null subject. This indicates a full copy of the CLLDed phrase in the trace position, therefore the coindexation of 'Kostas' and pro$_2$ violates Condition C. As a conclusion, CLLD like A'-chains involves obligatory reconstruction of the left-dislocated topic phrase. The following table intends to highlight the mixed properties of resumptive dependencies (Resumptive-D) in Greek.

	A-movement	Resumptive-D	A'-movement
WCO-sensitivity	✗	✗	✓
Obligatory reconstruction	✗	✓	✓

**Table 2**. Properties of A-movement, A'-movement and resumption dependencies

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[3] Recall that WCO is constantly obviated in resumptive wh-questions as well (Chapter 7).

(i) Pjon fititi ton proselave o pateras tu?

     'Which student did his father hire?'

Wh-phrases are clearly non-referential, hence the obviation of WCO in these cases cannot be treated as a case of coreference (cf. Ruys 2004).

The observation that resumptive dependencies, as well as constructions in other languages (e.g., *scrambling*), behave as A'-chains in some respects and as A-chains in others is not new. Below we will see some attempts in the previous literature to deal with the mixed behavior of such dependencies.

For Angelopoulos & Sportiche (2021) the mixed properties of CLLD indicate a mixed A'/A-movement chain. More specifically, the CLLDed phrase performs an A-movement step to the middle field of the structure followed by A'-movement step(s) to the left periphery (see Chapter 4). (13) is only an abstract, simplified representation of the mixed chain that underlies a CLLD-dependency according to Angelopoulos & Sportiche: the dashed arrow indicates the A-movement chain.

(13)   [$_{TopP}$ [DP] . . . . . . [$_{middle\ field}$ [DP] . . . . . . [DP]]]
                          A'-movement   A-movement
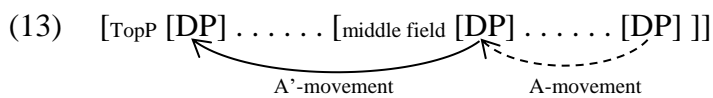
Therefore, each of the properties of CLLD illustrated in *Table 2* is associated with a different level of the derivation of CLLD chains: WCO-insensitivity indicates that the topic phrase crosses the VP-internal subject position via A-movement; reconstruction for Condition C indicates that the foot of the A'-movement chain is below the surface position of the subject. Along these lines, the mixed behavior of CLLD is not problematic for the standard observations on the A/A' dichotomy.

Nevertheless, in Chapter 4 (section 4.6.) I showed in detail that the analysis proposed by Angelopoulos & Sportiche is empirically insufficient. For instance, it was demonstrated that while the so-assumed A-movement step derives the WCO-insensitivity of short-distance CLLD-sentences, it does not account for the WCO-insensitivity of long-distance CLLD dependencies (Spathas 2005: ex156).

(14)   [$_{CP-1}$ [Kathe pedhi]$_1$, [i mama tu$_1$] nomizi [$_{CP-2}$ oti oli to aghapun t$_1$]].
        'Every kid, his mother thinks that everybody loves him.'

To derive the WCO-insensitivity of (14) through A-movement, we would need to assume that the CLLDed phrase, which is generated in the embedded object position (t$_1$), crosses the subject of the matrix clause (and a CP-boundary) via A-movement. A-movement however is standardly assumed a clause-bound operation. As a result, such a

mixed-chain analysis cannot be the way out of the problems that resumptive dependencies cause to the traditional A/A' distinction.

It should be noted that mixed-chain properties have been reported for *scrambling constructions* in many languages (see for instance Webelhuth (1989) for German; Mahajan (1990) for Hindi; Saito (1992) for Japanese). Nikolaeva (2014) and Bhatt & Keine (2019) propose a different path for the analysis of the mixed properties of scrambling constructions in Russian and Hindi, respectively. The key point in these accounts is the correlation of *obligatory reconstruction* with the *case filter*, as proposed by Takahashi (2006), and Takahashi & Hulsey (2009). According to these authors, the A/A' asymmetry with respect to reconstruction for Condition C reflects the interaction of a moved phrase with the case filter.

Under standard assumptions, *A-movement* targets a phrase in a non-case position (thematic position) and moves it to a case-marking position while *A'-movement* always targets an already case-marked phrase, as far as arguments are concerned (cf. Keine 2018 and the references therein). In the following representations, *C* denotes a case-assigning head.

(15)   a. A-movement: $[DP]_{case}$ *C* . . . . . . [DP]

   b. A'-movement: $[DP]_{case}$ . . . . . . *C* $[DP]_{case}$

Takahashi (2006) and Takahashi & Hulsey (2009) argue that the insertion of the NP-core of a moved phrase can be delayed until the moved phrase reaches a case-marking position. This allows the NP-core of an A-moved phrase to Late Merge (a case of '*Wholesale Late Merge*'). More analytically, in A-movement, the moved phrase receives its case in its landing site (16a), that is as a high copy. This means that Late Merge of the NP-core does not affect its case-marking. In A'-movement though, *C* assigns case to the lower copy (16b). *Wholesale Late merge* (WLM) in this case would leave the NP-core of an A'-moved phrases without case. Hence the NP in (16c) violates the case-filter.

(16)   a. A-movement: $[_{DP}$ D [NP]$]_{case}$ *C* . . . . . . $[_{DP}$ D]   (WLM)

   b. A'-movement: $[_{DP}$ D [NP]$]_{case}$ . . . . . . C $[_{DP}$ D [NP]$]_{case}$

c. A'-movement: *[_DP_ D_case_ [NP]] . . . . . . _C_ [_DP_ D_case_]   (WLM)

According to Nikolaeva (2014) and Bhatt & Keine (2019), this re-interpretation of the obligatory and optional reconstruction in A'- and A-chains respectively allows a new approach to dependencies with a mixed-behavior. Take Hindi scrambling for example, which is insensitive to WCO (17), while it shows obligatory reconstruction for Condition C (i.e., it may not bleed Condition C) (18) (from Bhatt & Keine 2019: ex4, 8b).

(17)   [har   larke-ko]₁ [us-kii   behin-ne] _₁ dã̃tãã.
        every boy   he-GEN   sister-ERG   scolded-3SG
        'For every boy x, x's sister scolded x.'

(18)   *[Sita-ke₁   bhaaii-ko]₂   us-ne₁   _₂ dã̃tãã.
        Sita-GEN   brother-ACC   she-ERG   scolded
        'Sita's₁ brother, she₁ scolded.'

Let us then assume, with Bhatt & Keine (2019), that the WCO-insensitivity of this construction indicates an A-movement chain (call it *A-scrambling* for ease of reference). What we need at this point is a principled account for the obligatory reconstruction of the scrambled phrase in its base position. Bhatt & Keine (2019) then argue that scrambling in Hindi is an A-movement operation which, in contrast to English A-movement, does not serve case-marking. It is then concluded that scrambling targets phrases in case-marked positions as in (19a). As shown in (19b) late merge of the NP-core of the scrambled DP would lead to a violation of the case-filter, by leaving the late-inserted NP unmarked for case. The welcome outcome of this analysis is that it accounts for those dependencies with a mixed behavior, while it is still compatible with the standard observations about the A'- and A-movement chains.

(19)   a. Hindi scrambling: [_DP_ D [NP]]_case_ . . . . . . _C_ [_DP_ D [NP]]_case_

        b. Hindi scrambling: *[_DP_ D_case_ [NP]] . . . . . . _C_ [_DP_ D_case_]   (WLM)

Can CLLD be analyzed as an A-movement chain which targets an already case-marked topic phrase? The claim that CLLD is an A-movement chain seems untenable for several reasons. First, CLLDed phrases occupy a position in the left periphery of sentences. This domain is identified with the CP-domain of the structure, which is generally assumed an A'-domain (or a series of A'-positions). More crucially, in Greek, CLLDed phrases obligatorily precede *focus-fronted* constituents which are clearly A'-moved phrases (20). In particular, focus-fronted phrases show all the standard properties of A'-movement such as WCO effects (21).

(20) a. [Ta luludhja]$_1$, [STI MARIA] ta$_1$ edhose o Kostas.
         the flowers to-the Mary CL gave-3SG the Kostas

      b. *[STI MARIA] [ta luludhja]$_1$, ta$_1$ edhose o Kostas.
          to-the Mary the flowers CL gave-3SG the Kostas
          'Kostas gave the flowers TO MARY.'

(21) *[TI MARIA]$_1$ aghapai [i mitera tis$_1$] __$_1$.
        the Mary loves-3sg the mother her
        'Her mother loves mary.'

In addition, Greek CLLD, in contrast to Hindi (short-distance) scrambling, is not clause-bound. Hence a CLLDed phrase may easily cross one or more clausal boundaries. Clearly, the unboundedness of CLLD suggests an A'-movement derivation.

(22) [$_{CP-2}$ To palto$_1$, ipe i Maria [$_{CP-2}$ oti to aghorase o Kostas t$_1$]].
       'The coat, Mary said that Kostas bought.'

It should be made clear that there is no point in distinguishing between short-distance CLLD and long-distance CLLD, since they share the same properties. Recall that long-distance CLLD, similar to its short-distance counterpart, is insensitive to WCO (see section 4.4, Chapter 4). In (14) (repeated here from above) the object of the embedded clause moves to the left periphery of CP-2 crossing the subject of the matrix clause.

(14) $[_{\text{CP-1}}$ [Kathe pedhi]$_1$, [i mama tu$_1$] nomizi $[_{\text{CP-2}}$ oti oli to aghapun t$_1$]].

   'Every kid, his mother thinks that everybody loves him.'

   For these reasons I argue that the analysis proposed for the mixed behavior of Russian and Hindi scrambling cannot be extended to Greek CLLD. In other words, CLLD cannot be argued to be an A-movement chain. Therefore, while scrambling constructions raise the question why an A-moved phrase obligatorily reconstructs, CLLD seems to raise the opposite question, namely why these A'-moved phrases are immune to WCO.

   Taking up this question, recall that WCO refers to the (slight) ungrammaticality of examples like (23), where an A'-moved phrase crosses a DP with a co-indexed pronoun. More specifically, the problem with these examples is that the moved wh-phrase cannot bind the intervening pronoun.

(23)   *[Which student]$_1$ did [his$_1$ mother] see t$_1$?

   For Sauerland (1998) and Ruys (2000), the inability of the moved phrase to bind the intervening pronoun stems from the type-mismatch between the pronominal variable and the λ-binder introduced by wh-movement. As (23') illustrates, wh-movement introduces a λ-binder ranging over *choice functions (<<e,t>e>)*, while pronominal variables are of type *e* (see chapter 7, for more details on the LF-representation of wh-questions). As a result, the wh-phrase cannot bind the pronominal variable.

(23')   *[Which] λ$f_{<<e,t>e>-1}$ did [his$_{e-1}$ mother] see f(student)?

   On the other hand, WCO-insensitive constructions, like the raising construction in (24) are argued to involve a λ-binder ranging over individual variables (λx). Hence the binding of the intervening pronoun is grammatical.

(24)   [A student]$_1$ seems to [his$_1$ mother] to t$_1$ be smart.

(24')   [A student] λx$_{e-1}$ seems to [his$_{e-1}$ mother] to t$_1$ be smart.

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Along these lines, in the preceding chapters I argued that the WCO-insensitive resumptive dependencies in Greek, including CLLD, involve a binder ranging over individuals.

Putting everything together, I claim that the mixed behavior of resumptive dependencies in Greek indicates that these constructions are *A'-movement chains* which involve *a λ-binder of type e*.[4] The A'-status of these dependencies accounts for the obligatory reconstruction of the moved phrase (they cannot bleed Condition C), while the λ-binder of type *e* obviates WCO. The question that arises at this point is the following: Is this structural description of resumptive dependencies in Greek compatible with the standard A- vs. A'- distinction?

Before we procced, it should be mentioned that the 'type-mismatch' account of WCO presented above is (sometimes explicitly) stated in terms of A- vs. A'-movement. A'-movement chains like *wh-questions* and *restrictive relative clauses* necessarily involve a binder of choice function variables (see 23'), while A-movement, like *passivization* and *raising* involves a binder of type *e* (see 24') (see van Urk 2015; Bhatt & Keine 2019). It seems therefore that the strict mapping between the (A/A') status of movement and the semantic type of the λ-binder, as in *Table 3*, does not really allow WCO-insensitive A'-dependencies (with a λ-binder of type *e*).

	A-movement (λx)	A'-movement (λf)
WCO-sensitivity	✗	✓
Obligatory reconstruction	✗	✓

Table 3. Syntax-Semantics mapping of A/A'-movement dependencies

van Urk (2015) goes even further and argues that the correlation between the type of the movement chain (A/A') and the semantic type of the λ-binder ($\lambda f/\lambda x$) is syntactically grounded. van Urk (2015) develops a featural approach to the A/A'-movement distinction, according to which A'-movement chains are triggered by a syntactic *A'-*

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[4] Recall that full copies in the trace position are interpreted as individual variables through trace conversion (Fox 2002).

feature, which is necessarily associated with a λ-binder of choice functions. On the other hand, A-movement chains involve an *A-feature* which gives rise to binding of an individual variable. As the reader can realize this approach does not capture the mixed behavior of resumptive dependencies in CLLD. More concretely, any dependency which obviates WCO is expected to bleed Condition C as well. However, resumptive dependencies in Greek do not align with this prediction.

	A-movement (λx)	Resumptive-D (λx)	A'-movement (λf)
WCO-sensitivity	✗	✗	✓
Obligatory reconstruction	✗	✓	✓

Table 4. Syntax-Semantics mapping of A/A'/resumptive dependencies

As the preceding discussion has established, the standard A/A'-movement distinction fails when it comes to resumptive dependencies in Greek. The resumptive dependencies examined in this thesis are A'-movement chains which are insensitive to WCO. More accurately, resumptive dependencies like CLLD involve an A'-movement step which triggers abstraction over individual variables ($λx_e$).

(25)   Resumptive-D: XP $λx_e$ . . . . . . x_e

A'-movement

Given (25), it becomes clear that at least some A'-movement dependencies involve abstraction over individual variables, as the following table suggests.

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	A-movement (λx)	A'-movement (λx)	A'-movement (λf)
WCO-sensitivity	✗	✗	✓
Obligatory reconstruction	✗	✓	✓

Table 5. Tripartite taxonomy of A'-dependencies

In essence, the table above suggests a distinction *within* A'-dependencies.[5] Some A'-movement chains involve a choice function binder (λf) which renders these dependencies sensitive to WCO. Yet, some other A'-movement chains involve a λ-binder over individual variables. These dependencies are immune to WCO. Interestingly, this bifurcation is reminiscent of Lasnik & Stowell's well-known approach to *weak/weakest crossover cases*. Lasnik & Stowell (1991) observe that not all A'-dependencies in English are subject to WCO. While *wh-questions* and *restrictive relative clauses* trigger WCO, *English Topicalization* and *Appositive relative clauses* do not (cf. Postal 1993, Ruys 2004).[6] (26) (Lasnik & Stowell 1991: ex20c) shows that English Topicalization may obviate WCO ("weakest crossover"):

(26)   [This book]₁, I expect [its₁ author] to buy.

This observation led Lasnik & Stowell (1991) to propose a distinction between *Quantificational* and *Anaphoric* A'-dependencies, in the sense that *Quantificational dependencies* are headed by a 'true' QP which ranges over a non-singleton set, while *Anaphoric dependencies* involve a non-quantificational, anaphoric binder whose reference is fixed to the head of the chain.[7] Furthermore, according to Lasnik & Stowell,

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[5] A distinction of A'-dependencies can be also found in Lasnik & Stowell 1991; Postal (1998); Poole (2017).

[6] English Topicalization discussed here should not be confused with Greek Topicalization presented in chapter 2 and 3.

[7] See Rizzi (1997), Tsimpli (1999), and Alexopoulou (2006) who adopt this proposal for the Italian and the Greek A'-dependencies, respectively. It should be mentioned though that these authors argue that the Anaphoric dependencies in these languages are instantiated by base-generation structures with a bound *pro* as the foot of the binding chain.

the two types of A'-dependencies involve a different item in their trace position: quantificational dependencies involve a wh-trace which is interpreted as a semantic variable, while the trace position in an Anaphoric dependency is interpreted as a null epithet.

Abstracting away from the details of Lasnik & Stowell's analysis, it is evident that the system with the two types of A'-movement I proposed above aligns with the Quantificational/Anaphoric dichotomy in the sense that both proposals aim to distinguish between WCO-sensitive and WCO-immune A'-dependencies. Given that, one could argue in favor of a reanalysis of the Quantificational/Anaphoric bifurcation in terms of the semantic-type of the λ-binder as follows: Anaphoric dependencies involve binding of an individual variable, while Quantificational dependencies involve a binder ranging over choice functions.

Nevertheless, it is crucial to note that Lasnik & Stowell's (1991) analysis seems to imply a fixed taxonomy of A'-dependencies with a list of constructions for each class. For instance, the class of Anaphoric dependencies includes *English Topicalization*, *Appositive relativization*, *tough-movement* etc., whereas Quantificational dependencies comprise of *Wh-extraction* and *Restrictive relativization* among other constructions. This would mean that English Topicalization for instance is an invariably Anaphoric (hence a WCO-insensitive) construction, which as Postal (1993) showed is not true. In particular, sentences with Topicalized QPs behave like quantificational dependencies. It must be clear that the data discussed in this thesis do not point towards this direction either. We have seen that A'-constructions in Greek jump from one category to the other, given that they respect certain specificity requirements of resumption (referred to as *referentiality hierarchy* in previous chapters). For example, as shown in Chapter 7, wh-questions can be construed with either a binder ranging over choice function variables or a binder of individual variables, depending on the presence of the resumptive clitic.

The discussion so far has shown that a tripartite taxonomy of movement dependencies is empirically towards the right direction. More specifically, the main claim of this section is that Greek resumptive dependencies instantiate the middle column of *Table 5*, by virtue of being A'-movement dependencies with abstraction over individual variables. As explained above, this proposal derives the mixed behavior of these chains. We should keep in mind however, that this tripartite taxonomy serves

descriptive purposes, while at an abstract level, it reflects the interaction of two independently motivated properties of movement chains:

    a. A movement chain may target a case-marked phrase or a phrase unmarked for case. According to the 'Wholesale Late Merge' approach, this is crucial for the type (obligatory/optional) of reconstruction of the moved phrase.

    b. A moved phrase may trigger abstraction over choice function variables or individual variables. A λ-binder of type <<e,t>e> triggers WCO.

The interaction of these two factors returns a set of four options. As the following table illustrates, the three of them are realized by dependencies examined in this section: *Raising construction in English* (traditionally classified as A-movement), *wh-questions* (traditionally classified as A'-movement) and *CLLD* in Greek.

	λx	λf

Targets a non-case-marked phrase	**[D NP]_{case} λx . . . [D]**
	- Optional reconstruction (ex. 8)
	- No WCO (ex. 10)
	   e.g., Raising construction
		*[D NP]_{case} λf . . . [D]
		- Optional reconstruction
		- No WCO
		   N/A

Targets a case-marked phrase	**[D NP]_{case} λx . . . [D NP]_{case}**
	- Obligatory reconstruction (ex. 12)
	- No WCO (ex. 11)
	   e.g., CLLD
		[D NP]_{case} λf . . . [D NP]_{case}
		- Obligatory reconstruction (ex. 9)
		- WCO (ex. 7)
		   e.g., Gap wh-question

Table 6. Decomposition of movement-types taxonomy

The fourth combination (top-right) is not attested in the data and the literature considered in the present thesis. This option refers to movement chains which target a non-case marked phrase (a.k.a. A-movement) and give rise to abstraction over choice functions. Tentatively, I argue that this option is excluded on reasonable grounds: what is traditionally classified as 'A-movement' leads to case-assignment, while abstraction over choice functions (λf) serves quantificational interpretations. It is well-known that quantifiers target an operator/non-case assigning position.

The careful reader might have noticed that the above table says nothing about Greek Topicalization, the construction presented in chapters 2 and 3. Recall that Topicalization

involves a property-denoting <e,t> topic phrase which undergoes total reconstruction at LF:

(27) [Palto], aghorase o Kostas
      Coat bought-3SG the coat
      'Kostas bought a coat.'

(27') [TopP [palto]<e,t> [TP aghorase o Kostas [palto]<e,t>]]

As (27') demonstrates, Topicalization involves neither a λ-binder of choice functions nor a binder of individuals. Rather, the topic-phrase undergoes total-reconstruction and is interpreted only in its base-position It seems then that Topicalization requires further extension of the table for the taxonomy of movement chains. We turn to this point immediately below.

In Chapter 3, I showed that Greek Topicalization can bleed neither reconstruction for Condition C (28), nor WCO (29):

(28) *[Fotoghrafies tu Kosta1], pro1 stelni sti Maria.
      pictures of Kostas send-3SG to-the Mary
      'He sends pictures of Kostas to Mary.'

(29) *[Kapion fititi]1, proselave [o pateras tu1] t1 .
      some student hired-3sg the father his
      'His father hired some student.'

As explained above, reconstruction for Condition C indicates an A'-movement derivation. What about the WCO effects in (29)? Given the representation of Greek Topicalization, the 'type-mismatch' approach to WCO is irrelevant to the sensitivity of Topicalization to WCO. In chapter 3, I argued that the WCO-effects in (29) stem from the total reconstruction of the topic phrase. More precisely, the higher copy of the topic phrase is deleted at LF, hence there is no high (c-commanding) copy to bind the intervening pronoun:

(29') *[Kapion fititi]1, proselave [o pateras tu1] [kapjon fititi]1.

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Given these properties of Topicalization, I propose that we need to extend our taxonomy of the movement dependencies by one column for dependencies that involve neither binding of choice function variables, nor binding of individual-level variables, indicated as Ø. As the table shows, total reconstruction cannot be combined with (wholesale) Late Merge. In that case the NP-core of the moved phrase would not be interpreted at LF at all.

	Target a non-case-marked phrase	Target a case-marked phrase
λx	[D NP]$_{case}$ λx . . . [D]	[D NP]$_{case}$ λx . . . [D NP]$_{case}$
λf	*[D$_{case}$ NP] λf . . . [D]$_{case}$	[D NP]$_{case}$ λf . . . [D NP]$_{case}$
$\emptyset$	*[D NP]$_{case}$ . . . [D]	[D NP]$_{case}$ ...[D NP]$_{case}$

Table 7. Decomposition of movement-types taxonomy (revisited)

This table seems to cover the movement dependencies discussed in the present thesis; however, the goal of this section is not to provide a full map of movement dependencies in the languages of the world. The take-home message from this section is that one cannot fully predict the syntactic/semantic behavior of a certain dependency, unless all the details of its derivation and LF-representation are considered. As shown, some features which seem to play a crucial role for the standard diagnostics of movement chains are: (i) whether or not the movement chain in question targets a phrase which gets case-marked in its base-position, and (ii) what the semantic type of the λ-binder is, if there is one.

Closing this thesis, I would like to mention a number of issues which for space restrictions could not be included in the present thesis. First, in this thesis I have not considered resumption in (the different types of) relative-clauses. A brief look at relative clauses suggests that the investigation of the relevant constructions lends further support to ReMIV, however no safe conclusions can be extracted for the time being. Second, it would be interesting to see whether ReMIV for clitic-resumption extends to *Clitic-Doubling* of phrases in the right periphery, especially under the view that Clitic-

Doubling involves A-movement of the doubled-phrase to some middle-field position (see Angelopoulos (2019b). Third, this thesis has not explored the crosslinguistic extensions of ReMIV. It is well-known fact that resumption recruits different resumptive items (clitics, weak/strong pronouns, epithets etc.) from language to language. Nevertheless, a question that arises is whether *grammatical resumption* (as opposed to *intrusive resumption*) in these languages has the syntactic/semantic effects on A'-dependencies predicted by ReMIV. The fact that resumptive dependencies of different languages are often reported to have the mixed-chain behavior described above points towards this direction. This observation calls for further research of resumption from the perspective of the present thesis: resumption marks traces interpreted as individual variables and resumptive items are introduced by the trace conversion rule.

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