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Complementizers and Prepositions as Probes:

Insights from Greek

A dissertation submitted in partial satisfaction

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by

Nikolaos Angelopoulos

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ABSTRACT OF THE DISSERTATION

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Doctor of Philosophy in Linguistics

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This dissertation examines distributional and interpretive properties of complementizers and their surface complements, as well as prepositions and their surface complements in Greek. It establishes that (i) complementizer selection is sensitive to grammatical properties of the embedding verb, (ii) Greek complement clauses have different distributional properties than corresponding DPs: complement clauses obligatorily extrapose and they show striking subject-object asymmetries. Complement clauses also differ from corresponding DPs in that they have to reconstruct for binding purposes. The dissertation argues that these facts follow from where the complementizers enter the derivation, and how they get together with their complements. Concretely, it proposes that complementizers are merged in the matrix clause and that they are probes attracting their surface complements rather than merging directly with them (cf. Kayne 2000, 2005). The dissertation also shows that (functional) Ps and their complements come together in a similar manner. Like complementizers, prepositions are sensitive to grammatical properties of the verb they combine with. Furthermore, the complement of a preposition c-commands and binds as a bare DP with the corresponding theta role. These two properties are amenable to an analysis in which prepositions select the verb they combine with, their surface DP complement is merged as a bare DP argument and is attracted by the preposition. Finally, the dissertation proposes a hierarchy of PPs strikingly similar to the one in Schweikert (2005). This hierarchy interacts with split *wh*-possessor constructions and provides new insights into their derivation.

The dissertation of Nikolaos Angelopoulos is approved.

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To my parents . . .

who—among so many other things—

give constant support, in their own way.

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Angelopoulos, Nikos. (accepted) Reconstructing Clitic Doubling. Glossa.

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CHAPTER 1

Introduction

1.1   What this dissertation is about

This dissertation examines the syntax of finite embedded clauses in Greek formed with so-called complementizers (hereafter, cs) and the syntax of constituents formed with a preposition (hereafter, p) in light of the following interrelated questions:

- where are cs, ps and their surface complements introduced in the syntactic derivation?

- how do cs and ps "get together" with their surface complements?

- what is the role of cs and ps in the distribution of the constituents they form, that is, pps and cps?

The dissertation proposes that cps and pps do not enter the syntactic derivation as constituents. Instead what looks like a cp or a pp on the surface is the result of a syntactic derivation in which c and tp and p and dp start out as discontinuous pieces of structure. Concretely, I suggest that cs and ps are merged with an xp which has the surface complement of the c and the p in question in its specifier (cf. Kayne 2000, 2005). The corresponding surface complements of cs and ps—let us assume that these are tp and dp respectively—enter the derivation in a vp internal thematic (+Th) position. In addition, as illustrated below, the vp is subsequently merged internally with c and p in the approximate trees below, giving rise to the surface order 'v c/p dp':

(1) CP   (2) PP

(1)

```
            CP
          /    \
        VP      C'
              /    \
             C      ...
                  /    \
                 TP     VP
                      /    \
                     V    TP_{+Th}
```

(2)

```
            PP
          /    \
        VP      P'
              /    \
             P      ...
                  /    \
                 DP     VP
                      /    \
                     V    DP_{+Th}
```
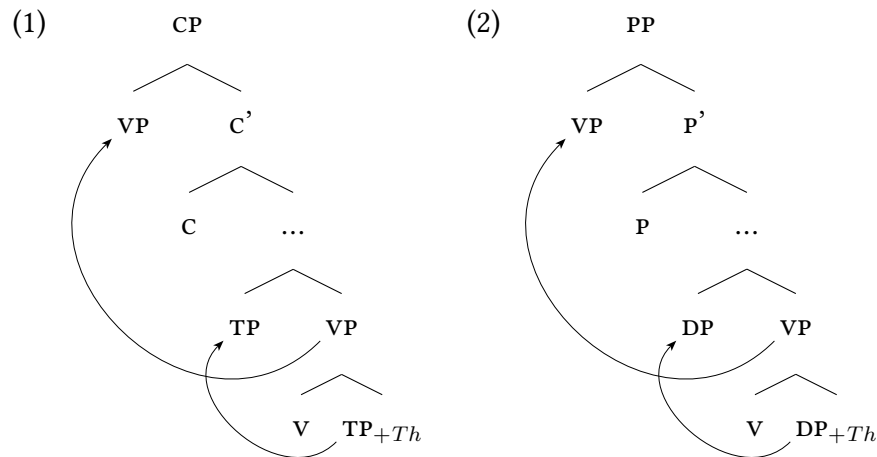
(1) and (2) raise several questions: where on the spine does C merge, where on the spine does P merge? Why does VP move to Spec C and P respectively? Building on novel evidence from Greek, the new striking observation I present is that Cs and Ps depend on grammatical properties of the **matrix** verb. That is, some Cs and Ps are compatible only with stative matrix verbs whereas others are compatible with stative as well as eventive ones. Following extensive previous literature (cf. Folli and Harley 2007, Harley 2011, Ramchand 2008 i.a.), I assume that the stative vs. eventive distinction is a grammatical property, not a lexical one, and that it is determined in the syntax via verbal layers introduced higher than the projection of the lexical verb, that is, higher than the VP of (1) and (2). This suggests that C selection, at least in Greek, is linked to a grammatical property determined in the matrix clause. In (1) and (2), this link can be accounted for in a straightforward manner, if Cs and Ps select the grammatical projection determining the inner aspect of the matrix verb. Concretely, I assume a strict version of locality of selection according to which selectional requirements must be satisfied under sisterhood, that is, either Head-Comp or Spec-head (cf. Sportiche's 2005 *Principle of Locality of Selection*). Given this, the XP determining inner aspect must undergo movement to Spec of C or P—shown as VP movement above—in order to satisfy the selectional requirements of the C and P in question. In the "standard" analysis of CP formation, Cs enter the derivation in the left periphery of the embedded clause, and are selected by the lexical head of the matrix verb, V. Nonetheless, this analysis predicts, contrary to fact, that C selection should be immune to grammatical properties determined higher than the matrix VP.

The dissertation provides further support to the proposal in (1) with novel data showing that the distribution of Greek CPs has a lot in common with the distribution of embedded clauses in different languages. These distributional patterns follow under the proposed analysis in a constrained and straightforward manner invoking movement steps that are also shown to be needed in the formation of PPs (cf. 2). Thus, in addition to providing a uniform analysis for the formation of CPs and PPs, the proposed analysis is in a position to account for the distribution of clauses without spurious "extraposition" rules or rightward movement operations. Furthermore, the analysis is extended to account for reconstruction asymmetries that I bring to light by comparing the interpretive properties of CPs to these of DPs in Clitic Left Dislocation. As for PPs, the dissertation discusses new data testing referential/ binding dependencies, reflexive binding and Condition C, showing that as with Cs, Ps are merged separately from their surface DP complement and at distinct syntactic heights. Lastly, interaction with data from the distribution of *wh*-possessors in different kinds of PPs provides novel and surprising insights into their syntactic derivation, the height of merge of PPs and the fine structure of the middle field in Greek.

With this background in mind, I turn next to different views that have been proposed for the formation of CPs and PPs. I begin with the "standard" analysis, and I proceed with the alternative approach illustrated in (1) and (2).

1.1.1 The "standard" analysis

The view that I refer to as the "standard" inherits from the Phrase Structures of the early Generative Grammar the idea that since Cs, Ps and their surface complements behave as constituents, they must also start out as such in the underlying syntactic structure. In particular, this view contends that C is merged directly with a TP complement, and that it enters the derivation as a CP constituent, (3), which e.g. in complement clauses, is selected by the matrix verb. Similarly, P is assumed to take a DP complement, and to form a PP, as in (4).

(3)   CP   (4)   PP

            C   TP   P   DP

Turning to the distribution of clauses, since very early in Generative Grammar, the "standard" analyses have focused on the issue that although clauses are interpreted as nominal arguments, that is, they are assigned the same theta roles as nominal arguments, they do not distribute as such (cf. Rosenbaum 1965, Emonds 1970, Koster 1978 and later on Stowell 1981 for English i.a.). This issue has been handled in different ways in the literature. For instance, in Stowell (1981), clauses must undergo rightward movement from their base position, which is a case position in order to avoid a violation of the *Case Resistance Principle*. This principle states that 'Case may not be assigned to a category bearing a Case-assigning feature.' Clauses are subject to the effects of this principle because they contain +Tense, which is a Case-assigning feature. In Büring and Hartmann (1995) and Bruening (2018), clauses must undergo right movement, as in Stowell (1981). In Bruening (2018), rightward movement is a category specific operation, thus, just like a transformation rule in the first generative approaches (cf. Rosenbaum 1965), targets CPs, which, as a result, must move to a right adjunct position, as shown in the simplified structure below.

(5)
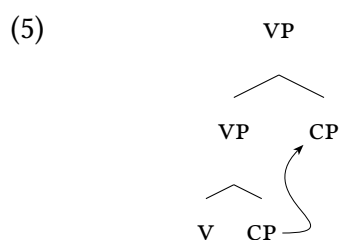
Importantly, there are also "standard" approaches that assume no movement for clauses or left-ward movement only. The first approach was defended in Zwart's (1993) Base analysis according to which the CP is stranded in the complement position (assuming a VO base) whereas other arguments are moved to the left of the verb. On the other hand, based on work by Hinterhölzl (1999), Moulton (2015) adopts a version of the "standard" analysis according to which CP positions result from two leftward movement steps: leftward movement of the CP from the complement position of the verb into the middle field of the matrix clause, followed by remnant movement of the AspP, as shown below:

(6)

that Fred left
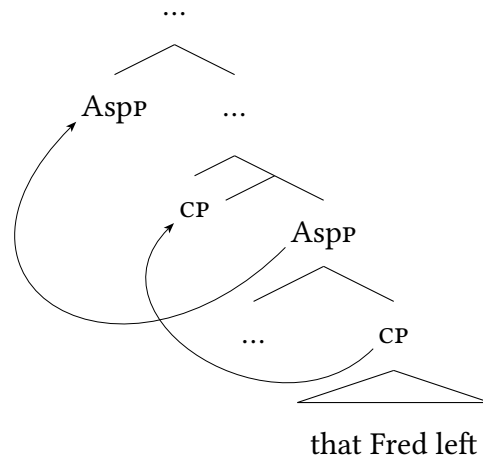
In Moulton's analysis, these movement steps are semantically motivated, that is, type-driven.

The "standard" analysis for PPs is built on the same assumption as with CPs, that Ps and their surface complement start out as constituents. Under this view, PPs can enter the derivation as arguments in the complement or specifier position of the verb or as verb modifiers in which case PPs are merged as VP adjuncts. This view is further developed in Pesetsky (1996). In this work, it is assumed that for every VP there are two parallel syntactic structures in which PPs are merged at distinct syntactic heights. In this analysis, a modifier PP as *on each other's birthday* in (7a) can be merged low in the structure, that is, in the c-command domain of *them*, as shown in (7b):

(7)　a.　John gave books to *them* in the garden on *each other*'s birthdays.

　　b.　$[_{VP}$ give $[_{PP}$ books $[_{P'}$ to $[_{PP}$ them $[_{P'}$ in $[_{PP}$ the garden $[_{P'}$ on [e.o's birthdays]]]]]]]]　　　　　　　　　　　　　　Den Dikken (2018, (56, 58b))

This structure is identified as "cascade" in Pesetsky (1996), and co-exists with the structure below, identified as "layered", where the modifier PP is merged as VP adjunct:

(8)　$[_{VP}$ $[_{VP}$ $[_{VP}$ give $[_{VP}$ books [<give> $[_{PP}$ to them]]]] $[_{PP}$ the garden]] $[_{PP}$ on e.o's birthdays]]　　　　　　　　　　　　　　Den Dikken (2018, (58a))

In the "cascade" structure, the fact that *them* can bind the reflexive *each other* follows straightforwardly: *them* c-commands the reflexive. On the other hand, the "layered" structure can capture the fact that the VP *give books to them* forms a constituent that can undergo fronting:

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(9)   John said that he would give books to them, and [give books to them]$_i$ he did t$_i$ in the

        garden at Christmas.   Den Dikken (2018, (60a))

1.1.2   The "probe" analysis

The alternative approach to CP and PP formation I introduced briefly in Section 1.1 has been developed in various papers by Kayne (2000, 2005), and has been applied in Koopman and Szabolcsi (2000, ff.118) and Koopman (2005). These works discuss evidence showing that PS and CS are merged in the middle field above the matrix VP separately from their surface complement. In addition, engaging with minimalist assumptions (cf. Chomsky 1995, Chapter 4), Kayne (2000, 2005) explicitly analyzes CS and PS as probes, which attract rather than merge directly with their surface complement. This analysis finds support in Kayne's work in the different constructions involving PS and CS in English and Romance languages. For instance, looking at French causative constructions formed with *à*, as below:

(10)   Jean a   fait   manger la   tarte à Paul.

        Jean has made eat.INF the pie   to Paul

        'Jean has made Paul eat the pie.'   Kayne (2005, 86, (5))

Kayne (2005) observes the following contradiction: *à* is closely linked to the matrix verb *faire*, that is, *à* cannot be licensed by a different matrix predicate (with a few exceptions). However, its surface DP complement, that is, *Paul* is an argument of the infinitive. In Kayne's analysis the issue raised by *à*-PPs is resolved under the assumption that *à* and *Paul* are merged separately. Concretely, he proposes that *à* is merged in the matrix clause higher than the causative VP and the projection (Agr-IO in 11) into which *Paul* undergoes movement from the infinitival clause where it is first merged. Subsequently, *à* has an EPP feature, attracting the causative VP, which happens to be the closest XP accessible for movement, into its Spec (see Chapter 4 for more details):

(11)   a. Paul$_i$ Agr-IO [fait t$_i$ manger une tarte]t_k

        b. [fait t$_i$ manger une tarte]$_k$ *à* Paul$_i$ Agr-IO t$_k$

This analysis of PP formation—or, in fact a very close variant of it—is developed in Cinque (2006).

In particular, based on Kayne's analysis, Cinque shows that the binding and distributional facts discussed in Pesetsky (1996) (cf. 7a and 9) can be reconciled in a single syntactic structure in which PS are merged above the VP and separately from their surface complement. Importantly, Cinque also examines the distributional properties of different kinds of PPs, that is, locative, temporal, benefactive etc. and shows that they are all merged hierarchically in a uniform manner.

Turning to CPs, Kayne (2000, 2005) observes that their distribution matches this of DPs, which have undergone Heavy NP shift. In order to account for this, Kayne adopts the analysis of Heavy NP shift put forward in Den Dikken (1995). He further assumes that CS are merged in the matrix clause. Thus, the clause—an NP for Kayne— enters the derivation as an argument of the matrix verb, and undergoes movement to a KP above the matrix VP. Moreover, Kayne suggests that remnant VP movement takes place subsequently past the NP, as shown below:

(12) a. K_{Fin} think N they're smart $\rightarrow$ movement of NP to Spec, K_{Fin}

     b. $[_{NP}$ they're smart$]_i$ K_{Fin} think t_i $\rightarrow$ merger of *that*

     c.   that $[_{NP}$ they're smart$]_i$ K_{Fin} think t_i $\rightarrow$ movement of VP to Spec,*that*

     d.   [think $t_i]_j$ that $[_{NP}$ they're smart$]_i$ K_{Fin} think t_j Kayne (2005, (51) 237)

Importantly, this derivation is strikingly similar to one defended in Moulton (2015). However, (12) differs in that all the movement steps are syntactically motivated. The NP is moved to the KP_{Fin} for case. Furthermore, the remnant VP is attracted by C, which has an EPP feature. Given certain locality considerations, Kayne suggests that the VP is the closest available XP for attraction. In Kayne (2000), it is shown that the derivation in (12) is responsible for distributional properties e.g. extraposition, that are quite stable in the domain of clausal complementation cross-linguistically. Most crucially, he further supports the idea that CS are merged high with evidence from exception-less language universals showing, as we will see, that CS establish a dependency with syntactic properties determined in the matrix clause. Given this, the Greek facts have direct bearing on this observation as they unveil in a transparent manner that CS stand in a dependency with a grammatical property determined in the matrix clause. In addition to this, Greek clauses exhibit the distribution that led Kayne (2000, 2005) to the derivation in (12). I also show that Greek clauses have interpretive properties, which further support this particular derivation. With this in mind,

let us turn to the theoretical assumptions on which this dissertation is built.

1.1.3 Background on theoretical assumptions

In this short section, I lay out the firmly grounded theoretical and analytical assumptions that I adopt.

1. **Locality of Selection:** following Sportiche (2005), I assume a strict enforcement of the *Principle of Locality of Selection*, which states that selection must be satisfied in a strictly local relation (i.e., head-complement or specifier-head). As pointed out by Koopman (2005, 608) 'Strictly enforcing the Principle of Locality of Selection has far-reaching implications for syntactic derivations, as the standard derivations violate it. For example, Sportiche argues that v selects for NP, not for DP. If this argument is correct, the standard view that v merges with DP cannot be maintained. Instead, as illustrated in (13) (hers 12), v must merge with NP first, in accordance with the Principle of Locality of Selection, and D attracts NP through movement; that is, D's selection for NP is locally satisfied *after* movement. In other words, movement is driven by the Principle of Locality of Selection.

   (13)   D NP [v ~~NP~~]'

2. **Structure building algorithm:**

   - E-merge (= external merge, roughly base generation)
   - I-merge (= internal merge aka movement)

   What are the atoms of merge?
   Building on results in the recent cartographic approaches (cf. Rizzi 1997, Cinque 1999, Cinque and Rizzi 2008 i.a.), I assume highly decompositional structures in which each morphosyntactic feature corresponds to an independent syntactic head with a specific slot in the functional hierarchy (cf. Kayne 2012).

3. **C-command:** because of the way Merge works, no merge can take place to a non c-commanding position.

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4. **Theta roles:** DPs are assigned distinct theta roles in hierarchically organized syntactic positions (cf. Arad 1998, Borer 2005, Harley 1995, 2011, Marantz 1997, 2005, Ramchand 2008 i.a. and Schweikert 2005, Cinque 2006 for an extension of this approach to circumstantial elements e.g. manner, location, time etc.).

5. **UTAH:** following Baker (1998), I assume that identical thematic relationships between items are represented by identical structural relationships.

6. **Syntax-semantics interface:** following Katz and Postal (1964) and extensive recent literature (cf. Sportiche 2005 i.a.), I assume that the syntax-semantics interface is direct and transparent.

1.2   How the dissertation is structured: preview of what is to come

The dissertation comprises two components discussing distributional and interpretive evidence of clauses and PPs. The first component is developed in Chapter 2. This chapter focuses on finite embedded clauses introduced with the CS, *oti* and *pu*, in Greek (see section 1.3 below on the wider distribution of *oti* and *pu*, and their decomposition: *oti* and *pu* are made up of two morphemes). In addition, it examines under which conditions *oti* and *pu* are licensed as well as distributional and interpretive properties of clauses formed with these two items. The second component is developed in Chapter 3 and Chapter 4. Chapter 3 focuses on Greek PS and examine their distribution in regard to different VP shells and the referential dependencies i.e. Condition C and reflexive binding, that their surface DP complements establish with other referential expressions. In addition, looking at possessor extraction out of different types of PPs, Chapter 4 shows that depending on interpretation e.g. locative, temporal etc., PPs are merged in a fixed hierarchy. In what follows, I provide a preview of the data and the analysis I propose.

1.2.1   Background on Greek finite embedded clauses

In contrast to other Indo-European languages in which clausal embeddings can be finite or non-finite, Greek clausal embeddings are always finite. Thus, the verbs in embedded clauses of Greek

are always inflected for person, number as well as for tense and outer/ grammatical aspect. Moreover, Greek finite embedded clauses are introduced with a number of different items while finite embedded clauses in English are introduced with *that*, less frequently with *how* as below, or without a C:

(14) a.   John told me that the tooth fairy does not really exist.

b.   John told me how the fairy does not really exist.   Legate (2010, 1)

In Greek, there are four distinct elements with which a clause can be introduced. These are, as shown below, *na, oti, pos* and *pu.*

(15) a.   Dhen thimotan   [na] ehi   pai   s-to   Oman.
                   not   remembered.3SG na   have.3SG gone.3SG to-the Oman
                   'She did not remember that she has been to Oman.'

b.   Dhen thimotan   [oti] ehi   pai   s-to   Oman.
                   not   remembered.3SG oti   have.3SG gone.3SG to-the Oman
                   'She did not remember that she has been to Oman.'

c.   Dhen thimotan   [pos] ehi   pai   s-to   Oman.
                   not   remembered.3SG pos   have.3SG gone.3SG to-the Oman
                   'She did not remember that she has been to Oman.'

d.   Dhen thimotan   [pu] ehi   pai   s-to   Oman.
                   not   remembered.3SG pu   have.3SG gone.3SG to-the Oman
                   'She did not remember that she has been to Oman.'

Oti and *pos* are in free alternation—as far as our tools allow us to determine—thus, setting aside possible differences in register, there is no syntactic context in which bare *oti-* and *pos*-clauses are mutually exclusive. Given this, I will only be using *oti*-clauses as a term to refer to both *oti*-clauses and *pos*-clauses. Importantly, unlike *oti* and *pos*, there are very few contexts as (15) where *oti/ na*, *oti/ pu* and *na/ pu* can be used as if they are in free alternation after the same embedding predicate. That is to say that *oti, na* and *pu* are more often than not in complementary distribution. This fact is illustrated in the pairs of *na/oti-* and *oti/pu*-sentences below:

(16) a. I Eleana anisihi [oti] dhen perase tis eksetasis.

the Eleana worry.3sg oti not passed.3sg the exams

'Eleana is worried that she did not pass the exams.'

   b. *I Eleana anisihi [na] dhen perase tis eksetasis.

the Eleana worry.3sg na not passed.3sg the exams

'Eleana is worried that she did not pass the exams.'

(17) a. *I Eleana lipate [oti] dhen perase tis eksetasis.

the Eleana be.sad.3sg oti not passed.3sg the exams

'Eleana is sad that she did not pass the exams.'

   b. I Eleana lipate [pu] dhen perase tis eksetasis.

the Eleana be.sad.3sg pu not passed.3sg the exams

'Eleana is sad that she did not pass the exams.'

(16) and (17) suggest that *oti, pu* and *na* are subject to distinct licensing conditions. I exclude *na*-clauses in this thesis, and I focus on the particular conditions in which clauses introduced with *oti* and *pu* are licensed.

1.2.2 Factivity and the Asp-Comp effect

The literature on the Greek clausal complementation system has considered the conditions under which *pu*- and *oti*-clauses are licensed. In particular, building on the literature on factive and non-factive clauses in English (cf. Kiparsky and Kiparsky 1968, Melvold 1991 i.a.), the important fact about *pu*- and *oti*-clauses that Christidis (1982, 1986) brings to light is that the first are obligatorily factive whereas the latter are by default non-factive. This difference is illustrated clearly with *thimame-*'remember', which, as shown in (18), can take both an *oti*- or a *pu*-clause complement.

(18) a. I Eleana thimotan oti milise s-ton Jorgho.

the Eleana remembered.3sg oti talked.3sg to-the George

'Eleana remembered that she talked to George.'

b. I Eleana thimotan pu milise s-ton Jorgho.

the Eleana remembered.3sɢ pu talked.3sɢ to-the George

'She remembered that she talked to George.'

In (18), the intuition that Christidis (1982, 1986) reports is that the speaker is committed to the truth of the embedded clauses only in (18b) where the embedded clause is introduced with *pu*. Thus, (18b) is not compatible with the continuation *"but she was wrong because in fact, she talked to Eden"* (see Appendix). On the other hand, since the speaker is not committed to the truth of the *oti*-clause in (18a), the continuation *"but she was wrong because in fact, she talked to Eden"* is acceptable in this case. Interestingly, Christidis (1982) and Roussou (2018) point out that an additional difference between *oti*- and *pu*-clauses is that the embedding verb they combine with exhibits different behavior with respect to modification:

(19) a. Thimotan (me dhiskolia) oti milise s-tin Eleana.

remembered.3sɢ with difficulty oti talked.3sɢ to-the Eleana

'She remembered with difficulty that she talked to Eleana.'

b. Thimotan (* me dhiskolia) pu milise s-ti Eleana.

remembered.3sɢ with difficulty pu talked.3sɢ to-the Eleana

'She remembered with difficulty that she talked to Eleana.' (modified from Roussou 2018)

(19a) shows that when *thimotan* embeds an *oti*-clause, it can be modified by the ᴘᴘ *me dhiskolia*- 'with difficulty'. On the other hand, the same verb does not accept modification by the same ᴘᴘ when it embeds a clause introduced with *pu* (cf. 19b). This pair raises the following questions not addressed adequately, as I discuss, in Christidis (1982) and Roussou (2018):

- what kind of modifiers do verbs embedding *pu*-clauses reject?

- why do predicates embedding *pu*- and *oti*-clauses behave differently with respect to this kind of modifiers?

These questions are addressed in detail in Chapter 2 of this dissertation. In this chapter, using data from an exhaustive list with all clause selecting predicates in Greek that I created, I propose that the verbs embedding *pu*-clauses are not compatible with modification by manner adverbs or PPs e.g. *me dhiskolia*-'with difficulty' in (19b). On the other hand, the verbs embedding an *oti*-clause accept modification by manner adverbs or PPs. Turning to the second question above, I assume following extensive recent literature that manner adverbs or PPs can only modify eventive predicates (cf. Alexiadou and Iordăchioaia 2014 and references therein). On the other hand, stative predicates do not accept manner modification. Given this, I propose the effect below:

(20)   The ASP-COMP effect

        a.   *Pu*-clauses can only be combined with <u>stative</u> verbs.

        b.   *Oti*-clauses can be combined with <u>stative</u> or <u>eventive</u> verbs.

In a nutshell, this effect suggests that complementizer selection in Greek is dependent upon the inner aspect/ aksionsart of the matrix predicate. Importantly, similar effects have not been observed —to my knowledge—in other languages. I suggest that this is not accidental since, as already noted, Greek finite embedded clauses are introduced with different CS thus, making the licensing conditions of CP formation more transparent.

1.2.3   The Distribution of Embedded Clauses in Greek

The dissertation examines the distribution of *oti*- and *pu*-clauses in different syntactic contexts. In what follows, I present data showing the interesting behavior that *oti*- and *pu*-clauses exhibit when they are used in small clauses and in subject positions.

1.2.3.1   Extraposition

This section shows that *oti*- and *pu*-clauses can be used as subjects in a small clause, however, in contrast to DPs, they have to surface "extraposed" after the small clause predicate. This contrast is illustrated in the examples below starting first with DPs, which as shown, can surface before or after the predicate of the small clause, *eksipno*-'smart'.

(21) a. Dhen theori   [[afto to astio   ] eksipno].

     not   consider.3SG   this the joke.ACC   smart

     'She does not consider this joke smart.'

    b. Dhen theori   [eksipno [afto to astio]].

     not   consider.1SG   smart   this the joke.ACC

     'She does not consider this joke smart.'

In small clauses formed with *oti*-clauses and *pu*-clauses, the clause must surface after the small clause predicate, *dhedhomeno/ sighuro*-'granted/ certain' in (22) and *adhiko*-'unfair' in (23). Note also in these examples that the small clause predicate can be modified.

(22) a. ?* Dhen theori   [oti tha apovlithi   o Jorghos   ] apolita

     not   consider.3SG   oti will get expelled.3SG the George.NOM   absolutely

     dhedhomeno/ sighuro]].

     granted/   certain

     'She does not consider it absolutely certain that George will get expelled.'

    b. Dhen theori   [apolita   dhedhomeno/ sighuro [oti/ tha apovlithi

     not   consider.3SG   absolutely granted/   certain   oti   will get expelled.3SG

     o   Jorghos]].

     the George.NOM

     'She does not consider it absolutely certain that George will get expelled.'

(23) a. * Theori   [pu tha apovalun   ton Jorgho]   apolita   adhiko].

     consider.3SG   pu will expelled.3PL the George.ACC absolutely unfair

     'She considers it absolutely unfair that they will expel George.'

    b. Theori   [apolita   adhiko [pu tha apovalun   ton Jorgho]].

     consider.3SG   absolutely unfair   pu will expelled.3PL the George.ACC

     'She considers it absolutely unfair that they will expel George.'

1.2.3.2 Subject-Object Asymmetries

In (19), we saw that an *oti-* or *pu-*clause can be merged as an internal argument of a verb. In addition, we saw that an *oti-*clause can be used as the subject of a predicate in a small clause. However, as I will demonstrate in Chapter 2, *oti-* and *pu-*clauses cannot correspond to external arguments at all, whether they are extraposed or not (cf. Roussou 1991, 1994). This is shown in (24) and (25).

(24) a. * Oti ehis   filus   dhihni   pola ja sena.
          oti have.2sg friends show.3sg a lot for you
          'That you have a lot of friends shows a lot for you.'

    b. * Dhihni   pola ja sena oti ehis   filus.
          show.3sg a lot for you oti have.2sg friends
          'It shows a lot for you that you have a lot of friends.'

(25) a. * Pu ehis   filus   dhihni   pola ja sena.
          pu have.2sg friends show.3sg a lot for you
          'That you have a lot of friends shows a lot for you.'

    b. * Dhihni   pola ja sena pu ehis   filus.
          show.3sg a lot for you pu have.2sg friends
          'It shows a lot for you that you have a lot of friends.'

With the above in mind, I turn next to interpretive properties, specifically, reconstruction properties that *oti-*clauses exhibit in Clitic Left Dislocation.

1.2.4 Clauses and obligatory reconstruction

Clitic Left Dislocated clauses *oti-*clauses occupy a position in the left periphery of the clause, and they are doubled by a clitic which precedes the verb:

(26)   [Oti ehi   pai s-to   Oman]$_i$ dhen to$_i$ thimotan   i   Eleana.
        oti have.3sg been to-the Oman   not   3sg.acc.n remembered.3sg the Eleana
        'Eleana did not remember that she has been to Oman.'

15

Using a fairly standard set of reconstruction diagnostics, I show in Chapter 2 that just like DPs (cf. Angelopoulos and Sportiche 2018), Clitic Left Dislocated *oti*-clauses enter the derivation as arguments and they undergo movement into the left periphery. However, in contrast to Clitic Left Dislocated DPs which can be interpreted in the left periphery where they surface, the interesting fact Chapter 2 reveals is that *oti*-clauses undergo obligatory reconstruction below the subject position of the embedding verb.

1.2.5 Preview of the Analysis

Following extensive previous literature (cf. Harley 2011, Ramchand 2008 i.a.), I consider the stative vs. eventive distinction to be determined in the syntax. In particular, following this literature, let us assume as in (27) below that γ corresponds to the syntactic structure that stative verbs realize. β corresponds to a verbal layer that eventive predicates realize. Note also that β could correspond to a v_{Become} or v_{Do} head (cf. Folli and Harley 2007). v_{Do} is the v-head with which activity verbs are formed. As for verbs formed with v_{Become}, they can be turned into causative/agentive after α is inserted in the syntactic derivation. α corresponds to the projection introducing the external argument, agent or causer, in its specifier.

(27)

$$\alpha_{Cause}$$

... ...

oti β_{Event}

... ...

oti/pu γ_{State}

... IP_{Theme}
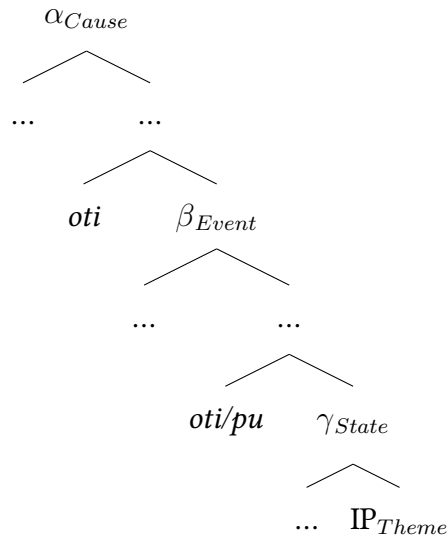
(27) illustrates that *oti* and *pu* are introduced at different syntactic positions in the matrix clause separately from their surface complement. For instance, the surface complement of *oti*- and *pu*-

in complement clauses is merged in the position of IP_{Theme} above. Turning to the merge position of *oti* and *pu*, a question that arises is what exactly determines the syntactic height in which they are merged. I assume that *pu* and *oti* have selectional requirements. Concretely, *pu* selects stative predicates, γ_{State}, whereas *oti* selects either stative or eventive predicates, that is, either γ_{State} or β_{Event}. Given that selectional requirements must be satisfied in a local manner (cf. the *Principle of Locality of Selection*), *pu* and *oti* must be merged locally to the syntactic structure they select. Thus, *pu* must be merged low where its selectional requirements for γ_{State} can be satisfied in a local manner. On the other hand, *oti*, which selects either γ_{State} or β_{Event} can be merged at two syntactic heights where their selectional requirements can be satisfied. With this in mind, let us now turn to the Asp-Comp effect, the distribution of *oti*- and *pu*-clauses in small clauses and in subject positions and their interpretive properties.

- The Asp-Comp effect: this effect holds as a result of the fact that cs as *pu* and *oti* have selectional properties. Under this view, *pu* can only be merged with stative verbs because it selects γ_{State}.

- The fact that *oti*- and *pu*-clauses must undergo extraposition follows from the way *oti* and *pu* get together with their surface complement.

- Subject-object asymmetries: these follow from the fact that in contrast to e.g. IP theme in (27), a causer IP is introduced in Spec α, that is, higher than the merge position of *oti* and *pu*.

- The reconstruction properties of Clitic Left Dislocated *oti*-clauses arise as a result of the fact that they contain a copy of the VP that *oti* selects. Given this, they must undergo reconstruction in order to satisfy certain conditions applying to copies at LF.

1.2.6 PP formation

Chapter 3 of the dissertation looks at distributional and interpretive properties of various PPs in Greek. Concretely, it that as with cs, Ps are sensitive to properties of the verb. For instance, it is shown that some Ps exhibit sensitivity to the inner aspect of the verb they combine with. This is

reminiscent of aspectual PPs i.e. *in an hour* or *for an hour*, which are well known to be licensed only with telic and atelic predicates respectively. The question that arises is how such properties are represented syntactically. In light of the analysis I assume for CPs, I suggest as in Kayne (2000, 2005) that Ps are merged on the spine separately from their surface DP complements, and that they have selectional requirements. Given this, I assume that some Ps select eventive vP, that is, β of (27) (or other verbal projections, that is, ApplP or VoiceP). Turning to the surface complements of Ps, I assume as in Kayne (2005) that they are introduced as bare DP arguments separately from the P in hierarchically organized theta positions (cf. Cinque 2006). I present in support of this assumption data with referential dependencies, which I detect using Condition C and reflexive binding as diagnostics. In brief, these data suggest the following:

- **Condition C:** the surface DP complements of all Ps uniformly trigger Condition C as bare DP arguments with the corresponding theta roles,

- **Reflexive Binding:** the surface DP complements of Ps exhibit distinct properties in regard to reflexive binding depending on their theta role.

For instance, the surface DP complement of a *by*-phrase in Greek or a locative PP, as in (28a) and (28b), uniformly trigger Condition C with a benefactive proper name.

(28) a. Dhimiurghithike apo aftin$_{*1/2}$ ja tin Maria$_1$.
          was created.3SG by   her   for the Maria
          'It was created by her for Maria.'

      b. Topothetithike koda se aftin$_{*1/2}$ ja tin Maria$_1$.
          was placed.3SG near to her   for the Maria
          'It was placed near her for Maria'

On the other hand, based on data from Angelopoulos et al. (2018), I show below that only the surface DP complement of agent *by*-phrases can bind a benefactive reflexive.

(29) a. Aftes i   bluzes epilechtikan   apo ta pedja$_1$ ja ton eafto tus$_1$.
          these the t-shirts were selected.3P by   the kids   for the self their
          'These t-shirts were selected by the kids for themselves.'

b. * Aftes i   bluzes epilechtikan   brosta/ koda sta   pedja$_1$ ja ton eafto tus$_1$.

these the t-shirts were selected.3PL in front / near at.the kids   for the self their

'These t-shirts were selected in front of/ near the kids for themselves.'

1.2.7   Preview of the Analysis

The facts discussed in section 1.2.6 follow straightforwardly under the "probe" analysis. Concretely, following Schweikert (2005) and Cinque (2006), I assume that the surface DP complements of locatives, agents and benefactives are merged hierarchically as shown below:

(30)
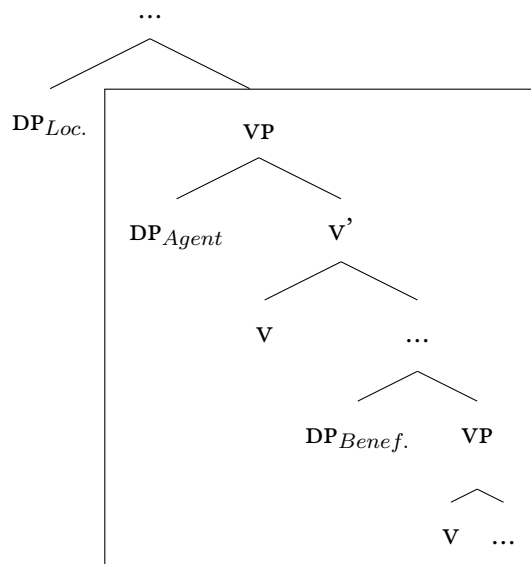
In (30), since locative and agent DPs are merged higher and c-command the benefactive, the fact that they uniformly give rise to Condition C with a benefactive referential expression follows straightforwardly. Moreover, following standard assumptions of Binding Theory, I assume that the binding domain of the benefactive reflexive is the VP introducing the agent, that is, the smallest XP with a subject. Given this, since the surface complement of locative PPs is outside the binding domain of the benefactive reflexive, it makes sense that it cannot bind the reflexive (cf. 29b). On the other hand, since the surface complement of agent *by*-phrases is in the binding domain of the benefactive reflexive, the fact that the first can bind the latter is entirely expected.

1.2.8 *Wh*-possessors and PPs

Based on an informal survey with ten native speakers of Greek, I also examine the distribution of *wh*-possessors in different PPs in Greek. Possessors in Greek can be pre-nominal or post-nominal and, as shown below, they bear genitive case:

(31) Lipithike   ja (tis Eleanas)   to phedhi (tis Eleanas).
      was.sad.3SG for the Eleana.GEN the kid.ACC the Eleana.GEN
      'She was sad for Eleana's kid.'

Wh-possessor can stay in-situ in which case they can be pre-nominal or post-nominal. In addition, they can be split, with the *wh*- possessors in the left periphery, and the accusative possessum postverbal (cf. Horrocks and Stavrou 1987):

(32) Pjanu   dhiavase to vivlio?
      whose.GEN read.2SG the book.ACC
      'Whose book did you read?'

However, when they occur in PPs, the split possessor is obligatorily preceded by the P and the accusative possessum surfaces postverbally.

(33) Ja pjanu   lipithike   to phedhi?
      'for whose.GEN was.sad.3SG the kid.ACC
      'For whose kid was she sad?'

In Chapter 4, I examine whether the pattern in (33) and three additional patters with *wh*-possessors are available in different kinds of PPs. I consider matter, target of emotion, agent, causer, source, temporal, evidential, comitative and locative PPs. The interesting finding I bring to light is that the pattern in (33) is available only in some of these PPs. I present an analysis in which PPs are merged are distinct syntactic heights depending on their interpretation. Given this, the different behavior these PPs exhibit with respect to the pattern above is reduced to the height of merge of these PPs. Importantly, this analysis offers new insights to the phenomenon of possessor extraction in Greek. Furthermore, it corroborates the conclusion of the previous section that PPs are

hierarchically merged. Lastly, I show that the hierarchy of PPs I defend is strikingly similar—if not identical—to the hierarchy that Schweikert (2005) presents as universal on the basis of his investigation on German PPs.

1.3   Remarks on the internal structure of *oti* and *pu*

The dissertation is also concerned with the morphological form of *oti* and *pu*. In this section, I show that these two items comprise two morphemes each. The analysis I propose for *oti-* and *pu*-clauses take these decompositions into account.

1.3.1   Homophony and the internal structure of cs

Pu and *oti*, as it is also the case with *pos*, are used in different contexts, such as in relative or interrogative clauses. This is a common property of cs a in Indo-European languages. That is, the elements that introduce embedded clauses are used as demonstratives or are commonly found in interrogative or relative clauses. This raises the difficult question of the treatment of homophonous elements. Following Kayne (2014), Manzini and Savoia (2003, 2007, 2011b); Manzini (2014), Roussou (2010, 2018), Sportiche (2011), I reject the possibility that there are many accidentally homophonous lexical entries, that is, a relative pu_1, an interrogative pu_2 and/ or pu_3 used in embedded clauses (cf. i.a.). This possibility has no explanatory power since, as Manzini and Savoia (2011a) state '[…] the pattern that it describes is not an accidental coincidence observed in one or even a few languages, but a systematic phenomenon in Romance' and is found in totally unrelated languages such as in Adyghe (Caucasian) (cf. Caponigro and Polinsky 2011) or Thai (cf. Jenks 2014). Based on this, I assume that there is one *pu* and *oti* lexical entry used pervasively in different syntactic structures. In addition, looking at the more general distribution of *oti* and *pu*, I show that they have internal structure. The Table below illustrates different syntactic items of Indo-European languages, and the syncretic patterns they exhibit in embedded, relative and interrogative clauses:

		DEM$_{Pro}$	COMP$_{Pro}$	REL$_{Pro}$	WH$_{Pro}$
W.Germanic	English	that	that	that	what
	Dutch	dat	dat	dat	wat
	German	das	dass	das	was
	Sw. German	das	dass	wo	was
	Yiddish	jenc	vos / az	vos / az	vos
Romance	French	ce	que	que	que
	Italian	quello	che	che	che
	Spanish	aquél	que	que	qué
Hellenic	Modern Greek	afto/ecino	pu / oti / pos	pu / oti / **o**pos	pu / ti / pos
E.Slavic	Russian	to	čto	čto	čto
S.Slavic	Serbo-Croatian	to	što	što	što
	Bulgarian	tova	deto	deto	deto 'where'

Table 1.1: Syncretism patterns cross-linguistically.

1.3.1.1 Examples of different contexts of *pu*

The fact that *pu* is used in a number of other contexts, as shown in the Table, is discussed first. Below, I briefly illustrate *pu* in its use in relative clauses. In this case, it is shown that as other elements with similar behavior as English *that*, *pu* is in complementary distribution with relative pronouns.

(34) a. I vasilisa enekrine tin apofasi pu pire o B. Johnson.

the queen approved.3SG the decision pu took the B. Johnson

'The queen approved the decision that Boris Johnson took.'

b. I vasilisa enekrine tin apofasi tin opia pire o B. Johnson.

the queen approved.3sg the decision the which took the B. Johnson

'The queen approved the decision which Boris Johnson took.'

c. I vasilisa enekrine tin apofasi (*pu) tin opia (*pu) pire o B. Johnson.

the queen approved.3sg the decision pu the which pu took the B. Johnson

'The queen approved the decision that Boris Johnson took.'

Pu is also used as an interrogative pronoun in questions. In this case, *pu* correlates with different meanings. It can have a locative interpretation, *where*, as is shown in (35a), but can also be used as a source/ manner adverbial, (35b), or stand for an indirect object, (35c) (cf. Roussou 2018 for the first two and Michelioudakis 2012 for the latter).

(35) a. Pu pije?

pu go.3sg

'Where did she go?' Locative *pu*

b. Pu to katalave?

pu 3sg/n.acc understand.3sg

'approx. From where/ how did she understand this?' Manner/Source *pu*

c. Pu edhose to vivlio?

pu gave.3sg the book

'To whom did she give the book?' Oblique *pu*[1]

---

[1] Note that genitive and dative are syncretic in Greek. The morphological ending used for both cases is *u*. Given this, the fact that *pu*, which comprises this *u* morpheme is can also be used as an oblique argument is not suprising.

Given the above, it is shown next that *p-u* has internal structure.[2] I assume that *p* realizes a morpheme. This is evidenced below where it is shown that *p-* is used productively in the formation of different *wh*-words in Greek:

(36) a. P- u b. P- os c. P- ote d. P- jos

         p u   p os   p ote   p 3SG.M.NOM

         'Where.'   'How.'   'When.'   'Who.'

Furthermore, I assume that *p-* is a determiner. This makes sense since *p* is in complementary distribution with *t-*, which can combine with the inflectional nominative suffix *o*, and form the inflected determiner *t-o-*'the'. The data below show that *t* is also used in the genitive form of the determiner *t-u-*'the' and in *t-ote-*'then'.

(37) a. T- o b. T- u c. T- ote

         D 3SG.N.NOM   D 3SG.N.GEN   D ote

         'The.'   'The.'   'Then.'

Importantly, there is also evidence that *u* of *p-u* as well as e.g. *ote* of *p-ote*, are separate morphemes, as is also the case with the genitive *u* morpheme above. Thus, just like the nominative singular suffix *os, i, o* can attach to the stem *al-*'else' and form an adjective, (38), *u, os* and *ote* can combine with *al-*'else' as well or different stems, such as *pad-*'ever(y)' in (39), (40) and (41).

(38) a. Al- os b. Al- i c. Al- o

         else MASC.NOM   else FEM.NOM   else NEUT.NOM

         'Someone else.'   'Someone else.'   'Something else.'

(39) a. P- u b. Pad- u c. Al- u

         D u   Ever u   else u

         'Where.'   'Everywhere.'   'Elsewhere.'

---

[2]   The fact that *pu* can have different interpretations suggests that it must be able to combine with different silent nouns e.g. PLACE, MANNER etc.

(40) a. P- ote   b. Pad- ote   c. Al- ote

          D ote   ever ote   else ote

          'When.'   'Every time/ always.'   'In some other time.'

(41) a. P- os   b. Pad- os   c. Ali- os

          D os   Ever os   else os

          'How.'   'However.'   'Differently.'

There is an open question that I do not address here with respect to *u* of *pu*. Is *u* of *pu* accidentally homophonous with the genitive suffix *u* used *tu* in (37b)? Or, is *u* of *pu* a genitive suffix as well? If accidental homophonony is dispreferred in natural languages, as has been proposed in several recent analyses (cf. Leu 2017 and references therein), *u* of *pu* and *tu* should be the same lexical item. At any rate, I will not be concerned with this assumption any further, as it will take us too far afield.

1.3.1.2   Examples of different contexts of *oti*

Turning to *oti*, I agree with Roussou (2018) that it comprises two morphemes, *o* and *ti*. As already noted in Roussou (2010), *o* of *o-ti* is the definite masculine determiner used pervasively in plain DPs. *Ti* is an interrogative pronoun, which, as shown below, may be interpreted as *what* or in a few cases as *why* in questions:

(42) a. Ti   pire   ja tin Eleana?
          what bought.3SG for the Eleana
          'What did she buy for Eleana?'   Thing *Ti*

      b. Ti   ithele   na fiji?
          what wanted.3SG na fiji
          'What did she want to leave for?'   Reason *Ti*

Lastly, note also that in Table 1.1, *oti* is shown to be used in relative clauses as well. These relative clauses are free relatives in which, as shown below, *oti* means *what*.

(43) Apokalipse oti ihe   sizitisi   me ton prothipurgho.
revealed.3sg what had.3sg discussed.3sg with the Prime Minister
'He revealed what she had discussed with the Prime Minister.'

CHAPTER 2

Complementizers

2.1 Introduction

This chapter focuses on clauses formed with *oti* and *pu*, as in (1), where these items introduce a complement clause after the verb *thimame*-'remember'.

(1) a. Thimame $\boxed{\text{pu}}$ pighame dhiakopes   s-to   Parisi.

         remember.1SG pu   went.1PL on vacation to-the Paris

         'I remember that we went to Paris on vacation.

    b. Thimame $\boxed{\text{oti}}$ pighame dhiakopes   s-to   Parisi.

         remember.1SG oti   went.1PL on vacation to-the Paris

         'I remember that we went to Paris on vacation.

Despite the fact that *oti* and *pu* are often allowed to surface after the same predicate, as above, I argue that the two complementizers are subject to distinct licensing conditions. Concretely, using manner adverbial modification as a diagnostic for eventivity and new data from a data base I constructed with all the clause embedding predicates in Greek, I show that *pu* is sensitive to the aksionsart/ inner aspect of the matrix predicate. This generalization, repeated below, will be motivated in Section 2.3:

(2) The ASP-COMP effect

    a.   *Pu*-clauses can only be combined with <u>stative</u> verbs.

    b.   *Oti*-clauses can be combined with <u>stative</u> or <u>eventive</u> verbs.

I assume as in Borer (2005), Folli and Harley (2007), Ramchand (2008) i.a., that the stative vs. eventive distinction is a grammatical property determined in the syntax. Under this view, whether

a verb is eventive or stative is determined by verbal layers inserted higher than the maximal projection of the lexical verb. This suggests, given the Asp-Comp effect above, that c selection in Greek is keyed to a grammatical property determined in the matrix clause, higher than one would expect if as assumed in the "standard" analysis, it is the lexical verb of the matrix clause that selects cs. Given this, I propose a different analysis following Kayne (2000, 2005) in which:

- cs enter the derivation in the matrix clause separately from their surface complement.

Furthermore, I assume that:

- cs have selectional properties and that they select the matrix predicate (or, in fact, a projection of it) instead of being selected by it.

Under this analysis, I suggest that the decompositions of *pu* and *oti* I proposed in Chapter 1 are mapped to the syntactic structure as shown below:

(3)
```
        ...
       /  \
      D    ...
      |   /  \
      ti  D   VP
          |  /  \
          o V   CP
```

(4)
```
        ...
       /  \
      D    ...
      |   /  \
      u   D   VP
          |  /  \
          p V   CP
```
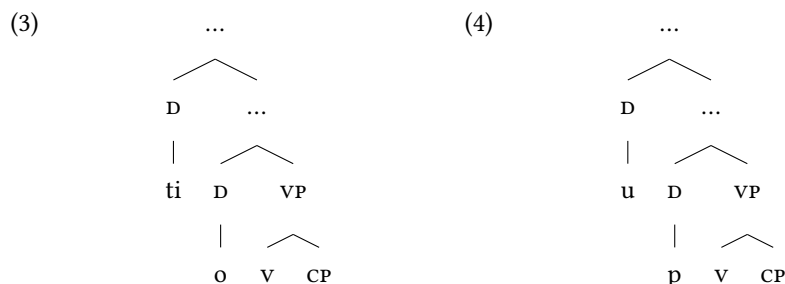
In (3) and (4), the surface order, v *pu/oti* CP, is derived via leftward movement steps. These steps must take place in order to satisfy the selectional properties of the D heads under sisterhood (cf. *Principle of Locality of Selection*). These movement steps also find support in distributional patterns that *oti*- and *pu*-clauses exhibit in different syntactic contexts e.g. in small clauses, in different subject positions and after Ps. Importantly, these patterns are attested in different languages. This suggests that the movement steps that get *oti* and *pu* together with their surface complement play important role in clause formation in other languages as well (cf. Kayne 2000). Turning to interpretive properties, a merit of the proposed analysis also is that it can account in a straighforward manner for novel data revealing reconstruction asymmetries between *oti*-, *pu*-clauses and DPs in Clitic Left Dislocation.

This chapter is organized as follows. Section 2.2 introduces the basic syntactic structure I assume for the different vp classes, that is, stative, eventive, causative etc. Following extensive previous literature, I assume that these verb classes realize distinct syntactic structures. In Section 2.2, I also examine and present a list of the conditions under which manner adverbial modification can be used as a reliable diagnostic for detecting eventive predicates. Using this diagnostic, I present new data in Section 2.3, which suggest the Asp-Comp effect in Greek. Section 2.4 presents a summary of the data, and discusses the serious issues these data raise for the "standard" analysis of cp formation. I address these issues by presenting an alternative analysis in which cs are merged in the matrix clause, and select the matrix predicate instead of being selected by it. In Section 2.5, I present this analysis in more detail taking also into account the internal structure of *oti* and *pu* as well the movement steps that give rise to the surface order. Section 2.6 examines the distribution of *pu*- and *oti*-clauses in several syntactic environments and shows that they exhibit patterns which are not attested with dps e.g. extraposition, subject-object asymmetries. These patterns are shown to be exhibited to a great extent by *de-/di*-clauses of French and Italian as well (Section 2.6.4) and to relate to language universals (Section 2.6.5). In these sections, it is also shown how these distributional properties can be reconciled under a uniform analysis. Section 2.7 reconstruction asymmetries between *oti-, pu*-clauses and dps, and proposes an analysis. In Section 2.8, I present the most recent analysis in Moulton (2015) according to which the distribution of clauses is determined by semantic factors. I show the serious challenges this analysis faces in light of the Greek facts.

2.2   Stative and Eventive Predicates: Diagnostics

Vendler's (1957) foundational work sets up a basic distinction between events and states. Here, following the view that has been known as "constructional", I assume that the stative vs. eventive distinction reflects differences in the syntactic structure (cf. Arad 1998, Borer 2005, Harley 1995, 2011, Marantz 1997, 2005, Ramchand 2008 i.a.).[1] This view finds support in the different behavior of stative and eventive predicates in regard to a number of syntactic diagnostics. In or-

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[1]   See also Appendix for the different views.

der to distinguish stative from eventive clause selecting predicates in Greek, I apply one of these diagnostics, that is, manner adverbial modification. This diagnostic is standardly used to detect eventive predicates. The syntactic structure eventive predicates realize under the "constructional" view, along with more details on verb formation, are presented in the syntactic structure below (see Sportiche et al. 2014, Chapter 12 for syntactic arguments in support of this structure).

(5)

vP (causing projection)

v vP (process/ event projection)

v vP (state/ result projection)

v ...
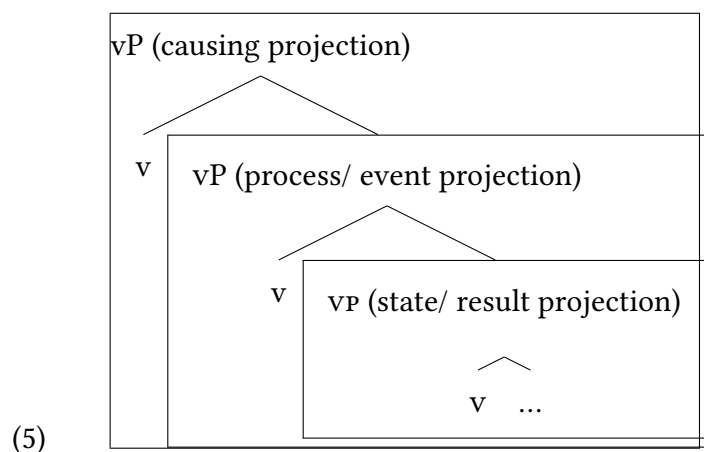
In the "constructional" approaches, the common idea is that the three vp layers shown above encode different events. These layers also correspond to different argument projections. For instance, Ramchand (2008, 40) argues that the lowest vp of (5) '[…] gives the 'telos' or 'result state' of the event and licenses the entity that comes to hold the result state.' The immediately higher vp shell corresponds to Procp of Ramchand (2008), which, according to her, '[…] specifies the nature of the change or process and licenses the entity undergoing change or process.' Ramchand also assumes that Procp must exist with all dynamic or non-stative verbs such as with activities e.g. *Mary run* in which case *Mary* is the entity undergoing a process, or with causative predicates e.g. *Mary broke the stick.* In the latter case, Ramchand assumes that the external argument is licensed in the highest vp shell, which also introduces the causation event. Ramchand (2008) also discusses stative verbs, and proposes the following structure:

(6)

initP

DP_{Holder} init'

init DP_{Rheme}
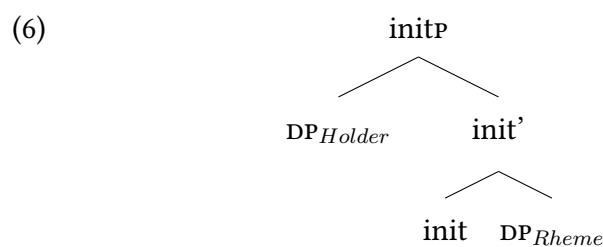
As Ramchand points out, since there is no dynamicity/process/change involved in stative predicates, ProcP which gives rise to the eventive interpretation is absent in (6).[2]

There are different "constructional" views which maintain some of the most important ingredients of Ramchand's analysis, and differ in some more peripheral ones. For instance, Harley (1995) and Folli and Harley (2007) assume that there are different heads, v_{BE} or v_{BECOME}, which turn a vP into stative or change of state respectively. Thus, this view as well as the one in Ramchand (2008) share the important assumption that stative and eventive predicates realize distinct syntactic structures. Note though that the head forming stative predicates in Folli and Harley (2007) that is, v_{Be}, differs from initP of Ramchand (2008) in that v_{Be} does not license any argument in its specifier. Turning to the external argument, Ramchand (2008) and Folli and Harley (2007) have in common the assumption that agents and causers are introduced/ licensed in the highest vP shell, which, crucially, is different from the lower process/ eventive one.

From Ramchand (2008), Folli and Harley (2007) and the rest of the "constructional" approaches, I adopt the standard assumptions, which are reduced to basic properties of Merge, and thus, hold regardless of particular theoretical assumptions. These are the following:

- stative and eventive verbs are realized as distinct syntactic structures,

- causative as well as other eventive predicates are structurally richer than stative predicates,

- the external argument of causative/ agentive predicates is introduced in the highest vP shell.

With these assumptions in mind, I turn next to manner adverbial modification.

2.2.1   Manner Adverbial Modification

A standard assumption in the "constructional" approaches is that manner adverbs are only compatible with eventive predicates. This is also shown in the data below.

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[2]   Ramchand notes that stative verbs might be formed with an independent head, which is not involved in the formation of causative predicates in (5) (see also Appendix for more details).

(7) a. I Eleana iche ena aftokinito (* *dhiskola*).

the Eleana.NOM had.3SG a car with difficulty

'Eleana had a car with difficulty.' State

b. I Eleana efaghe (*dhiskola*).

the Eleana.NOM ate.3SG with difficulty

'Eleana ate with difficulty.' Activity

c. O Vasilis kerdhise ton aghona (*dhiskola*).

the Bill.NOM won.3SG the race with difficulty

'Bill won the race with difficulty.' Achievement

d. O Vasilis elise tis askisis (*dhiskola*).

the Bill.NOM solved.3SG the exercises with difficulty

'Bill solved the exercises with difficulty.' Accomplishment

Thus, the manner adverb *dhiskola* can modify eventive predicates, that is, activities, achievements and accomplishments (cf. 7b-7d). On the other hand, stative predicates like *iche*-'had' in (7a) reject manner adverbial modification. Following Cinque (1999), I assume that adverbs are introduced in specifiers. Given this, the fact that manner adverbs are only compatible with eventive predicates suggests that the head introducing them selects or is merged higher than ProcP of Ramchand's (2008) analysis. Stative predicates do not comprise ProcP, and as a result, they cannot be modified by manner adverbs.

A short note is in order about manner adverbs. Several of them have more than one meanings. Thus, in addition to the manner interpretation, some may also be interpreted as temporal or degree adverbs. Temporal and degree adverbs can modify stative verbs, hence, in order to avoid the scenario where a manner adverb is used as temporal or degree, one needs to use as diagnostic for eventivity adverbs, like *dhiskola, efkola*-'with difficulty, easily' or *apotoma*-'abruptly' which are unambiguously manner. On the other hand, adverbs like *ghrighora*-'fast/ quickly' or *kala*-'well', which are ambiguous between a manner, temporal or degree interpretation must be avoided (see Sections 2.2.1.1 and 2.2.1.2).

2.2.1.1 *Quickly*

The fact that adverbs like *ghrighora*-'fast/quickly' can have more than one meanings has already been observed for the English adverb *quickly* in Travis (1988). Let us consider her examples.

(8) a. Quickly John will be arrested by the police.

 b. John quickly will be arrested by the police.

 c. John will be quickly arrested by the police.

 d. John will be arrested quickly by the police.

Travis argues that 'In (8a-8b), quickly appears to be modifying the event of the arrest while in (8c-8d), quickly modifies the process of the arrest. In other words, in (8a-8b), the arrest will happen right away. In (8c-8d), the manner of the arrest will be hurried.' Let us call the first interpretation in (8a-8b) temporal and the latter one manner, and with this distinction in mind, let us consider the following example from Greek.

(9) I Eleana epline tis kaltses ghrighora.
 the Eleana.NOM washed.3SG the socks fast
 'Eleana washed the socks fast.

Here, I argue that, like English *quickly*, *ghrighora* is used as a temporal and manner adverb. In other words, (9) either means that the washing event happened right away (e.g. right after the socks got dirty) or that the manner of the washing was hurried. Importantly, note that under the temporal interpretation, *ghrighora* is compatible with stative predicates, as below, in which case the adverb can be paraphrased with a temporal expression e.g. *right away*, as shown in the translation:

(10) I Maria itan/ ine ghrighora s-to kedro tu LA.
 the Maria.NOM be.PST.3SG/ be.PRSNT.3SG fast in-the downtown the LA
 'Maria was in downtown LA fast/ right away.'

In this sentence, *itan*-'was' is a state. Yet, it is compatible with modification by temporal *ghrighora*. This fact suggests that manner and temporal *ghrghora* are licensed in distinct syntactic structures.

Thus, I assume like before, that the head introducing manner adverbs in its specifier is merged higher or selects the process projection of (5). On the other hand, the head in whose specifier temporal adverbs are introduced has different selectional properties, and can, hence, also combine with stative predicates. In order to avoid the possible confound arising with the different usages of *ghrighora*, I exclude it from my investigation.

2.2.1.2 *Well*

In this section, I consider the distribution of *kala*-'well'. I show that this adverb has two distinct usages as a manner or a degree adverb. Under the degree usage, I show that it is also compatible with stative predicates, and given this, I conclude as with *ghrighora*, that *kala* (or other adverbs with such a dual behavior) do not constitute a safe diagnostic for detecting eventive predicates. I start with examples in which *kala* is used as a manner adverb.

(11) a.   Pos   pighe/ perase   to kaloceri?
           how go.3SG/ pass.3SG the summer
           'How did summer go?'

     b.   Pighe/ perase   kala.
           go.3SG/ pass.3SG well
           'It went well.'

     c.   Pighe/ perase   efkola/ dhiskola.
           go.3SG/ pass.3SG easily/ with difficulty
           'approx. It went easily/ with difficulty.'

     d.   * Pighe/perase ligho/poli.
           go.3SG/   pass.3SG   a little/ a lot
           '*It went a little/ a lot.'

In (11), it is shown that like other *bona fide* manner adverbs such as *efkola, dhiskola*-'easily, with difficulty' in (11c), *kala* can be used as an answer to a question formed with the manner *wh*-form *pos*-'how'. On the other hand, degree adverbs such as *ligho, poli*-'a little, a lot' are strictly ruled out in this context. (12) shows that *kala* can also be used as an answer to a degree question:

(12) a. Poso   tin   kseri?

         how much 3.SG.F.ACC know.3SG

         'approx. To what degree/How much does she know her?'

     b. Tin   kseri   kala.

         3.SG.F.ACC know.3SG well

         'She knows her well.'

     c. * Tin   kseri   efkola/ dhiskola/ apotoma.

         3.SG.F.ACC know.3SG easily/ with   difficulty/ abruptly

         'She knows her easily/ with difficulty/ abruptly.'

     d. Tin   kseri   ligho.

         3.SG.F.ACC know.3SG a little

         'She knows her a little.'

In (12), the question is formed with a degree *wh*-item, that is *poso*-'how'. Unambiguous manner adverbs are ruled out as answers to this question (cf. 12c). On the other hand, the degree adverbs *ligho, poli* are permitted as is also the case with *kala*. Given this, I conclude that *kala* has an additional usage as a degree adverb.[34] In (12), note also that the degree *kala* modifies *kseri*-'knows',

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3   See also Gavriilidou and Giannakidou 2016 for similar conclusion.

4   Interestingly, *pikra*-'bitterly' can also be used as a degree adverb:

(1) a. Poso   to   metanjose?
         how much 3SG.N.ACC regretted.3SG
         'How much has he regretted it?'

     b. Ase   to   metanjose   pikra.
         indeed 3SG.ACC.NEUT regretted.3SC bitterly
         'He regretted it bitterly.'

     c. Ase   to   metanjose   poli.
         indeed 3SG.ACC.NEUT regretted.3SC a lot
         'He regretted it a lot.'

which is a stative predicate. This fact shows that *kala* can be introduced in the specifier of two heads merging at distinct syntactic heights. In its usage as a manner adverb, *kala* is introduced in a head merging higher than the eventive component of verbs whereas as a degree adverb, it is introduced in a lower syntactic position, thus, it is compatible with stative verbs as well. Given this ambiguity, I conclude just like with *ghrighora*, that *kala* is not a safe diagnostic for eventivity.[5]

2.2.2 Interim Summary

In the previous sections, I discussed different manner adverbs and the different usages they can have. I concluded that only adverbs which are unambiguously manner e.g. *dhiskola, efkola-*'with difficulty, easily' and *apotoma-*'abruptly', constitute a safe diagnostic for detecting eventive predicates.

2.3 *Pu-* and *oti*-clauses and the aspect of the matrix predicate

We can now turn to the question if verbs that can combine with either *pu-* and *oti-* clauses can do so freely, or if there are factors that determine their distribution. Using manner adverbial modifiation as diagnostic for eventivity, I find the following effect repeated from previously:

(13) The Asp-Comp effect in Greek

    a.   *Pu*-clauses can only be combined with <u>stative</u> verbs.

    b.   *Oti*-clauses can be combined with <u>stative</u> or <u>eventive</u> verbs.

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[5]   Keir Moulton (p.c.) asks whether *live* in the following sentence where it is modified by a manner adverb is stative or eventive:

(1)   He lived comfortably.

I assume that *lived* is ambiguous between a state and an activity. In this example, *lived* must be an activity. In other words, this example cannot be paraphrased as *He was alive comfortably*, which is the interpretation one would expect with stative *live*.

On the basis of this new finding, this section concludes that complementizers (at least of Greek) are sensitive to the aksionsart/ inner aspect aspect of the verb they combine with.

2.3.1   Background: Database of predicates that combine with *oti/ pu* or both.

For the purposes of this study, I constructed a data base with an exhaustive list of the verbs that can combine with *pu-* or *oti*-clauses. These verbs were collected from Triantafyllidis (1998), the most comprehensible dictionary of Modern Greek, and were classified according to several criteria in regard to argument selection. These criteria are:

- Optional or obligatory argument,

- Syntactic category of the arguments, that is, PP (and type of P), DP etc.

The empirical data in this section are based on a subset of the predicates in the database. Moreover, these data have been verified with more than ten native speakers of Greek.[6] It is important also to point out that judgments were felt to be surprisingly clear and uniform. Speaker variability or dialectal variation did not seem to play a role (as far as I have been able to determine).

2.3.2   *Pu-* and *oti*-clauses as arguments

This section examines the distribution of *oti-* and *pu*-clauses in the subject and object position of psych/ experiencer verbs, adjectives or participles. The choice of the verb is not accidental as *pu*-clauses can almost exclusively be combined with psych verbs (cf. Roussou 1994). With this in mind, let us turn to the taxonomy of psych/ experiencer verbs that I assume. Concretely, I assume as in Belletti and Rizzi (1988), that psych predicates are distinguished between subject (Class I) and object experiencer predicates (Class II and III). Subject experiencer predicates select a nominative DP experiencer and a PP or accusative DP argument assigned the Target of Emotion/ Subject Matter theta role. These predicates can also take a clausal argument. In Greek, nearly

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all subject experiencer predicates e.g. *herete*-'be/get happy', *metanjoni*-'regret', *thimoni*-'be/get angry' and *klei*-'cries', can only select a *pu*-clause as argument. There are only a few verbs as *thimame*-'remember' below that can take a clausal complement introduced with *oti* and *pu*:

(14)   a.   I   Eleana   dhen thimotan $\boxed{\text{oti}}$ ehi   pai   s-to   Oman.
            the Eleana.NOM not   remembered.3SG oti   have.3SG gone.3SG to-the Oman
            'Eleana did not remember that she has been to Oman.'

       b.   I   Eleana   dhen thimotan $\boxed{\text{pu}}$ ehi   pai   s-to   Oman.
            the Eleana.NOM not   remembered.3SG pu   have.3SG gone.3SG to-the Oman
            'Eleana did not remember that she has been to Oman.'

I suggest that *herete, metanjoni, thimoni, klei* are strictly factive hence, they can only be combined with *pu*-clauses, which, as noted in Chapter 1, correspond to factive clauses. On the other hand, *thimame* has more flexible selectional requirements and as a result, it can be merged with factive *pu*- and non-factive *oti*-clauses. In Section 2.3.3, I take *thimame* into consideration because it shows in a more transparent way the conditions under which *oti*- and *pu*-clauses are licensed and *herete, metanjoni, thimoni, klei* in which case I consider the licensing conditions of *pu*-clauses in comparison to these of their PP or DP arguments.

Turning to object experiencer predicates, note that they select a dative or an accusative internal argument, which is interpreted as the experiencer and a nominative argument, which is interpreted either as the causer or the Target of Emotion (see Section 2.3.4 for more details). Moreover, the nominative argument can be either a DP or a *pu*-clause as shown below:

(15)   a.   Tin Maria   tin   enohli   o   thorivos.
            the Maria.ACC 3.SG.F.ACC annoy.3SG the noise.NOM
            'The noise annoys Maria.'

       b.   Tin Maria   tin   enohli   pu kani   thorivo i   Eleana.
            the Maria.ACC 3.SG.F.ACC annoy.3SG pu make.3SG noise   the Eleana.NOM
            'The fact that Eleana makes noise annoys Maria.'

Object experiencer predicates bear directly on the discussion regarding the role of the inner aspect

of the matrix verb in C selection as they are well known since at least Belletti and Rizzi (1988) to fall into different classes with distinct aspectual properties.

The last set of cases of embedding I explore involve an adjective or a participle selecting a clause as argument as below:

(16) Itan   ksekatharo oti to pirama   itan   sosto.
      was.3SG clear   oti the experiment.NOM was.3SG correct
      'It was clear that the experiment was correct.'

(17) Itan   adhiko pu edhioksan tin Eleana.
      was.3SG unfair pu fired.3PL   the Eleana.ACC
      'It was unfair that they fired Eleana.'

(16) and (17) are of particular interest as they can show whether e.g. *pu*, is licensed by the adjective or the verb in the matrix clause.

2.3.3   Subject Experiencer Predicates

2.3.3.1   *Herete*-'be/ get happy'

I start the discussion with the subject experiencer verb *herotan*-'be happy'. As shown below, this verb can be used intransitively, or take a *me*-PP or *pu*-clause as argument:

(18) a.   Herotan   (dhiskola).
           got happy.3SG   with difficulty
           'He got happy with difficulty.'

      b.   Herotan   (dhiskola)   me ta apla praghmata s-ti   zoi/ to
           got happy.3SG   with difficulty with the simple things   in-the life the

           jeghonos afto.
           fact   this
           'He got happy with the simple things in life/ this fact with difficulty.'

      c.   Herotan   (* dhiskola)   pu i kori   tu ine   jatros.

          got happy.3sɢ   with difficulty pu the daughter his be.3sɢ medical doctor

          'He was happy about the fact that his daughter was a doctor (* with difficulty).'

(18a) shows that in its intransitive use *herotan* can be modified by a manner adverb. This fact suggests that *herotan* can be eventive. Furthermore, the compatibility with the *me*-ᴘᴘ in (18b), which as shown in Chapter 3 can only be combined with eventive verbs, corroborates the claim that *herotan* can be eventive. This predicate can also combine with a *pu*-clause, as illustrated in (18c). Nonetheless, in contrast to (18a-18b), (18c) shows that *herotan* strongly rejects manner adverbial modification in this case. These facts suggest that:

- *herotan* must be stative in (18c) where it embeds a *pu*-clause,

- *herotan* can be eventive when used intransitively or is combined with a *me*-ᴘᴘ.

2.3.3.2 *Metanjoni-*'regrets'

In what follows, I show that *metanjoni-*'regrets' behaves exactly like *herotan*.

  (19)   a.   Dhen metanjoni (efkola) (ja afto to jeghonos).

            not   regret.3sɢ easily   for this the fact

            'She does not regrets (easily) (for this fact).'

      b.   Metanjoni (* efkola) pu dhen parakoluthi to reading group.

            regret.3sɢ   easily pu not   attend.3sɢ the reading group

            'She regrets easily that she does not attend the reading group.'

Hence, (19) shows that *metanjoni* can be used intransitively, take a ᴘᴘ complement or a *pu*-clause. In the first two cases, the verb can be modified by a manner adverb, which suggests that it can be eventive. The verb in this case can most closely be paraphrased as *change oneself's opinion.* On the other hand, (19b) shows that *metanjoni* must be stative when combined with a *pu*-clause in which case it rejects manner adverbial modification.

2.3.3.3 *Thimoni*-'be/get angry'

In this section, I focus on the verb *thimoni*-'be/get angry'. I claim, as already suggested by the translation, that this verb is ambiguous between a state and a change of state interpretation. As expected, I show that the change of state reading is not available when *thimoni* embeds a *pu*-clause:

(20) a. Thimoni (efkola).

get.angry.3sg easily

'She gets angry easily.'

b. Thimoni (efkola) me ta pedja tis/ to jeghonos.

get.angry.3sg easily with the kids her the fact

'Shegets easily angry with her kids/ the fact.'

c. Thimoni (* efkola) pu dhen tis milane ta pedja tis.

be.angry.3sg easily pu not her.DAT.3sg talk.3PL the kids her

'She is (*easily) angry about the fact that her kids do not talk to her.'

The fact that the verb selects a PP formed with *me* in (20b) as well as that it is compatible with manner adverbial modification in (20a) suggests that it can be eventive and be interpreted as '*get angry*'. The same verb can also combine with a *pu*-clause, however, as (20c) shows, manner adverbial modification is then blocked. Given this, I conclude that *thimoni* in (20c) is a stative verb, that is, '*be angry*'.

The next set of examples shows that changing the grammatical aspect of *thimoni* from present in (20) to past and perfective, as in (21), does not alter the aspectual properties of the verb. Thus, just like *thimoni* in (20), past imperfective *thimose* in the following examples is ambiguous between a stative and an eventive usage.

(21) a. Thimose (apotoma).

get.angry.PRFCTV.PST.3sg abruptly

'She got angry abruptly.'

b. Thimose   (* apotoma) pu efighe   i   Hristina.

be.angry.PRFCTV.PST.3SG   abruptry pu left.3SG the Hristina.NOM

'She was angry (*abruptly) about the fact that Hristina left.'

In particular, (21a) shows that when used intransitively, *thimose* can accept manner adverbial modification, which suggests that it can be eventive. In addition, (21b) shows that when used in combination with a *pu*-clause, *thimose* rejects manner modification. This is consistent with the conclusion of the previous sections that *pu*-clauses can only combine with stative predicates. The assumption that past perfective verbs like *thimose* can be ambiguous between stative and eventive finds further support in the following data:

(22) a. Thimose   ja   pede lepta.

be.angry.PRFCTV.PST.3SG for five   minutes

'She was angry for five minutes.'

b. Thimose   (* apotoma) ja   pede lepta.

be.angry.PRFCTV.PST.3SG   abruptly   for five   minutes

'*She was angry abruptly for five minutes.'

(22a) shows that *thimose* can be modified by a *ja*-PP. This PP corresponds to English *for*-PPs which are compatible with stative verbs or a certain class of eventive verbs, that is, activities. Importantly, activities are compatible with manner adverbial modification in the presence of *for*-PPs e.g. *she run sloppily/fast for an hour*. Nonetheless, as shown in (22b), *thimose* does not behave like an activity, thus, it rejects manner modification in the presence of a *ja*-PP. This confirms that *thimose* in (22) is stative as is also the case when it takes a *pu*-clause argument.

2.3.3.4 *Klei-*'cries'

Klei-'cries' in Greek has a stative and an eventive interpretation, that is, *be sad* and *become sad* respectively. The following examples show that *klei* can be modified by a manner adverb—suggesting that it has the eventive use—when it is used intransitively or takes a PP argument. On the other hand, *klei* must be stative in which case it rejects manner adverbial modification when

it is combined with a *pu*-clause, (23c).

(23) a. Klei   (efkola)
          cry.3sg   easily
          'She becomes sad easily.'

     b. Klei   (efkola) ja   ton thanato tis mitera tis.
          cry.3sg   easily   about the death   the mother her
          'She becomes sad easily about the death of her mother.'

     c. Klei   (* efkola) pu pethane i   mitera tis.
          cry.3sg   easily   pu died.3sg the mother
          'She is sad about the fact that her mother died.'

2.3.3.5 *Thimate*-'remembers'

Next I turn to the verb *thimame*-'remember', which, as noted already, can combine either with an *oti*-clause or a *pu*-clause complement.

(24) a. Thimate   oti ta   epine   s-to   Parisi me   ton Jorgho.
          remember.3sg oti 3.pl.acc drunk.3sg in-the Paris with the George
          '1. She remembers that she had drinks with George in Paris.'

     b. Thimate   pu ta   epine   s-to   Parisi me   ton Jorgho.
          remember.3sg pu 3.pl.acc drunk.3sg in-the Paris with the George
          '1.She remembers that she had drinks with George in Paris.
          2. She remembers where she had drinks with George in Paris.'

Interestingly, (24b) shows that the embedded clause *thimate* selects can be a declarative or an interrogative. In the first case, *pu* functions as a complementizer whereas in the latter, it is used as a *wh*-item meaning *where* (cf. Chapter 1). Having clarified the above, the following pair of sentences shows what happens when we apply the manner adverbial modification test.

(25) a. Thimate   me   dhiskolia oti ta   epine   s-to   Parisi me   ton Jorgho.

     remember.3SG with difficulty oti 3.PL.ACC drunk.3SG in-the Paris   with the George

     'She remembers with difficulty that she had drinks with George in Paris.'

   b. Thimate   me   dhiskolia pu ta   epine   s-to   Parisi me   ton Jorgho.

     remember.3SG with difficulty pu 3.PL.ACC drunk.3SG in-the Paris   with the George

     '1. She remembers with difficulty where she had drinks with George in Paris.

     2. *She remembers with difficulty that she had drinks with George in Paris.'

(25a) shows that a predicate embedding an *oti*-clause can be eventive, thus, it can be modified by a manner adverb. On the other hand, since the matrix predicate is modified by the manner adverb, it can only embed an interrogative clause. This is not surprising since, given what we have seen before, declarative *pu*-clauses can only be combined with stative predicates.

Importantly, the fact that the verb *thimame-*'remember' is not compatible with same kind of modifiers when it embeds a *pu-* or an *oti*-clause was first noted in Christidis (1982) and more recently in Roussou (2018). Let us consider their examples:

(26) a. Thimithika   (istera apo   poli   prospathia) oti ton   icha   sinadisi

     remembered.1SG   after   from a lot of effort   oti 3.SG.ACC had.1SG met

     s-to   Parisi.

     in-the Paris

     'I remembered after a lot of effort that I had met him in Paris.'

   b. Thimithika   (?? istera apo   poli   prospathia) pu ton   icha   sinadisi

     remembered.1SG   after   from a lot of effort   pu 3.SG.ACC had.1SG met

     s-to   Parisi.

     in-the Paris

     'I remembered after a lot of effort that I had met him in Paris.'   Christidis (1982, 50a-b)

(27) a. Thimame   (me dhiskolia) oti milise   s-ti   Maria.

remember.1SG   with difficulty oti talked.3SG to-the Maria

'I remember with difficulty that she talked to Maria.'

b. Thimame   (* me dhiskolia) pu milise   s-ti   Maria.

remembered.3SG   with difficulty pu talked.3SG to-the Maria

'I remember with difficulty that she talked to Maria.'   Roussou (2018, 7a-b)

Christidis (1982) and Roussou (2018) argue that *pu*-clauses express content which must be imme-diately retrieved (immediate recollection). Under this view, the *pu*-clauses in (26b) and (27b) are not compatible with manner modifiers such as *me dhiskolia*-'with difficulty' because they impli-cate effort, which is not compatible with the immediate recollection interpretation that *pu* brings about. The most immediate challenge this view faces is that *pu*-clauses reject manner adverbial modifiers regardless of effort implications. For instance, *efkola*-'easily' is compatible with im-mediate recollection, still, it cannot modify an embedding predicate combining with a *pu*-clause (cf. 20). Given this, I conclude that the only property of the matrix predicate that matters for complementizer selection is the aksionsart/ inner aspect of the matrix predicate, as suggested by "the Asp-Comp effect".

2.3.4   Object Experiencer Predicates

This section looks at object experiencer predicates. These verbs are well known from previous lit-erature to fall into different classes with distinct aspectual properties. Here, I test these aspectual properties in relation to the restrictions in complementizer selection discussed previously.

To start with, in Belletti and Rizzi's (1988) seminal work, object experiencer predicates belong to two classes, Class II and Class III. Class II predicates select a nominative and an accusative DP argument, (28a). On the other hand, Class III predicates select a nominative and a dative argument, (28b).[7]

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[7]   Note that the clitic in (28b) can only double the dative argument, not the PP.

(28) a. Ton Jorgho   ton   endiaferun ta mathimatika.

the George.ACC 3.SG.ACC interest.3PL the math.NOM

'George is interested in math.'

b. Tu Jorghu/   s-ton Jorgho   tu   aresi i Maria.

the George.DAT/ to-the George.ACC 3.SG.DAT like.3SG the Maria.NOM

'George likes Maria.'

In addition to issues regarding the case of their arguments, Class II and Class III predicates have attracted particular attention because of their aspectual properties. The consensus in the current literature is that Class III predicates are unambiguously stative, and that their nominative and dative argument are assigned the Target of Emotion/ Subject matter and experiencer theta role respectively. Given this, since *pu*-complement clauses are only compatible with stative predicates, the fact that they combine with Class III predicates as shown in (29), is entirely expected.

(29) Tis   aresi pu i kori   tis ine mia epitihimeni epihirimatias.

3.SG.DAT like.3SG pu the daughter.NOM her is a   successful businesswoman

'She likes the fact that her daughter is a successful businesswoman.'

Turning our attention to Class II psych predicates, the current literature converges on the conclusion that they are ambiguous between a stative and an eventive interpretation (cf. Landau 2009, Alexiadou and Iordăchioaia 2014 for Greek).[8] Under the stative interpretation, Class II psych predicates select an accusative experiencer and a nominative theme. On the other hand, if the verb has the eventive/ change ot state interpretation, the nominative argument is interpreted as a causer. Given this ambiguity, the prediction is that Class II predicates must behave as unambiguously stative only when they take a *pu*-clause complement. Indeed, this prediction is borne out in the following examples where I compare two Class II predicates *enohli-*'annoys' and *steno-horun-*'sadden' in regard to adverbial modification:

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[8]   See Anagnostopoulou (1999) for previous discussion of experiencer predicates in Greek.

(30)   a.   (Dhiskola)   tin   enohli   afto to jeghonos.

with difficulty 3SG.F.ACC annoy.3SG this the fact

'This fact annoys her (with difficulty).'

b.   (* Dhiskola)   tin   enohli   pu dhen pire proaghoghi.

with difficulty 3SG.F.ACC annoy.3SG pu dhen pire proaghoghi

'She is annoyed about the fact that she did not get promotion (*with difficulty).'

(31)   a.   (Dhiskola)   tin   stenohori afto to jeghonos.

with difficulty 3SG.ACC sadden.3PL this the fact

'The fact makes her sad (with difficulty).'

b.   (* Dhiskola)   tin   stenohori   pu dhen pire proaghoghi.

with difficulty 3SG.ACC sadden.3PL pu dhen pire proaghoghi

'She is sad about the fact that she did not get promotion (*with difficulty).'

(30b) and (31b) show that *pu*-clauses can be used as arguments of Class II predicates, however, on the condition that they be stative. This condition does not apply when these predicates take nominative DP arguments thus, as shown in (30a) and (31a), *enohli* and *stenohorun* can be modified by a manner adverb.

2.3.5   Adjectives and Clauses

In this section, I examine the licensing conditions of DP and *pu-*,*oti*-clauses when they serve as arguments of adjectives or participles. Let us start with adjectives taking DP complements as below:

(32)   a.   (Afto to jeghonos) itan   ksekatharo (afto to jeghonos).

this the fact.NOM   was.3SG clear   this the fact

'This fact was clear.'

b.   (Afto to   jeghonos) ejine   ksekatharo (afto to   jeghonos).

this the fact.NOM   became.3SG clear   this the fact

'This fact became clear.'

Since *pu*-clauses can only combine with stative verbs, there are a number of interrelated questions that the constructions in (32) can answer:

- is it sufficient for *pu*-clauses to be introduced as arguments of any stative predicate?

- can *pu*-clauses be licensed by adjectives, which apparently are stative?

- or, should stativity be sponsored for *pu*-clauses by the matrix verb selecting the adjective?

If the stative predicate that licenses *pu*-clauses is the adjective, then, the prediction is that *pu*-clauses should be licensed regardless of the inner aspect of the matrix predicate. On the other hand, if *pu*-clauses are licensed by the matrix verb, then, the matrix verb must be stative. I show that the latter scenario holds. With this in mind, let us consider the two adjectives from (32), *ksekatharo* and *katanoito*. These adjectives can take an *oti*-clause as argument. (33) and (34) also show that in this case, the matrix predicate can be stative, *ine*-'is' or eventive, *ejine*-'became'.

(33) a. Itan   ksekatharo oti dhen ithele   na tin   enohlun.
           was.3SG clear   oti not   wanted.3SG na 3SG.F.ACC annoy.3SG
           'It was clear that she did not want them to annoy her.'

      b. Oti dhen ithele   na tin   enohlun itan   ksekatharo.
           oti not   wanted.3SG na 3SG.F.ACC annoy.3SG was.3SG clear
           'That she did not want them to annoy her was clear.'

(34) a. Ejine   ksekatharo oti dhen ithele   na tin   enohlun.
           became.3SG clear   oti not   wanted.3SG na 3SG.F.ACC annoy.3SG
           'It became clear that she did not want them to annoy her.'

      b. Oti dhen ithele   na tin   enohlun ejine   ksekatharo.
           oti not   wanted.3SG na 3SG.F.ACC annoy.3SG became.3SG clear
           'That she did not want them to annoy her became clear.'

Let us now turn to *pu*-clauses and note first that *oti*- and *pu*-clauses cannot easily combine with the same adjective (see more discussion about this in Section 2.6.1.3). Given this, in order to test

the distribution of *pu*-clauses in this syntactic context I examine a different adjective, that is, *ipervoliko*-'overwhelming'. As shown in (35), this adjective can take a nominative DP argument in which case the verb of the sentence can be stative or eventive:[9]

(35) a. (Afti i   sinithia) itan   ipervoliki   (afti i   sinithia).
        this the habit.NOM was.3SG overwhelming   this the habit
        'approx. This habit was overwhelming.'

   b. (Afti i   sinithia) ejine/   katadise   ipervoliki   (afti i   sinithia).
        this the habit.NOM became.3SG/ ended up.3SG overwhelming   this the habit
        'approx. This habit became/ ended up being overwhelming.'

Importantly, the next pair shows that in contrast to what we saw with *oti*-clauses, when an adjective is combined with a *pu*-clause, the matrix verb must be stative regardless of whether the *pu*-clause surfaces before or after the adjective.[10,11]

(36) a. Itan   ipervoliko   pu apelian   prosopiko toso sihna.
        was.3SG overwhelming pu fired.3PL personnel so   often
        'It was overwhelming that they fired personnel so often.'

   b. Pu apelian   prosopiko toso sihna itan   ipervoliko.
        pu fired.3PL personnel so   often was.3SG overwhelming
        'Firing personnel so often was overwhelming.'

---

[9]   Note that with this adjective, I test a different noun as argument, that is, *afti i sinithia*-'this habit'. I think that *to jeghonos*-'the fact', which I systematically tested in previous cases cannot serve as argument of this particular adjective. On the other hand, *to jeghonos* was shown previously to be compatible with stative or eventive predicates. Given this, it is safe to conclude that the Asp-Comp-effect in embedded clauses cannot be related to the semantic notion of factivity. If that were the case, factive nouns would be incompatible with eventive predicates, contrary to fact. I would like to thank Tim Stowell (p.c.) for bringing this point to my attention.

[10] Note that the effect illustrated in (36) holds regardless of the presence of *toso sihna*, aspect and tense on the verb of the embedded clause. This suggests that the restriction illustrated in this case does not come from the semantic content of the embedded clause.

[11] Greek native speakers note that the surface order "*pu*-clause AUX adjective" is totally grammatical. They add, however, that the preferred order is the one in (36a).

(37) a. ?* Ejine/ katadise ipervoliko pu apelian prosopiko toso sihna.

became.3SG/ ended up.3SG overwhelming pu fired.3PL personnel so often

'It became/ ended up overwhelming that they fired personnel so often.'

b. ?* Pu apelian prosopiko toso sihna ejine/ katadise ipervoliko.

pu fired.3PL personnel so often became.3SG/ ended up.3SG overwhelming

'Firing personnel so often became/ ended up overwhelming.'

With the above in mind, I turn next to cases cases in which a *pu*-clause is an argument of a participle and the participle is in turn selected by an auxiliary verb. I show that as in (36) and (37), the inner aspect of the matrix verb plays important role in the licensing of *pu*. In Greek, participles can be formed with the suffix *-menos*. As I show below, *-menos* participles e.g. *dhistihismenos-* 'unhappy', can take DP arguments in which case the auxiliary verb selecting the participle can be stative or eventive:

(38) With the practices of the new government,

a. o laos itan dhistihis-menos.

the people was.3SG unhappy-PRTCPL

'The people were unhappy.'

b. o laos ejine dhistihis-menos.

the people became.3SG unhappy-PRTCPL

'The people became unhappy.'

Dhistihismenos can also take *pu*-clauses as arguments, however, unlike DPs, the following examples show that the verb selecting the *-menos* participle must be stative:

(39) a. Itan dhistihismeni pu efighe i kolitis tis

was.3SG unhappy-PRTCPL pu left.3SG the best friend her

'She was sad/ unhappy about the fact her best friend left.'

b. * Ejine dhistihismeni pu efighe i kolitis tis

became.3SG unhappy-PRTCPL pu left.3SG the best friend her

'She became unhappy about the fact her best friend left.'

50

Based on the above, I conclude that the stative predicate licensing *pu*-clauses must be the matrix predicate. As I discuss in detail in the next section, this particular fact does not follow under the "standard" analysis of CP formation according to which embedded clauses and the complementizer enter the derivation as constituents serving as arguments of the adjective or the participle.

2.4   Interim Summary and Discussion

The previous sections presented new facts showing that an important aspect of the behavior of *oti* and *pu* is that they depend on the inner aspect of the matrix verb. Here, I argue that these facts cannot be accounted for in the "standard" analysis of CP formation. Under this view, *pu*—like all cs—is merged in the left periphery of the embedded clause, and is selected directly by the lexical verb of the matrix clause (cf. Roussou 1994, 2010, Varlokosta 1994). Given this, the only possible interaction we expect to find is between *pu* and the lexical verb. Nonetheless, what we find is that *pu* is dependent on the inner aspect of the matrix verb. This is totally surprising given that inner aspect is determined higher than the lexical verb as shown in the two hypothetical structures below:

(40)

$$VP_{Stative}$$
$$V_{Stative} \quad VP$$
$$V \quad CP$$
$$C \quad TP$$
$$pu$$

(41)

$$VP_{Eventive}$$
$$V_{Eventive} \quad VP$$
$$V \quad CP$$
$$C \quad TP$$
$$pu$$
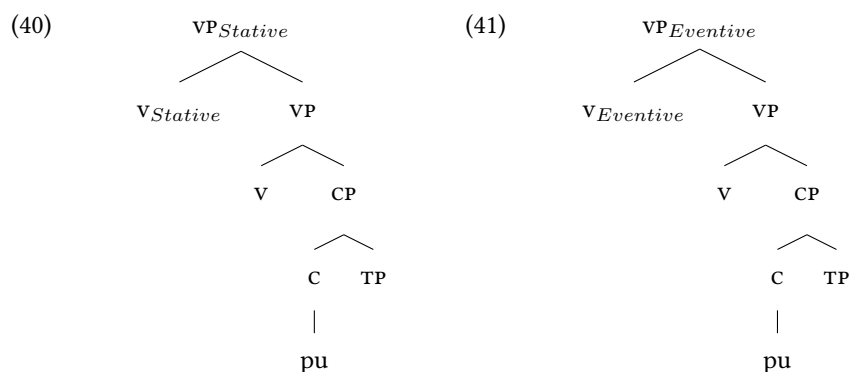
The issue with the "standard" analysis is that it cannot filter out the illicit structure in (41) where a *pu*-clause is embedded after an eventive predicate. The same issue arises with *pu* in small clauses. In this case, since the *pu*-clause is merged as an argument of the adjective, as shown below, the prediction is that it should be immune to the inner aspect of the verb selecting the AP small clause:

(42)

```
                              VP
                         ╱         ╲
                        V            VP
                        │         ╱      ╲
                     become      V           AP
                                 │        ╱      ╲
                                be      CP            A'
                                     ╱     ╲          │
                                    C       TP        A
                                    │      ╱  ╲       │
                                   pu    ╱_____╲  overwhelming
                                   talked every day on the phone
```
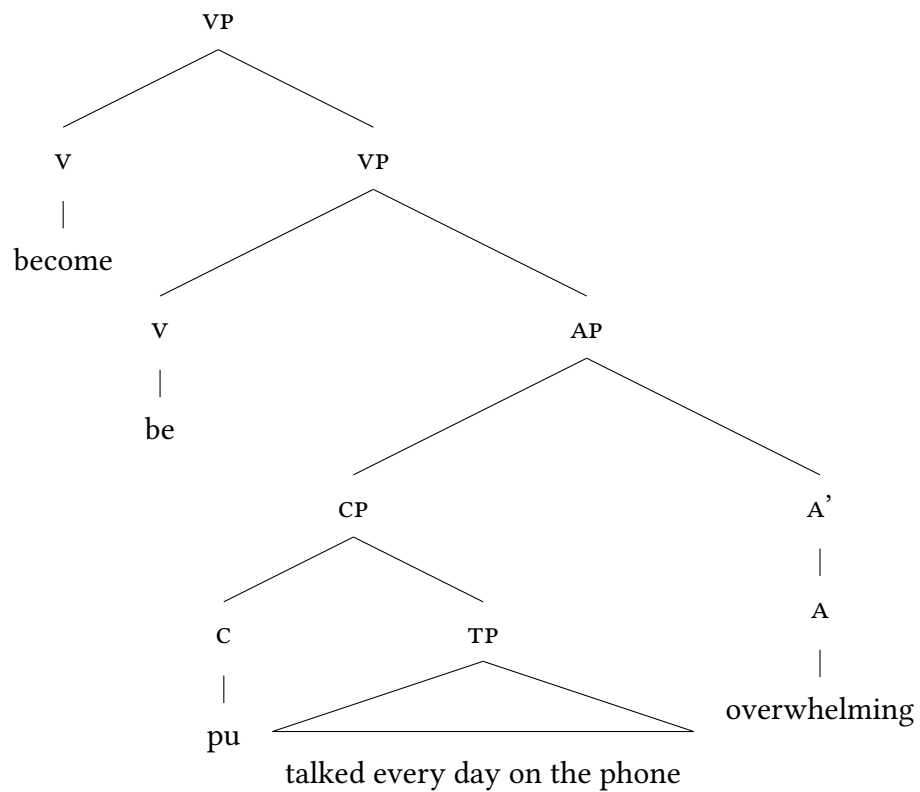
This prediction is not borne out since, as we saw, *pu* is blocked if the matrix predicate is change of state. Based on the above, I would like to suggest that we should give up the idea that cs start out in the left periphery of the embedded clause. Following Kayne (2000, 2005), I suggest that cs are merged in the matrix clause separately from their surface complement. I further assume that cs have selectional properties. Under this view, the fact that *pu* is only possible with stative verbs makes sense because *pu* selects stative vps. In addition, since *pu* is merged in the matrix clause, its selectional requirements can be satisfied in a local manner by taking the stative vp as complement:

(43)

```
              …
            /    \
          …       C'
                /    \
              C       VP_Stative
              |        /    \
             pu   V_Stative   VP
                            /    \
                           V     TP
```
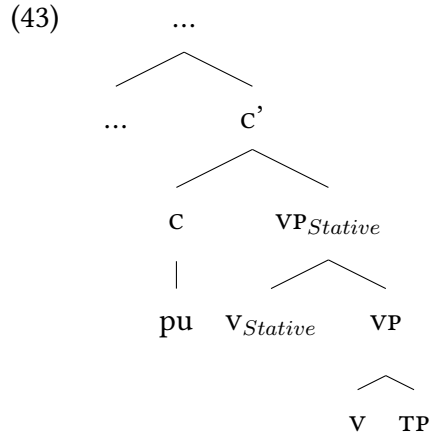
Then, by extending this approach to *oti*-clauses, it must be, given that these clauses are possible after eventive or stative predicates, that *oti* selects and takes as complement a stative or an eventive VP:

(44)

```
              CP
            /    \
          C       VP_Stative
          |        /    \
         oti   V_Stative   VP
                        /    \
                       V     TP
```

(45)

```
              CP
            /    \
          C       VP_Process
          |        /    \
         oti   V_Process   VP
                        /    \
                       V     TP
```
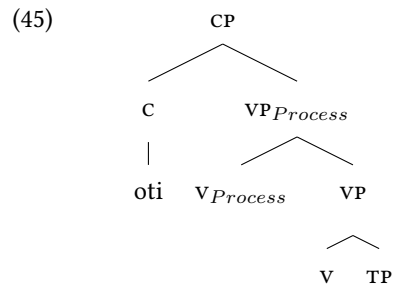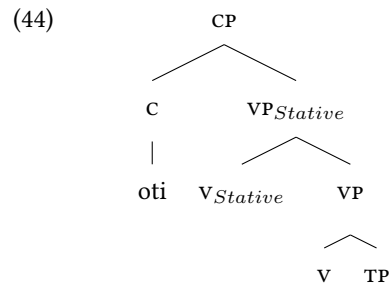
Importantly, an issue with the structures in (43-45) is that they predict, contrary to fact, that *oti* and *pu* should be in free alternation after stative predicates. This prediction follows from (43) and (44) where it is assumed that *pu* and *oti* are merged in an identical manner with stative VPs, that is, take a stative VP as complement. I argue that in order to capture the fact that *oti* and *pu* are never in free alternation, the syntactic structures in which *pu* and *oti* are merged must encode the first of following two properties:

- *pu* introduces factive clauses whereas *oti* introduces non-factive ones (cf. Appendix),

- *pu* and *oti* are bi-morphemic (cf. Chapter 1).

The second property is also important in order to motivate the movement steps involved in CP formation with more accuracy. These steps will be shown to be entirely relevant in understanding the distributional and interpretive properties of *oti*- and *pu*-clauses in Sections 2.6 and 2.7.

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2.5 Complementizers

In Chapter 1, I discussed morphological evidence that *oti* and *pu* comprise two morphemes, *o+ti* and *p+u*. In this section, I suggest that these morphemes are merged on the spine above vP in a hierarchical manner, as shown below:[12]

(46)

(47)
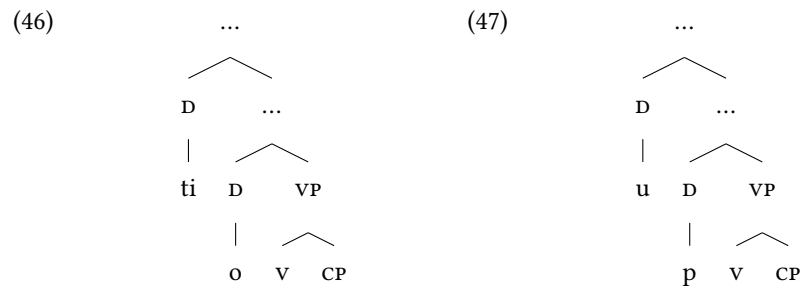
In addition, I assume that these D heads above have distinct selectional requirements. Concretely, *ti* and *o* of (46) select a vP, stative or eventive. *Ti* also selects an additional argument, that is, a non-factive CP. Given the above, let us now consider the formation of an *oti*-clause:

(48)

remember   we went to Oman

---
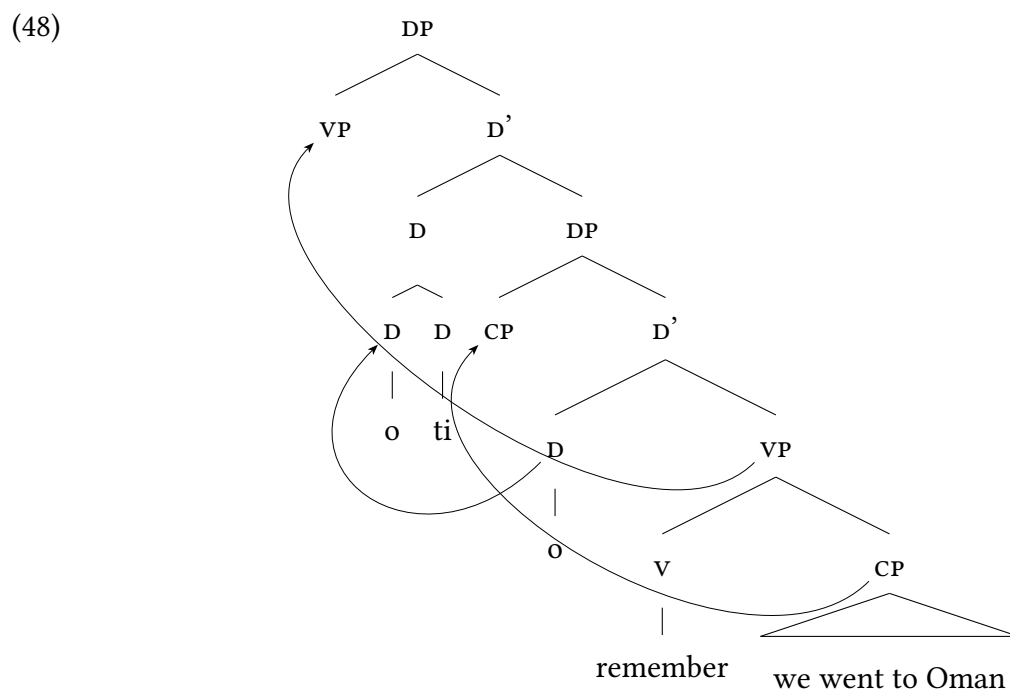
[12]   The assumption that Ds are merged on the spine separately from their surface complement was first defended in Sportiche (2005) (see also Kayne 2005).

In (48), *o*'s selectional requirements are satisfied via direct merge with the VP and via Spec-head after movement of the non-factive CP into *o*'s specifier. In addition, *ti* attracts the VP into its specifier, and satisfies its selectional properties via Spec-head. Under this view, *o* and *ti* resemble big v and little v, which also select arguments, are merged hierarchically, and big v undergoes movement to little v. In *o-ti*, v-to-v movement is realized as *o* to *ti* movement giving rise to *oti*. Turning to *pu*, I take the two morphemes it comprises to satisfy its selectional requirements as shown below:

(49)
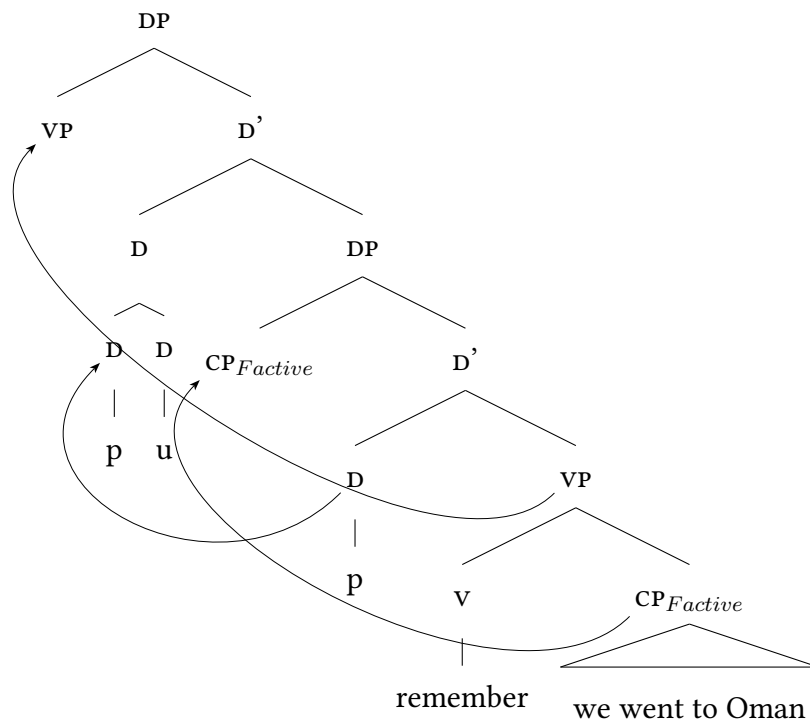
In (49), *p* selects and takes as complement a stative VP. Nonetheless, *p* is different from *ti* in that instead of a non-factive CP, it selects a factive one (or, whatever the structure of factive clauses is). The factive CP is attracted from the verb's complement position into the specifier of the position headed by *p*. Lastly, *u* subsequently attracts the VP into its specifier, and *p* undergoes movement to *u* movement forming *pu*. I assume that *p* to *u* movement must take place for the same reasons *o* undergoes movement to *ti* in *oti*.

Turning to clauses serving as arguments of adjectives, I assume, like previously, that *pu* or *oti* are merged in the matrix clause above the VP:

(50)

              ..

D   DP

|

u $CP_{factive}$ D$'$

               D   VP

               |

               p

                 V   AP

                 |

                 be

                     $CP_{factive}$ A$'$

                                        A

             $C_{factive}$ TP

                                     overwhelming

talked every day on the phone
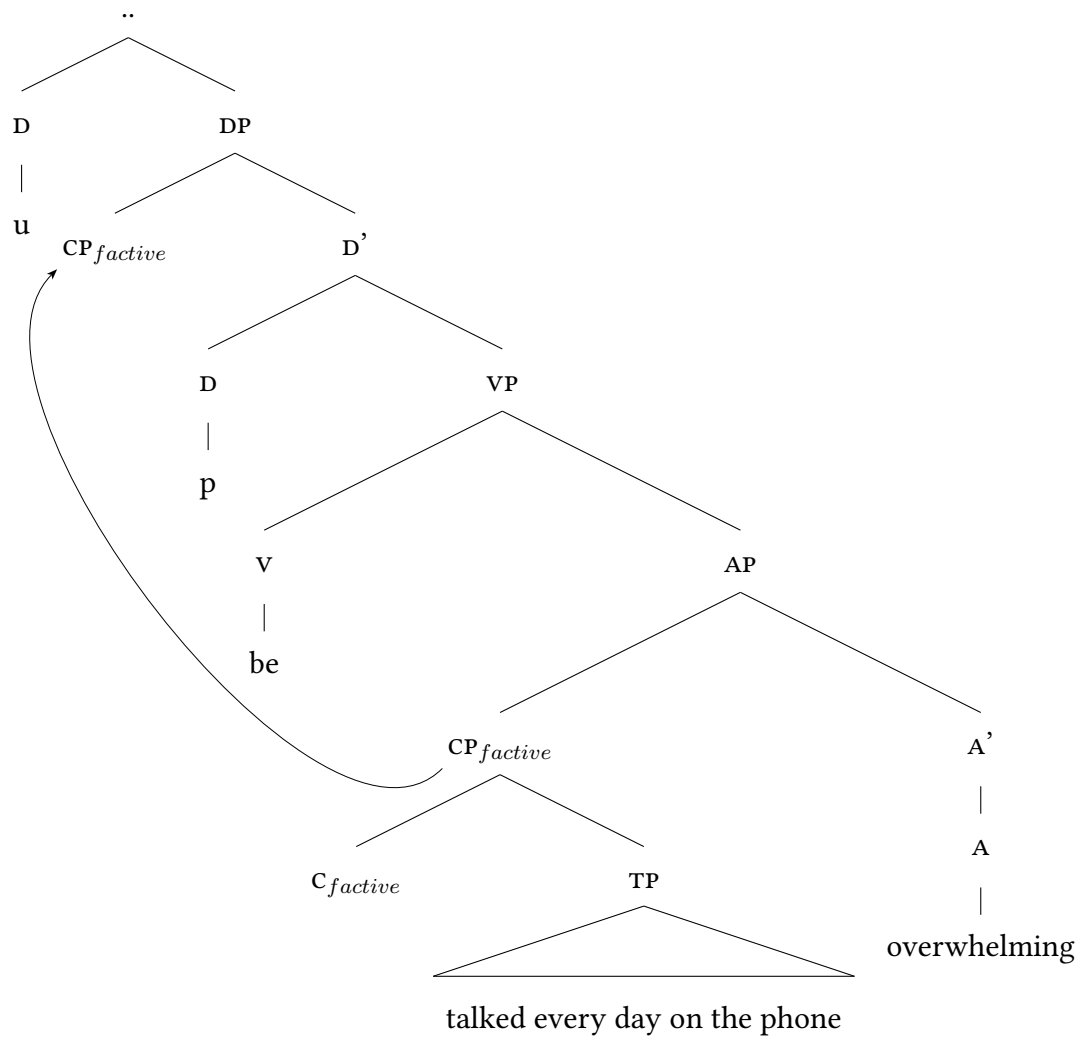
In (50), the selectional requirements of p are satisfied, as previously, via direct merge with the matrix VP and after movement of the factive CP from the AP small clause. Since the VP that p selects is a stative VP, the auxiliary selecting the small clause cannot be a change of state one e.g. *become.* This explains the contrast in (36)—repeated below—where we saw that auxiliary in the matrix clause can only be a stative verb like *itan.*

(51)   Itan/   *Ejine   ipervoliko   pu apelian prosopiko toso sihna.
        was.3SG became.3SG overwhelming pu fired.3PL personnel so   often
        'Firing personnel so often was overwhelming.'

Lastly, u is subsequently merged higher than p in (50), and it attracts—not shown in the tree above—the VP after p to u movement. These last movement steps give rise to the surface order,

"vp ADJ pu CP" in small clauses.

2.6 The distribution of clauses

In the previous section, I proposed following Kayne (2000, 2005) an analysis according to which CS are merged in the matrix clause, and attract rather than merge directly with their surface complement. Here, I show that this analysis finds support in the distribution of *oti-* and *pu-* clauses in small clauses, in different subject positions and in PPS.

2.6.1 Small Clauses

In this section, I present new data from Greek about the distribution of DPS and *oti-/pu-*clauses in small clauses comprising an adjectival predicate. I show that depending on information structure, there are two positions in which a DP can surface with respect to the adjective, that is, before or after the adjective. On the other hand, *oti-* and *pu-*clauses do not have the choice to surface in two positions. Instead, they must obligatorily surface after the adjective. In other words, *oti-* and *pu-*clauses must undergo "extraposition". I suggest that this constrast follows from the way *oti-* and *pu-*clauses are formed.

2.6.1.1 DPS

Let me start with small clauses involving DPS, shown as bracketed constituents below:

(52) a. Dhen theori   [[afto to   astio   ] eksipno].
          not   consider.3SG   this the joke.ACC   smart
          'She does not consider this joke smart.'

      b. Dhen theori   [eksipno [afto to   astio]].
          not   consider.1SG   smart   this the joke.ACC
          'She does not consider this joke smart.'

In (52), the small clauses are selected by *theori-*'considers'. The small clause comprises a DP argu-

ment, that is, *to astio*-'the joke', which is assigned accusative case from *theori.* The DP can surface in two possible positions, either before or after *eksipno*-'smart'. The choice is not accidental. Instead, as pointed out by Jiménez-Fernández and Spyropoulos (2013), the two orders correlate with differences in information structure. In (52a), the DP receives default interpretation, that is, it cannot be focused. On the other hand, the DP must be focused in (52b) where the order between the DP and the ADJ is reversed.

Next, we see that the DP in small clauses can be doubled by an accusative clitic. The clitic is attached to the matrix verb and the DP the clitic associates with can surface (53) before or after *eksipno* (cf. Sportiche 1996 i.a.):

(53) a. Dhen to$_i$ theori [[afto to astio]$_i$ eksipno].

not 3.SG.ACC.NEUT consider.3SG this the joke smart

'She does not consider this joke smart.'

b. Dhen to$_i$ theori [eksipno [afto to astio]$_i$].

not 3.SG.ACC.NEUT consider.1SG smart this the joke

'She does not consider this joke smart.'

Oti- and *pu*-clauses can also associate with a clitic as discussed in the next section, therefore, the cases discussed above will serve as benchmark for comparison.

Note also that regardless of the presence of the clitic, longer constituents such as free relatives in (54) or what looks like a nominalized interrogative in (55) can as well surface in two positions:

(54) a. Dhen theori [oti tis pune i dhaskali tis] dhedhomeno].

not consider.3SG what 3SG.F.DAT tell.3PL the teachers her granted

'She does not take what her teachers tell her for granted.'

b. Dhen theori [dhedhomeno [oti tis pune i dhaskali tis]].

not consider.3SG granted what 3SG.F.DAT tell.3PL the teachers her

'She does not take what her teachers tell her for granted.'

(55) a. Dhen theori [to pu meni i Maria] simadiko].

not consider.3sg the where live.3sg the Maria important

'She does not consider where Maria lives important.'

b. Dhen theori [simadiko [to pu meni i Maria]].

not consider.3sg important the where live.3sg the Maria

'She does not consider where Maria lives important.'

This fact guarantees that the *oti-* or *pu*-clauses, which, as we will see, must surface after the adjective, unlike the clauses above, do not exhibit this "peculiar" behavior due to length or prosody related considerations.

With this background in mind, I turn to the distribution of *oti-* and *pu*-clauses in small clauses formed with adjectives. The contrasts I present between *oti-/pu*-clauses and DPs have not been noted before, however, they are not surprising from a cross-linguistic point of view, since, we will see, they are quite stable across languages (cf. Section 2.6.4).

2.6.1.2 *Oti-* and *pu*-clauses

I begin by noting that as with verbs, there are only a few adjectives which can take as argument both an *oti-* and a *pu*-clause. For instance, *simadiko-*'important' in (56) is one of the few predicates which can combine with either element, though *pu* is perfect, and *oti* is more marginal, as shown below:

(56) a. ?? Dhen theori [simadiko [oti o siloghos diorganoni aftin tin

not consider.3sg important oti the club is organizing.3sg this the

ekdilosi]].
event

'She does not consider it important that the club is organizing this event.'

59

b. Dhen theori [simadiko [pu o siloghos diorganoni aftin tin

not consider.3sɢ important pu the club is organizing.3sɢ this the

ekdilosi]].

event

'She does not consider it important that the club is organizing this event.'

This fact possibly suggests that adjectives are distinguished like verbs, as factive and non-factive, depending on whether they select a *pu-* or an *oti-*clause respectively. At any rate, in order to avoid the confound of testing an already degraded sentence as the *oti-*clause in (56a), I examine in what follows distinct adjectives with which *oti-* and *pu-*clauses can combine. For instance, *dhedhomeno-*'granted' and *sighuro-*'certain' can combine with *oti/pos-*clauses as arguments, and, as shown below, there is only one order in which the *oti-*clause can surface with respect to the adjective, that is, after it.

(57) a. *Dhen theori [oti tha apovlithi o Jorghos] dhedhomeno/

not consider.3sɢ oti will get expelled.3sɢ the George.ɴᴏᴍ granted/

sighuro]].

certain

'She does not consider it certain that George will get expelled.'

b. Dhen theori [dhedhomeno/ sighuro [oti/ tha apovlithi o

not consider.3sɢ granted/ certain oti will get expelled.3sɢ the

Jorghos]].

George.ɴᴏᴍ

'She does not consider it certain that George will get expelled.'

Some speakers report that the *oti-*clauses in (57) need support from a doubling clitic. This resembles the fact that *it* is also obligatory in the corresponding English sentences (see translation). At any rate, Clitic Doubling does not help the pre-adjectival occurrence of *oti-*clauses. In fact, the contrast reported in (57) is even stronger in the presence of the doubling clitic, as shown below:

(58) a. * Dhen to_i   theori   [oti tha apovlithi   o Jorghos   (apo to

not   3.SG.ACC.N consider.3SG   oti will get expelled.3SG the George.NOM from the

scholio) [dhedhomeno/ sighuro]].

school   granted/   certain

'She does not consider it certain that George will get expelled from school'

b.   Dhen to_i   theori   [dhedhomeno/ sighuro [oti tha apovlithi

not   3.SG.ACC.N consider.3SG   granted/   certain   oti will get expelled.3SG

o   Jorghos   (apo to   scholio)]].

the George.NOM from the school

'She does not consider it certain that George will get expelled from school'

This is again different from what we saw with DPs doubled by a clitic, which can surface before or after the adjective. *Pu*-clauses replicate the behavior just described for *oti*-clauses. Thus, *adhiko*-'unfair' takes a *pu*-clause as argument in (59), however, the position in which the clause is allowed to surface is only the post-adjectival one:

(59) a. * Theori   [pu tha apovalun   ton Jorgho]   adhiko].
consider.3SG   pu will expelled.3PL the George.ACC unfair
'She considers it unfair that they will expel George.'

b.   Theori   [adhiko [pu tha apovalun   ton Jorgho]].
consider.3SG   unfair   pu will expelled.3PL the George.ACC
'She considers it unfair that they will expel George.'

In (60), it is also shown that in the presence of the clitic, the only available order is the one in which the *pu*-clause follows the adjective.

(60) a. * To_i   theori   [pu tha apovalun   ton Jorgho]   adhiko].

      3.SG.N.ACC consider.3SG   pu will expelled.3PL the George.ACC unfair

      'She considers it unfair that they will expel George.'

      b. To_i   theori   [adhiko [pu tha apovalun   ton Jorgho]].

      3.SG.N.ACC consider.3SG   unfair   pu will expelled.3PL the George.ACC

      'She considers it unfair that they will expel George.'

The following table is a summary of the overall distribution of DPs and *oti-*/ *pu*-clauses in small clauses.

X	(CL)< V <ADJ<X	(CL)< V <X<ADJ
DPS	✓	✓
Oti/pos-clauses	✓	✗
Pu-clauses	✓	✗

Table 2.1: Small Clauses.

2.6.1.3   Analysis

I assume as in small clauses embedded after an auxiliary, that *oti* and *pu* are merged in the matrix clause (cf. Section 2.5). The surface complement of *oti* and *pu* receives a theta-role from the adjective, thus, it is merged as an argument of the adjective as shown below (cf. Stowell 1981):

(61)

```
                        DP
                   ┌────┴────┐
                  VP         D'
                        ┌─────┴─────┐
                        D           DP
                        │       ┌───┴───┐
                       o ti    CP       D'
                         they will fire George  ┌──┴──┐
                                          D         VP
                                          │      ┌───┴───┐
                                          o      V      AdjP
                                                 │    ┌──┴──┐
                                             consider CP   Adj'
                                                      …     │
                                                           Adj
                                                            │
                                                     unacceptable
```
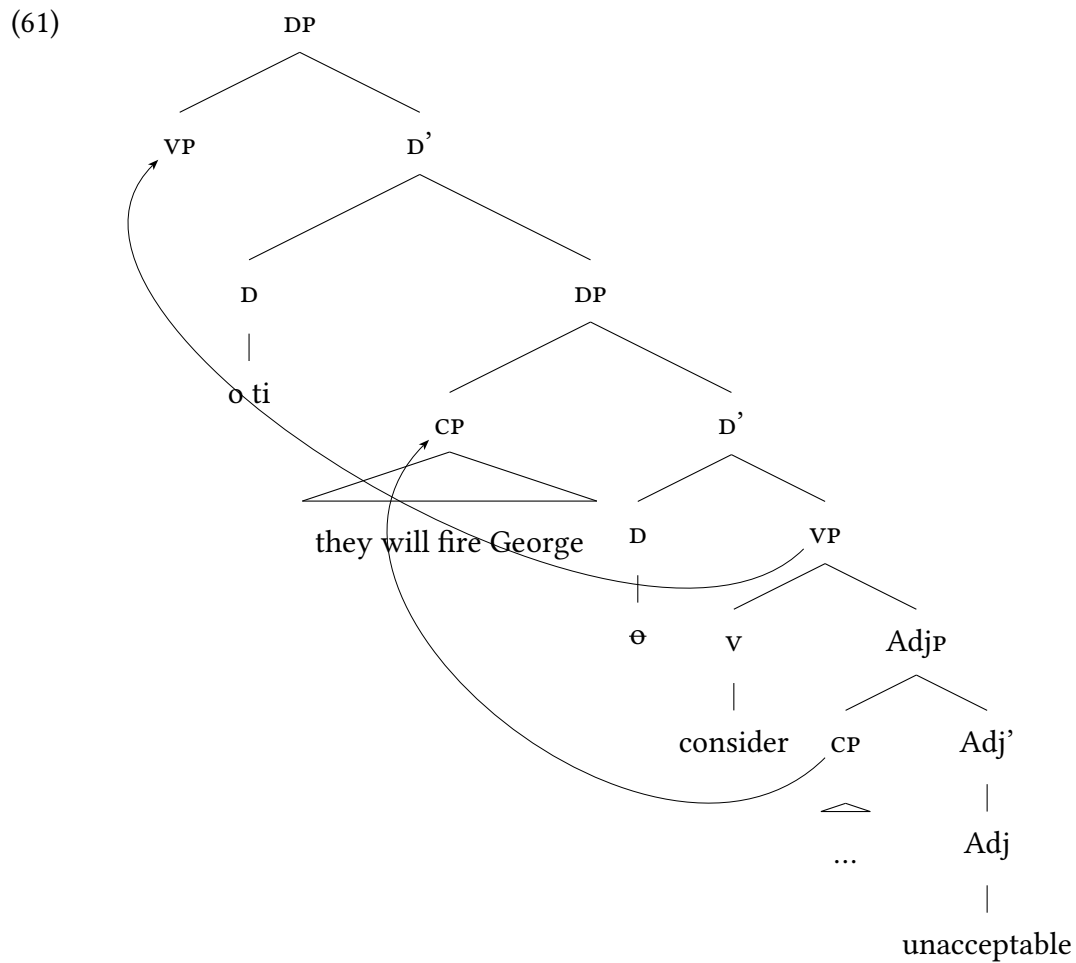
O of *oti*—although the same holds for *p* of *pu* as well—is merged in the matrix clause, as noted already, and must satisfy its selectional requirements for a vp and a non-factive cp. The first selectional requirement of this element is satisfied upon merger of *o* with the matrix vp via Head-Comp. *O* attracts a non-factive cp into its specifier in which case its selectional requirements are satisfied after movement of the cp via Spec-head. *Ti* is merged higher and attracts the vp remnant into its specifier after *o* to *ti* movement. Note that the vp remnant contains the adjective, however, note that the cp has been attracted first to a lower position. Given this, after vp movement, the adjective is placed before the cp giving rise to the effects of obligatory "extraposition".

In small clauses involving dps instead of clauses, the dp is base generated as an argument of the adjective. There are, then, different analyses of small clause formation in which the dp occupies different syntactic positions. The assumptions these analyses make for the position of the dp do not bear in any crucial manner on my claims here. Thus, the dp might be in-situ or

might undergo movement into Spec vP of the matrix clause as has been proposed for Greek in Jiménez-Fernández and Spyropoulos (2013).

(62)
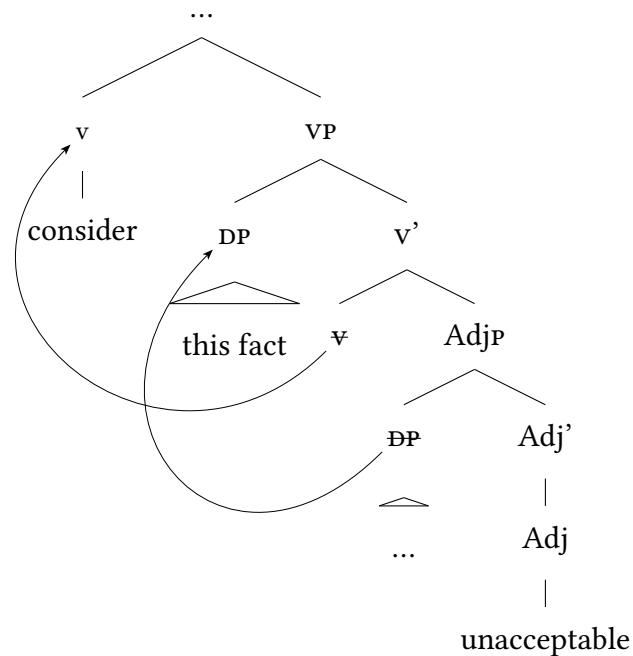
In (62), it is important that the adjective does not move from its surface position due to movement of a bigger constituent containing the adjective as was the case with vP movement in clauses. Thus, in contrast to what we saw with *oti*- and *pu*-clauses where cs attracted the vP along with adjective past the cp, the adjective can stay in-situ in (62) and can only undergo movement across the DP as in the "ADJ DP" order depending on the information structure of the sentence.

To sum up, *oti*- and *pu*-clauses show the effects of "extraposition" in small clauses as a result of the fact that *oti* and *pu*, which are merged in the matrix clause attract a vP containing the adjective past the position in which the cp has been attracted first. In small clauses comprising DPs, vP fronting does not take place, therefore, the DP or the adjective can stay in-situ or move to different positions depending on information structure.

2.6.2 Causative Predicates: Subject Asymmetries

This section shows that *oti*- and *pu*-clauses cannot be used as the external argument of causastive predicates. At first sight, one might think that this has to do with a more general restriction,

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which in Greek blocks subject clauses. Nonetheless, this assumption is largely incorrect as there are subject *oti-* and *pu-*clauses. For instance, subject *oti-* and *pu-*clauses are available in positions where the surface complement of *oti* and *pu* is merged as an argument of the adjective in a small clause as in the examples below repeated from previously:

(63) a. Itan   ksekatharo oti dhen ithele   na tin   enohlun.
was.3SG clear   oti not   wanted.3SG na 3SG.F.ACC annoy.3SG
'It was clear that she did not want them to annoy her.'

b. Oti dhen ithele   na tin   enohlun   itan   ksekatharo.
oti not   wanted.3SG na 3SG.F.ACC annoy.3SG was.3SG clear
'That she did not want them to annoy her was clear.'

(64) a. Itan   ipervoliko   pu apelian toso sihna prosopiko.
was.3SG overwhelming pu fired.3PL so   often personnel
'It was overwhelming that they fired personnel so often.'

b. Pu apelian   toso sihna prosopiko itan   ipervoliko.
pu fired.3PL so   often personnel was.3SG overwhelming
'Firing personnel so often was overwhelming.'

Given the above, I propose an alternative analysis in which the distribution of *oti-* and *pu-*clauses in causative predicates follows from restrictions arising from the height of merge *oti* and *pu* in regard to different theta positions. Let us first consider the data.

2.6.2.1   DPS

The purpose of this section is only to show that DPs assigned the causer theta-role can surface in distinct positions relative to the verb. For instance, the DP in (65a) surfaces before the verb. In (65b), it is shown that subject position of the causer DP is not fixed and, thus, can surface after the verb as well (see Roussou and Tsimpli 2002 for review of the possible positions and analysis i.a.).

(65)   a.   Afto to   jeghonos entharine   ton Jorgho.
               this the fact.NOM encouraged.3SG the George.ACC
               'This fact encouraged George.'

        b.   Entharine   ton Jorgho   afto to   jeghonos.
               encouraged.3SG the George.ACC this the fact.NOM
               'This fact encouraged George.'

With this in mind, let us now turn to causer *oti-* and *pu*-clauses.

2.6.2.2   *Oti-* and *pu*-clauses

In previous literature, it has been shown that in contrast to DPs, bare *oti*-clauses cannot function as subjects of causative predicates (cf. Roussou 1991). This is illustrated in the two pairs below:

(66)   a.   * Oti   ehis   filus   dhihni   pola ja sena.
               oti/pos have.2SG friends show.3SG a lot for you
               'It shows a lot for you that you have a lot of friends.'

        b.   * Dhihni   pola ja sena oti   ehis   filus.
               show.3SG a lot for you oti/pos have.2SG friends
               'It shows a lot for you that you have a lot of friends.'

(67)   a.   * Oti efighe noris ekane   tin Eleana na stenahorithi.
               oti left.3SG early made.3SG the Eleana na be.sad.3SG
               'That she left early saddened Eleana.'

        b.   * Ekane   tin Eleana na stenahorithi oti efighe noris.
               made.3SG the Eleana na be.sad.3SG   oti left.3SG early
               'That she left early saddened Eleana.'

Clauses introduced with *pu* behave similarly:

(68) a. *Pu ehis   filus   dhihni   pola ja sena.
       pu have.2sɢ friends show.3sɢ a lot for you
       'It shows a lot for you that you have a lot of friends.'

    b. *Dhihni   pola ja sena pu ehis   filus.
       show.3sɢ a lot for you pu have.2sɢ friends
       'It shows a lot for you that you have a lot of friends.'

(69) a. *Pu efighe noris ekane   tin Eleana na stenahorithi.
       pu left.3sɢ early made.3sɢ the Eleana na be.sad.3sɢ
       'That she left early saddened Eleana.'

    b. *Ekane   tin Eleana na stenahorithi pu efighe noris.
       made.3sɢ the Eleana na be.sad.3sɢ   pu left.3sɢ early
       'That she left early saddened Eleana.'

The Table below presents a summary of the findings of the current section.

Subjects	sᴠᴏ	ᴠᴏs
ᴅᴘs	✓	✓
Oti/pos-clauses	✗	✗
Pu-clauses	✗	✗

Table 2.2: Subjects of Causative Predicates.

2.6.2.3   Analysis

In order to account for the distribution of *oti-* and *pu*-clauses in subject positions of causative predicates, I assume the structure below from Section 2.2:

(70)

$$vP$$

DP — v'

Agent/ Causer

v — $vP_{Process}$

$v_{Process}$ — VP

V — DP
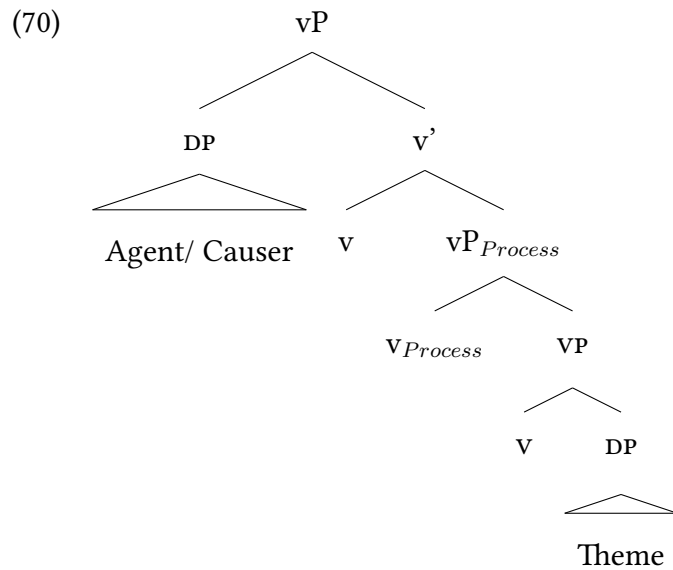
Theme

If the lowest VP is the structure stative predicates realize, then, *p* of *pu* must take this VP as complement in order to satisfy its selectional requirement for a stative VP. *P* also selects a factive CP. If this CP is assigned the theme theta role, it is introduced in the complement position of the verb, hence, it can be attracted by *pu* which is merged higher, as shown below:

(71)

$$DP$$

$CP_{Factive}$ — D'

D — VP

p — V — $CP_{Factive}$
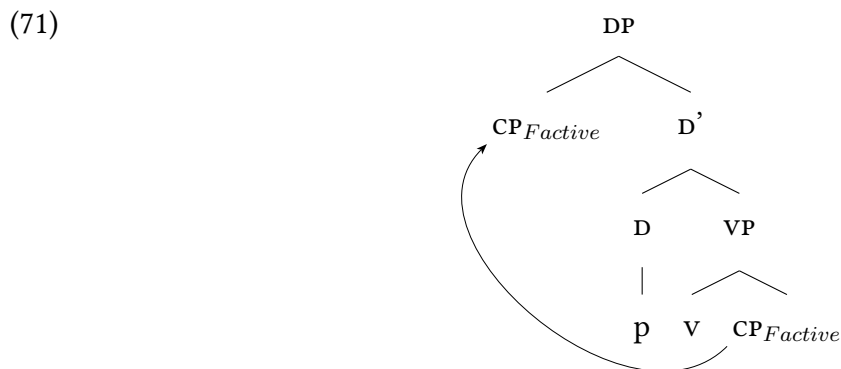
Subsequent merger of *u*—not shown above—and attraction of the VP take place next giving rise to the surface order "v *pu* CP". On other other hand, I assume that CPs assigned the causer theta role enter the derivation in the specifier of the highest VP shell corresponding to the causative component in Ramchand (2008):

(72)

```
                        vP
                   ┌────┴────┐
              CP_Factive    v'
              ┌──┐       ┌───┴───┐
              ...        v      ...
                               ┌──┴──┐
                              ...    DP
                                  ┌──┴──┐
                                  *     D'
                                     ┌──┴──┐
                                     D    VP
                                     |   ┌─┴─┐
                                     p   V  ...
```
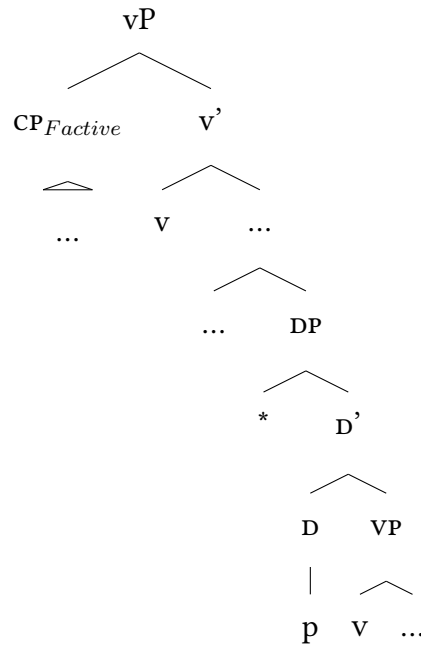
Upon merger of *pu*, the factive CP has not yet entered the derivation, hence, it cannot get attracted by *p* into its specifier. The derivation crashes leading to ungrammaticality in this case as a result of the fact that the selectional requirements of *p* for a factive CP are not satisfied.[13]

Turning our attention to *oti*-clauses, we saw before that *oti* can be merged with the stative or eventive component of verbs:

(73)

```
              DP
          ┌───┴───┐
         ...      D'
              ┌───┴───┐
              D     vP_Stative
              |    ┌───┴───┐
              ti  v_Stative  VP
                           ┌─┴─┐
                           V  ...
```

(74)

```
              DP
          ┌───┴───┐
         ...      D'
              ┌───┴───┐
              D     vP_Process
              |    ┌───┴───┐
              ti  v_Process  VP
                           ┌─┴─┐
                           V  ...
```

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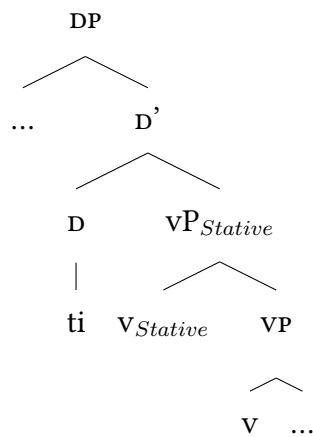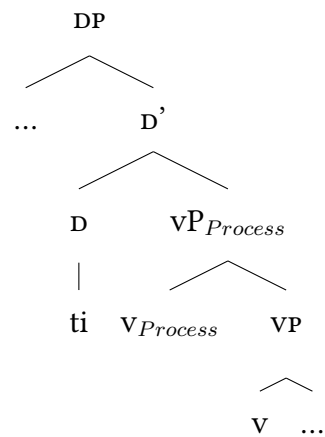
13   Or, if stative verbs project a distinct vP e.g. a vP$_{Stative}$, and this vP never projects more structure, then, *pu* selects this particular vP, and the fact that *pu*-clauses can never be causers follows from the assumption that vP$_{Stative}$ does not project more structure in order to introduce a causer argument.

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If the CP is a causer, it is externally merged in Spec v_{caus}P, as shown below, which is higher than $vP_{Process}$ which is the highest position in which *oti* can be merged.

(75)

$$
\begin{array}{c}
\text{v}_{caus}\text{P} \\
\diagup \quad \diagdown \\
\text{CP} \qquad \text{v}_{caus}{}' \\
\quad \diagup \quad \diagdown \\
\text{v}_{caus} \qquad \ldots \\
\quad \diagup \quad \diagdown \\
\ldots \qquad \text{DP} \\
\quad \diagup \quad \diagdown \\
* \qquad \text{D}' \\
\quad \diagup \quad \diagdown \\
\text{D} \qquad vP_{Process} \\
| \qquad \diagup \diagdown \\
\text{ti} \quad \text{v}_{Process} \quad \ldots
\end{array}
$$
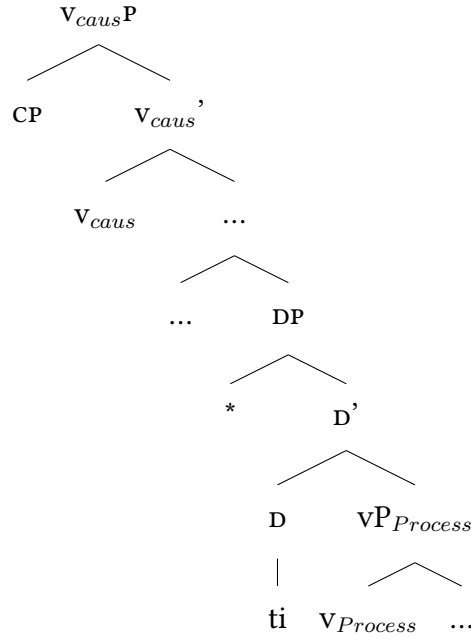
Again, this structure is ruled out leading to ungrammaticality, as expected, because *ti*'s selectional requirements for a non-factive CP are not satisfied.

To sum up, the subject object-asymmetry as well as the distribution of *pu-* and *oti*-clauses exhibit in the different subject positions was shown to follow from differences in the height of merge of *oti pu* and their respective clausal complement. In a nutshell, it was shown that *oti* and *pu* can form a clause with their surface complement only if this has been introduced in an argument position lower than the merge position of *oti* and *pu*.

2.6.3 PPS

This section looks at the distribution of *oti-*/*pu*-clause after PS. I focus in particular on the preposition *me*, which, as discussed in more detail in the next chapter, can only combine with eventive predicates. I show that *oti-* and *pu*-clauses behave again differently from DPs in that they cannot surface after *me*. Based on the observation that *me* can only combine with eventive predicates, I discuss a few preliminary notes on how to account for the fact that *me* cannot merge with a *pu*-clause. The restriction blocking "*me oti ... * CP" can be accounted for as well, however, I do not

discuss an analysis here, as it relies on finer details of the analysis of PP formation discussed in the next chapter.

2.6.3.1 DPs and *oti-*/*pu*-clauses

I examine the verb *anisihise*-'worried' which, as shown below, can take a PP introduced with *me* as argument.

(76)   Anisihise   me   to   jeghonos.
         worried.3SG with the fact
         'She worried about the fact.'

This verb can combine with a bare *pu-* or *oti*-clause, as shown:

(77)   a.   Anisihise   pu tha fighi   argha i   Maria.
              worried.3SG pu will leave.3SG late   the Maria.NOM
              'He worried about the fact that Maria will leave late.'

       b.   Anisihise   oti tha fighi   argha i   Maria.
              worried.3SG oti will leave.3SG late   the Maria.NOM
              'He worried about the fact that Maria will leave late.'

Nonetheless, (78) shows that unlike DPs, *me* cannot be combined with bare *oti-* and *pu*-clauses even though *anisihise* can combine with a P and a DP.

(78)   a.   * Anisihise   me   oti tha fighi   argha i   Maria.
              worried.3SG with oti will leave.3SG late   the Maria.NOM
              'He worries about the fact that Maria will leave late.'

       b.   * Anisihise   me   pu tha fighi   argha i   Maria.
              worried.3SG with pu will leave.3SG late   the Maria.NOM
              'He worries about the fact that Maria will leave late.'

2.6.3.2 Analysis

Based on the discussion in the next chapter, I assume that *me* selects eventive verbs. On the other hand, we saw that *pu* selects and hence, can only merge with stative predicates. Given this, I suggest that *me* and *pu* cannot occur in the same syntactic derivation and have their selection properties satisfied due to conflicting licensing conditions; if *me* is present, the verb must be eventive whereas if *pu* is present, the verb must be stative.

2.6.4 *De-/Di*-infinitives

Based on discussion by Kayne (2000), I discuss three aspects of the distribution of infinitival clauses of Italian and French introduced with *di* and *de*. In particular, it is shown that *de-/di*-clauses behave strikingly similar to *oti-* and *pu*-clauses of Greek in small clauses, after Ps and in the subject positions of verbs. This points out, as already noted before, that the distributional properties of *oti-* and *pu*-clauses are quite stable cross-linguistically. This behavior is shown to follow straightforwardly under the assumption that *de/di* as well as *oti* and *pu* are merged in the matrix clause and that they attract rather than merge directly with the surface complement. In Section 2.6.5, I consider a language universal bearing on the distribution of clausal embeddings cross-linguistics. I discuss why this universal holds from the perspective of the idea that cs are attractors and are merged in the matrix clause.

2.6.4.1 Analysis

Kayne (2000) examines non-finite clauses of French and Italian introduced with *de/di*:

(79) a. Jean a   essayé de chanter.
       John has tried   de sing.INF
       'John has tried to sing.'

   b. Gianni ha   tentato di cantare.
       Gianni has tried   di sing.INF
       'John has tried to sing.'

Kayne addresses the following two questions: (i) what is the constituent structure in (79a/79b), and (ii) what is the derivation of such sentences?[14] He begins the discussion noting that the standard view 'according to which *de/di* and the following infinitive phrase form a constituent, is not correct that the derivation of (79a) and (79b) involves more syntactic movement than is usually thought.' In order to establish this claim, he first considers various syntactic properties of the infinitives. In previous analyses, infinitives have been assumed to be DPS, which need case (cf. Raposo 1987). Under this view, *de* functions as a case assigner of the infinitive. Hence, *de* is not present in (80a) because the verb can assign case to the infinitive. On the other hand, since adjectives or nouns cannot assign case, merger of *de* is obligatory in (80b) and (80c).

(80)   a.   Jean désire chanter.
            John tried   sing.INF
            'John tried to dance.'

       b.   Jean est désireux *(de) chanter.
            John has tried   de sing.INF
            'John is desirous of singing.'

       c.   la   désir *(de) chanter.
            the desire   de sing.INF
            'the desire to sing.'   Kayne (2000, (9)-(11))

Kayne argues that a complication with the idea that infinitives need case is that they can surface in positions where case is not assigned such as in (81) where the infinitive follows *certo*-'certain'.

(81)   ?? Sono certo   esser tu   migliore.
          I-am certain be.INF you better
          'I am certain that you are better.'   Kayne (2000, 15)

A similar problem is also posed by Italian ECM sentences like in (82). In this case, *Mario* is able to get case, presumably via the matrix predicate. However, if this is true, Kayne argues that there seems to be no obvious way for the infinitive to get case.

---

[14]   The translation of the French and Italian examples is mine.

(82)   ? Ritenevo   Mario essere una persona onesta.

        I-considered Mario be.inf a   person honest

        'I considered Mario honest.'   Kayne (2000, (16))

Kayne argues that infinitives are indeed nominal, however, they are not DPs. They are NPs. DPs are different from NPs in that the latter do not require case. Furthermore, like NPs, Kayne notes that infinitives can combine with a determiner, as shown in the following example from Italian.

(83)   ? Il   manguage la carne il   venerdì.

        the eat.INF   the meat the Friday

        'approx. to eat the meat on Friday.'   Kayne (2000, (12))

In addition, it is important that infinitives do not have the distribution of DPs. For instance, in contrast to DPs, infinitives cannot be introduced after Ps. This is illustrated in the two examples below where the position after *su-*'on' and *in-*'in' cannot be occupied by an infinitive.

(84)   a.   * Contavo su essere onesto.

           I-counted on be.INF honest

           'I counted on him being honest.'

   b.   * La sua fortuna   consiste in avere   molti amici.

           the his (good)fortune consists in have.INF many friends

           'His good fortune consists in having many friends.'   Kayne (2000, (22-23))

Kayne also shows that unlike DPs, a bare infinitive phrase is often rejected after comparative *di*:

(85)   a.   Sarà   più   interessante la fisica   della   chimica.

           will-be more interesting   the physics di+the chemistry

           'Physics is probably more interesting than chemistry.'

   b.   * Sarà   più   interessante andare al   cinema di studiare la   chimics.

           will-be more interesting   go.INF to-the moves di study.INF the chemistry

           'approx. It will be more interesting to go to the movies than study chemistry.'

           Kayne (2000, (33-34))

In light of these facts, Kayne (2000) presents a different view according to which *de/ di* '[...] is not playing a case-licensing role in the strict sense.' He is instead taking '[...] *di* (and other complementizers) to play a licensing role with respect to sentential phrases that is not identical to DP case.' The fact that *de* is not present in the syntactic structure for case licensing is also evidenced by the behavior of *de*-infinitives e.g. in French after predicates like *oublier* in the following examples:

(86) a.   Jean a   oublié   ses gants.
           John has forgotten his gloves
           'John has forgotten his gloves.'

       b.   Jean a   oublié   *(de) mettre   ses gants.
           John has forgotten   de put-on.INF his gloves
           'John has forgotten to put one his gloves.'   Kayne (2000, (20-21))

In (86a), it is shown that *oublié* can assign case to its DP complement. This suggests that in (86b) where *de* is present, it cannot be due to the fact that the infinitive would not be otherwise able to receive case. At any rate, showing that infinitives have nominal properties, Kayne captures a basic fact about the clauses after *de/di*, namely, that they cannot be finite, as shown in the minimal pair below:

(87) a.   Il est important de chanter.
           it is   important *de* sing.INF
           'John has forgotten his gloves.'

       b.   * Il est important de vous chantiez.
           it is   important *de* you   sing.SUBJ
           'It is important that you sing.'

The difference between the two kinds of IPs i.e. these of finite and non-finite clauses, is that the IP of infinitives is endowed with a nominal feature. Under this view, *de/di* cannot combine with a finite IP because it needs to combine with a nominal IP. Finite IPs lack this feature, therefore, they are not compatible with *de/di*. Kayne argues that matching requirements can be stated via the

operation 'attract and feature checking'. Under this view, *de/di* satisfy its requirement for a nominal property by attracting the first available IP with nominal features. In fact, Kayne proposes that all matching requirements can be satisfied in this way:

(88)   All matching requirements must be expressed by 'attract' and feature checking (rather than via pure merger).

Let us now consider how *de/di* satisfies its matching requirements in terms of attract and feature checking. In examples like (89), the assumption is that *de* is introduced above VP and that it attracts the nominal IP from the complement position of the verb. Subsequent movement steps shown in (90) give rise to the surface order in (89).

(89)   Gianni ha   tentato di cantare.
       John   has tried   di sing.INF
       'approx. to eat the meat on Friday.'   Kayne (2000, (12))

(90)
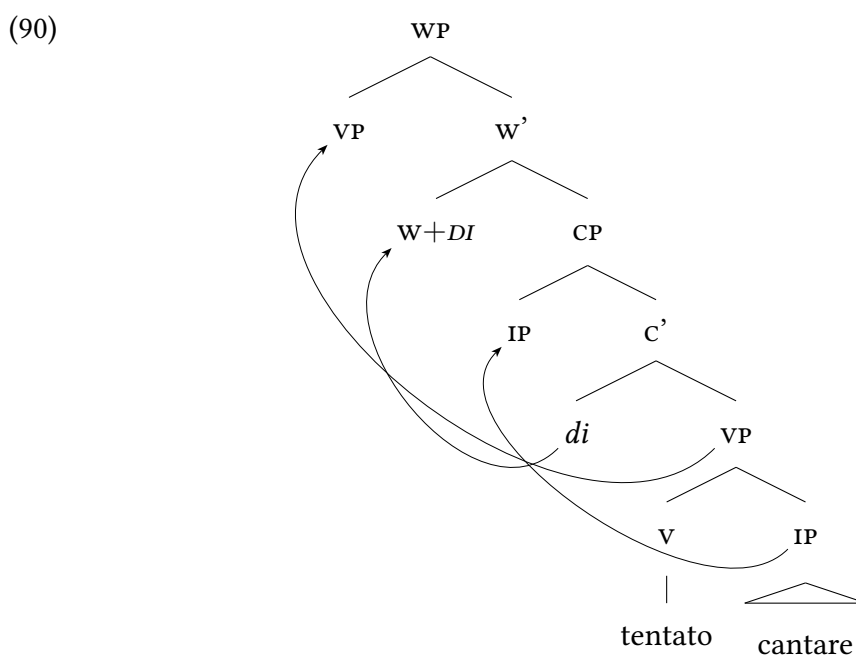
On the basis of this syntactic derivation, Kayne (2000) sets off to account for a number of the distributional properties of *de/di*-infinitives. He first considers the fact that that *de/di*-infinitives are not allowed after PS. This is illustrated below with an example from Italian.

(91) * Contavo   su di essere onesto.

    I-counted on *di* be.ɪɴꜰ. honest

    'approx. I counted on being honest.'   Kayne (2000, (46))

This example cannot be ruled out due to any kind of restriction prohibiting two adjacent prepositions since there are cases, like the one below, in which two ᴘs are allowed.

(92) Contavo   su di lui.

    I-counted on of him

    'approx. I counted on him.'   Kayne (2000, (50))

Kayne proposes that (91) is ruled out due to restrictions arising from the high merge of *di*. Let us consider in more detail the underlying syntactic derivation in this case.

(93) a.   *comteavo su esere onesto* → merge of *di*

    b.   *di contavo su essere onesto* → attraction to infinitival ɪᴘ by *di*

    c.   *... [essere onesto]$_i$ di contavo su t$_i$* → merge of *di* by w

    d.   *... di$_j$+w t$_j$ [essere onesto]$_i$ t$_j$ contavo su t$_i$* → attraction of ᴠᴘ to Spec,w

    e.   *... [contavo su t$_i$] di$_j$+w t$_j$ [essere onesto]$_i$ t$_j$ t$_i$*   Kayne (2000, (47))

Preposition stranding is not allowed in Italian, as shown in (94). Given this, (91) is ruled out because *su* is stranded in the third step of the derivation in (93) where *di* is attracting the infinitive.

(94) * Chi contravi   su?

    who were-you-counting on

    'approx. Who were you counting on?'   Kayne (2000, (48))

Next, Kayne considers a number of subject properties. For instance, he notes that *di*-clauses in Italian cannot be used as subjects bearing the subject theta-role. This is illustrated in the pair below:

(95) a. *Di cercarlo   comporta dei   rischi.

di look-for.INF+him implies   some risks

'approx. It implies some risks to look for him.'

b. *Comporta dei   rischi di cercarlo.

implies   some risks *di* look-for.INF+him

'approx. It implies some risks to look for him.'   Kayne (2000, (51,58))

In (95), the predicate is *comporta-*'implies'. This predicate cannot take a *di*-clause as an external argument. The two sentences in (95a) and (95b) show that a *di*-clause cannot serve as an external argument in the preverbal position before *comporta* or in the extraposed position after it. This is reminiscent of *oti-* and *pu*-clauses, which, as discussed, cannot function as external arguments either. I proposed that in this case, *oti* and *pu* cannot converge on a well-formed string with the clause because they are merged lower than the position in which the clause is introduced. Based on this, I suggest that a plausible way to account for the subject restriction in *de/ di* clauses is to assume that *de/ di* is introduced lower than the syntactic position introducing the subject clause:

(96)
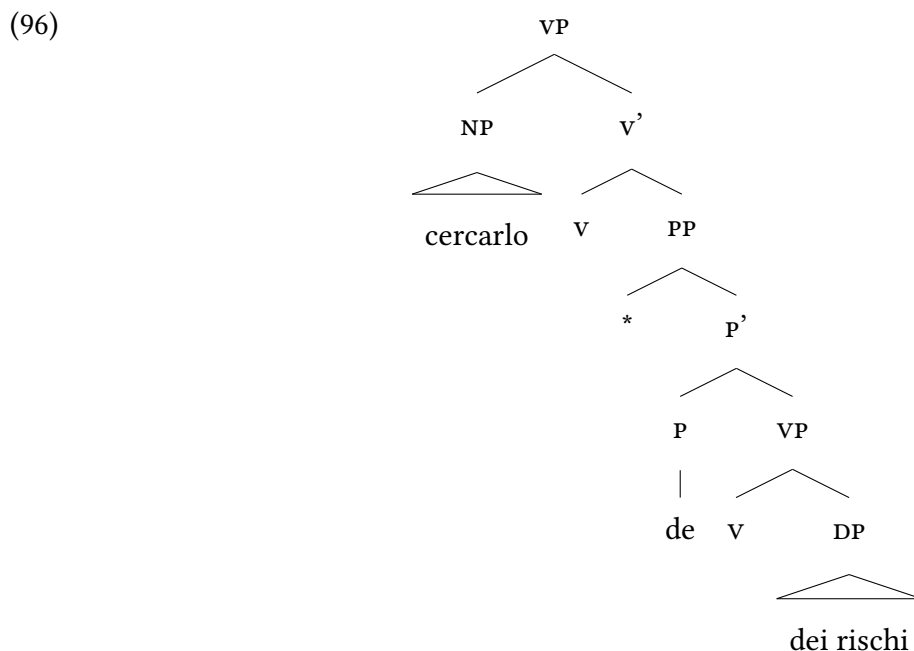
The next set of examples show that exactly like *oti-* and *pu*-clauses, *de*-infinitives of French must

undergo extraposition in small clauses:[15]

(97) a. Je crois   possible de comprendre   cette question.
          I   believe possible *de* understand.ɪɴꜰ this question
          'I believe it is possible to understand this question.

      b. *Je crois   de comprendre   cette question possible.
          I   believe *de* understand.ɪɴꜰ this question possible
          'I believe it is possible to understand this question.

The predicate of the small clause is *possible,* and (97) shows that *de*-clauses can only surface extraposed in the right clause edge of the small clause. This contrast follows straightforwardly under the analysis, which was also assumed for *oti-* and *pu*-clause. Hence, *de* is merged in the matrix clause, and it attracts a nominal ɪᴘ into its specifier in order to satisfy its selectional (or matching in Kayne's analysis) requirrements. *De* subsequently moves to a higher head. This higher head attracts the ᴠᴘ remnant moves into its specifier giving rise to the surface order in (97a):

(98) a. *je crois comprendre cette question possible* → merger of *de* and attraction to Spec,*de*

      b. *[comprendre cette question]$_i$ de je crois t$_i$ possible* → merger of w and attraction of *de* to w

      c. *de$_j$ + w [comprendre cette question]$_i$ t$_j$ je crois t$_i$ possible* → attraction to Spec,w

      d. *[je crois t$_i$ possible]$_k$ de$_j$ + w [comprendre cette question]$_i$ t$_j$ t$_k$*   Kayne (2000, (69))

2.6.5 Language Universals

In this section, I discuss an exceptional Greenbergian universal below, which, as shown, bears on the distribution of clauses and corroborates the "probe" analysis of ᴄᴘ formation.

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[15] This contrast does not show up in Italian because *di*-clauses are not allowed in this case. Why this is so is not immediately relevant to the current discussion. I would like to refer the reader to Kayne (2000) for discussion of this contrast between French and Italian.

(99)   If a language is complementizer final, then the language is OV.

Kayne (2000, 2005) argues that this universal is the result of two properties of CS put forward in the "probe" analysis. These properties are that CS are merged in the matrix clause, and that they attract rather than merge directly with their surface complement. Turning to (99) again, Kayne (2000) notes that this exceptionless universal (cf. Dryer 1992, 102) can be converted to:[16],[17]

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[16]   Keir Moulton (p.c.) pointed out to me that (99) has also been analyzed as a violation of the *Final-over-Final-Constraint* (FOFC) (cf. Sheehan 2013 i.a.). FOFC is only a descriptive term for a wide set of phenomena. The analysis FOFC has received in previous works relies on diacritics, which function as instructions for linearization within certain spell-out domains. I present an alternative, which reduces the FOFC effects to the assumption that CS have selectional requirements and as a result of this, that they function as attractors. These are independently motivated assumptions, which possibly allow us to dispense with linearization diacritics.

[17]   As Kayne (2000, fn.12) points out, the formulation of (99) as (100) also excludes OV languages with postverbal sentential sentential complements with a final complementizer. Indeed, I show in what follows that this is correct, and that, in fact, there are only apparent exceptions. For instance, let us consider an OV language like Bangla. In this language, embedded clauses are introduced with two elements, *je* and *bole*. Interestingly, Bangla has postverbal clauses, however, these are only introduced with the head initial complementizer *je* (cf. Singh 1980, Bayer 1995, Bal 1990):

(1)   a.   chele-Ta Suneche [je or baba   aS-be].
            boy-CF   heard   C his father come-will
            'The boy heard that his father will come.'

       b.   * chele-Ta [je or baba   aS-be]   Suneche.
            boy-CF   C his father come-will   heard
            'The boy heard that his father will come.'   Bayer (1995, (22))

Preverbal clauses are introduced with a different element, *bole*, and they differ from *je*-clauses in two respects. The first is that *bole* is head final. The second is that although *je*-clauses are consistently extraposed, *bole*-clauses more preferably occur preverbally, still, as Bayer (1995) notes, they may surface postverbally as well. For instance, consider the following grammatical sentence from Bal (1990) where the *bole*-CP is postverbal:

(2)   Se   jaae   raama maacha khaae BOLE.
       (s)he knows Rama eats   fish   BOLE
       'She knows that Rama eats fish.'   Bal (1990, 1b)

80

(100)   * v ip c

Furthermore, Kayne (2005, 220) points out that the explanation for (99) '[...] cannot reside in any notion of "consistent finality." Concretely, the problem with this notion that Kayne identifies is that it is '[...] based to a significant extent on the supposition that languages by and large pattern either as "head final" or as "head initial." Kayne (2005) finds this supposition highly questionable, since, as has been pointed out by Kroch (2001, 706), most languages are inconsistent in head directionality. In addition, in light of (100), Kayne notes that we should give up the idea that the complementizer is merged with ip directly because it cannot account for the fact that 'The internal order of cp (whether c precedes or follows ip) appears to correlate with an external property of cp (whether or not it can follow the matrix verb).' According to the alternative Kayne (2000, 320) proposes:'[...]

(101)   1.   c is an attractor of ip (and cannot be merged directly with ip).

2.   c comes in above vp, that is, above v and ip have been combined. (If nothing further happened, then, by antisymmetry, c would precede vp (and v).

3.   v can (apart from incorporation, which is not directly relevant here) end up preceding c via vp movement (and not via v-movement).'

The derivation below illustrates the merge order proposed above and the relevant movement steps suggested by (1-3):

Now, note that if *bole* is a c, like it is often assumed (cf. Singh 1980 i.a.), then, (2) constitutes an exception to (99). I argue that these cases, which look like exceptions usually involve so-called 'quotative' complementizers. These elements are often homophonous with a verbal form. For instance, *bole* is homophonous to the participial form of the verb 'to say' (cf. Singh 1980, Bayer 1995). I assume that there are no homophonous *bole* entries, and that instead, *bole* always realized a verb. Given this, it follows that (2) is possibly only an apparent exception to (100).

(102)

WP

VP   W'

W   CP

IP   C'

C   VP

V IP
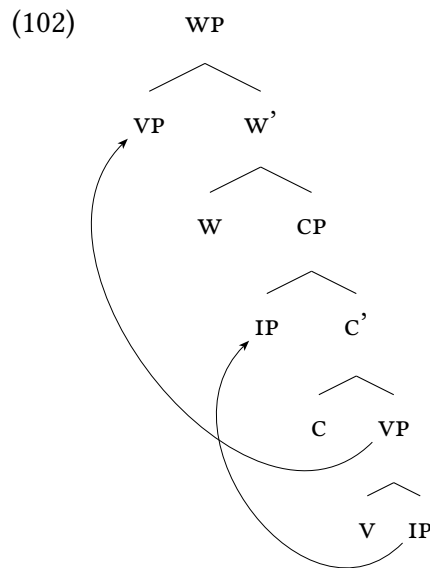
Now, note that the surface order derived by (102) is 'ɪᴘ ᴄ ᴠ'. Kayne (2000) takes this to suggest that (102) is incomplete, and that, in fact, ᴄ undergoes raising to ᴡ,[18] as shown below, and then '[...] having ᴄ+ᴡ attract ᴠᴘ (containing ᴠ) yields 'ᴠ ᴄ(+ᴡ) ɪᴘ' (as desired for Italian and English).'

(103)

WP

VP   W'

c+w   CP

IP   C'

C   VP

V IP
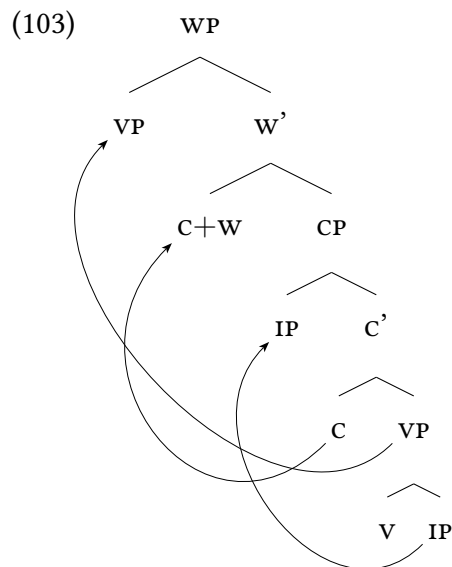
Notably, if ᴄ after attracting ɪᴘ could attract ᴠᴘ to a higher specifier without undergoing movement to ᴡ, then, the derivation would derive the incorrect order '*ᴠ ɪᴘ ᴄ'. The fact that this order is never attested possible leads Kayne (2000) to conclude that:

(104)   Attraction to a second and higher Spec is prohibited by ᴜɢ.

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[18]   Kayne (2005, 97) notes that ᴡ is assimilable to one of Cinque's (1999) functional heads.

'[...] either because second attraction can only go to a lower Spec (cf. Richards 1997) or because heads can have only one Spec (antisymmetry)).' This completes the account of the universal in (99) and the universal constraint (100). In a nutshell, this universal holds as a result of the fact that complementizers are merged in the matrix clause separately from their surface complement, and have matching requirements that are satisfied via attraction. Importantly, an issue that potentially arises in the derivation in (103) is, as Kayne (2000, fn.15) notes, '[...] that w can attract some xp (here, vp) only if some head (here, c) has adjoined to w.' In the alternative analysis I proposed, this assumption is unnecessary at least for Greek. c and w of (103) correspond to the two morphemes that *pu* and *oti* comprise. Each head has selectional properties. Under this view, the higher head, that is, w above, must always attract the vp in order to satisfy its selectional requirements via Spec-head regardless of c to w movement.

2.7 Clauses and Reconstruction

In this section, I examine interpretive properties, concretely, reconstruction properties of clauses in Clitic Left Dislocation (hereafter, CLLD). To start with, DPs as well as *oti-* and *pu*-clauses can undergo CLLD.

(105) a. Tin Eleana omos tin ikseran oli
the Eleana.ACC though 3F.SG.ACC knew.3PL everybody
'Everybody knew Eleana.'

   b. Oli ikseran oti apolisan tin Eleana. [Oti apelisan tin Maria
everybody knew.3PL oti fired.3PL the Eleana.ACC oti fired.3PL the Maria.ACC
omos]$_i$ dhen to$_i$ iksere kanis.
though not 3N.SG.ACC knew.3SG nobody
'Everybody knew that they fired Eleana. Nobody knew that they fired Maria though'.

c. Kathe adras metaniose   pu pulise   to   podhilato tu. [Pu pulise   to

every man   regretted.3PL pu sold.3PL the bike   his   Pu sold.3SG the

aftokinito tu   omos]ᵢ dhen   toᵢ   metanjose kanis.

car   her not   3N.SG.ACC regretted.3PL nobody

'Every man regretted selling their car. Nobody regretted that she sold their car

though.'

In CLLD, DPs and clauses surface in the left periphery, and they are doubled by an agreeing clitic, that is, *to* for clauses. Here, I focus on the reconstruction properties of CLLD-ed *oti*-clauses, and I show that in contrast to DPs, *oti*-clauses must undergo total reconstruction below the TP. I argue that this is so because they contain the copy/ trace of a VP. It is the VP that under the analysis I proposed in the previous sections, repeated below, *ti* attracts into its specifier.

(106)
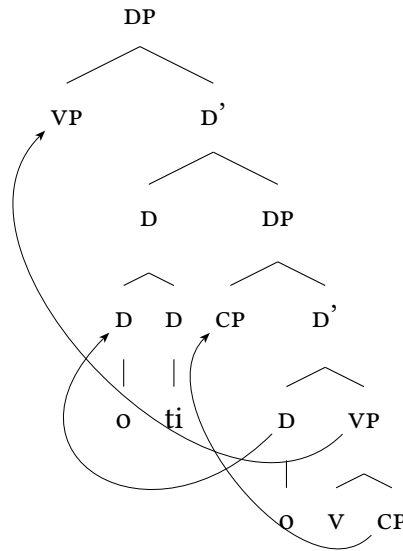
I argue that before CLLD, that is, before movement of the *oti*-clause in (106) to the left periphery, the VP moves from Spec DP into the middle field below TP. Total reconstruction of the CLLD-ed *oti*-clause below the TP is obligatory in order to avoid an unbound "trace".

This section proceeds as follows. First, it presents reconstruction diagnostics (section 2.7.1). Applying these diagnostics, I show reconstruction similarities and discrepancies between CLLD-ed DPs and *oti*-clauses (Section 2.7.2). This section shows, as mentioned already, that *oti*-clauses must undergo reconstruction below Spec TP. This fact is accounted for in light of the proposed

analysis of clause formation in Section 2.7.4.

2.7.1 Background on Reconstruction

This section summarizes the assumptions that will be adopted regarding reconstruction. These assumptions were also adopted in Angelopoulos and Sportiche (2018), who explore the reconstruction properties of CLLD-ed object DPs in Greek and French. I adopt the following assumptions:

1. Reconstruction is a property of movement dependencies only.[19]

2. Movement is modeled as copying (the copy theory of traces). Reconstruction arises when a trace is interpreted at LF: in other words, with low-XP the trace of high-XP, reconstruction of high-XP= interpret low-XP.

3. Total reconstruction refers to the situation in which only a low trace is interpreted at LF: total reconstruction = delete high-XP & interpret low-XP.[20]

Let us now consider a few examples. (107) illustrates reconstruction effects with A-bar movement (cf. Sportiche 2017b, 9a, 10a). Here, a pronoun within the *wh*-moved phrase can be interpreted as a variable bound by the quantifier phrase (QP) which does not outscope it. The pronoun can be interpreted as a bound variable only if it is interpreted within the scope of the quantifier i.e. if it is c-commanded. Thus, the moved constituent has to undergo reconstruction in this particular case, as shown in (108). The fact that reconstruction is possible suggests that A-bar movement 'can leave a contentful copy', as Takahashi and Hulsey (2009, 390) argue,[21] in the argument position of the verb.

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[19]   Except possibly for some pseudo-cleft constructions, (cf. Sharvit 1999).

[20]   Sportiche (2016) shows that a moved element can be interpreted in various positions. For instance, in addition to total reconstruction, Sportiche shows that it is possible for a moved element to be interpreted both in its first merge position and in the position it moves to.

[21]   A contentful copy is a copy whose content can be fully interpreted at LF.

(107) a. No politician$_i$ ignores [many of his$_i$ collaborators].

       b. [Which of his$_i$ collaborators] does no politician$_i$ ignore?

(108) [Which ~~picture of his$_i$ mother~~ does no politician$_i$ ignore [picture of his$_i$ mother]?

A-bar movement obligatorily leaves a contentful copy. This fact is exemplified with sentences like (109) where Condition C blocks a coreferential relation between the proper name and the subject pronoun.

(109) * Which picture of John$_i$ does he$_i$ like?

Condition C effects like the one in (109) shows that A-bar movement is the only derivational option from below the position of the triggering pronoun. If there was no movement involved in (109), we should not observe any Condition C violation. In addition, if A-bar movement did not leave a contentful copy, it would be totally unclear why Condition C ensues. Furthermore, like A-bar moved constituents, A-moved constituents can undergo total reconstruction for purposes of pronominal binding, as shown in (110) (cf. Sportiche (2017b, 55a)). This shows that A-movement can leave a contentful copy.

(110) ~~Pictures of his$_i$ child~~ seemed to everyone$_i$ to be good [pictures of his$_i$ child].

Next, I consider cases in which Condition C is bled. These are cases in which a proper name (or definite description) is contained in an adjunct or a relative clause combining with a moved constituent, as in 111.

(111) Which picture that Picasso$_i$ likes a lot did he$_i$ sell?

These effects have been accounted for by late merging the relative clause (cf. Lebeaux 1991 i.a.). I will be referring to these effects in terms of Late Merge, however, the reference to this term is only used for descriptive purposes i.e. to describe the reconstruction effects accounted for by Late Merge.[22] Lastly, Angelopoulos and Sportiche (2018) document the following generalization (see Sportiche 2005):

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

(112) A-moved (definite) pronouns cannot totally reconstruct.

This generalization finds support in minimal pairs like the one below from English:

(113) a. * He$_k$ seems to John$_k$'s father to be t$_k$ happy.

      b. * John$_k$ believes him$_k$ to have been seen t$_k$.

The two in (113) sentences are all deviant. The first one is a condition C violation whereas the second one is a principle B violation. If total reconstruction of the pronoun were possible, the pronoun could be interpreted only in its trace position and (113a) could thus be binding theoretically equivalent to (114), which is well formed.

(114) It seems to John$_k$'s father that he$_k$ is happy.

Similarly, if total reconstruction of the pronoun were possible in (113a), the result would be binding theoretically equivalent to (115), which is also well formed.

(115) John$_k$ believes that someone saw him$_k$.

2.7.2 CLLD of DPs and *oti*-clauses

2.7.2.1 CLLD-ed DPs and *oti*-clauses are arguments

Angelopoulos and Sportiche (2018) present arguments that CLLD of DPs is a movement phenomenon. Concretely, they show that CLLD-ed DPs enter the derivation as arguments and that they undergo movement into the middle field before reaching the left periphery. In this section, I also show that CLLD-ed clauses enter the derivation in the argument position, and just like DPs, they move via A-bar movement across the subject. To start with, the fact that CLLD-ed DPs undergo movement, specifically A-bar movement, across the subject is revealed by the data in (116).

(116) a.   [Ton jitona   tu   Yorghu$_j$]$_k$ pro$_{*j,\checkmark m}$ dhen ton$_k$ gnorizi kala.

           the neighbor.ACC of-the George   he   not   3.S.M.ACC knows well

           'George's neighbor, he does not know well.'

b.   [Tu jitona   tu   Jorghu$_j$]$_k$ pro$_{*j,\checkmark m}$ dhen tu$_k$ milai.

         the neighbor.DAT. of-the George   he   not   3.S.M.DAT talks

         'To George's neighbor, he does not talk.'

(116) shows two CLLD-ed DPs, a direct and an indirect object, which contain a proper name. This example also shows that the proper name cannot be co-referential with the matrix subject, which in this case is a silent pronoun. Angelopoulos and Sportiche (2018) take this fact to suggest that CLLD-ed DPs undergo A-bar movement across the subject.

The next set of data show that CLLD-ed *oti*-clauses exhibit robust Condition C effects with the subject, and pattern in this respect like DPs:[23]

(117)   a.   Omos [oti i   Maria$_q$ afise s-to   spiti to dhoro tu   Jani$_j$]$_k$ pro$_{*q/*j/y}$ dhen

         though   oti the Maria   left   at-the home the gift   of-the John   (s)he   not

         to$_k$ thimotan.

         it   remembered

         'However, that Mary left John's gift at home (s)he did not remember.'

    b.   Omos [oti i   Maria$_q$ afise s-to   spiti to dhoro tu   Jani$_j$]$_k$ pro$_{*q/*j/y}$ to$_k$

         though   oti the Maria   left   at-the home the gift   of-the John   (s)he   it

         ihe   ksehasi.

         had forgotten

         'However, that Mary left John's gift at home (s)he did not remember.'

(117) illustrates that the proper names in the CLLD-ed *oti*-clauses, that is, *i Maria* and *tu Jani*, cannot be co-referential with the matrix subject, which, as in (116), is a silent subject pro. Note that the judgments reported in (117) hold regardless of whether *omos* is present or absent. Given this, we can conclude that:

> **Consequence 1:** CLLD-ed DPs and *oti*-clauses undergo A-bar movement across the subject.

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[23]   Note that some speakers find that the Condition C effect is lessened between *i Maria* and *pro*. I argue that this is due to the distance separating *i Maria* and *pro*.

Next, I discuss data showing that DPs and CPs enter the derivation in the argument position. Let us start by considering the sentence in (118).

(118)   Dhen anakinosame   se kanenan/kathe fititi$_k$ ton vathmo stin   teleftea tu$_k$
        not   announced.1PL to any/every   student the grade   in-the last   of his
        ergasia.
        assignment
        'The grade on his last assignment, we did not announce to any/every student.'

(118) shows that a pronoun, that is, *tu*, contained in the direct object can be bound by an indirect object quantifier. Similarly, CLLD-ed DP themes are interpreted like in-situ direct objects, that is, as in (118).

(119)   [Ton vathmo stin   teleftea tu$_k$ ergasia]$_j$ dhen ton$_j$ anakinosame   se
        the grade   in-the last   of his assignment not   3.S.M.ACC. we announced to
        kanenan/kathe fititi$_k$.
        any/every   student
        'The grade on his last assignment, we did not announce to any/every student.'

This suggests that the CLLD-ed DP in (119) is interpreted under total reconstruction in the c-command domain of the indirect object, as in (118). Total reconstruction is possible in this case because there is a copy of the CLLD-ed DP in a position lower than the indirect object. I assume as in Angelopoulos and Sportiche (2018) that this is the argument position.

Next, I show that *oti*-clauses exhibit identical reconstruction properties as CLLD-ed DPs, which suggests that they, as well, enter the derivation as arguments.

(120)   a.   Omos   [oti prepei na *pro$_i$* milisi   s-tus ghonis tu$_i$ ja   tin
             though   oti should na she talk3SG. to-the parents her.GEN.CL. about the
             ekdromi]$_q$ *pro* dhen to$_q$ ichame pi   se kathe mathiti$_i$
             excursion we not   it.CL. had.1PL. said to every student
             'However, that she should talk to her parents about the excursion we had not said
             to every student.'

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b. Omos [oti i   diatrofi tu pedju tu$_i$ chriazete prosochi]$_q$ *pro* dhen to$_q$

though oti the diet   the kid.CL. her.CL.GEN. needs   attention   we not   it

ichame   pi   se kanena ghonio$_i$

had.1PL. said to any   parent

'However, that the diet of her kid needs attention we had not said to any parent.'

(120) illustrates two CLLD-ed *oti*-clauses. The *oti*-clause in (120a) contains two pronouns, *pro$_i$*, which is the subject of the clause and *tu$_i$*, which is the possessor argument of *tus ghonis*-'the parents'. (120b) contains only one pronoun, which is the possessor argument of the subject DP, *i diatrofi*-'the diet'. Moreover, the predicate in the matrix clause is negated and it takes as argument a quantifier, *kathe mathiti* in (120a) and *kanena ghonio* in (120b). These arguments function as indirect objects. Furthermore, a low scope interpretation of these quantifiers, that is, below negation is possible. Under this low scope interpretation, these quantifiers can bind the pronouns in the CLLD-ed *oti*-clauses, as shown in (120). Given this, I propose that binding is possible in this case under total reconstruction of the *oti*-clause into a syntactic position in the c-command domain of these quantifiers. I argue, like with CLLD-ed DPs, that this is the direct object argument position, where *oti*-clauses enter the derivation. Given this, we reach the following conclusion for both DPs and *oti*-clauses:

Consequence 2: CLLD-ed DPs and *oti*-clauses enter the derivation as arguments.

With this background in mind, I turn to new data in the next section revealing reconstruction differences between CLLD-ed DPs and *oti*-clauses. It is shown that in contrast to DPs, *oti*-clauses undergo obligatory reconstruction below the subject.

2.7.3   CLLD of DPs and *oti*-clauses: reconstruction differences

The fact that CLLD-ed DPs can be interpreted in the left periphery, where they surface, above the subject is discussed in Angelopoulos and Sportiche (2018) on the basis of sentences as in (121):

(121)   a.   [Ton pelati   pu   o   Jorghos$_j$ ekprosopi]$_k$, pro$_{\checkmark j, \checkmark m}$ ton$_k$ ekprosopi

            the   client.s.M.ACC that the George   represents,   he   3.S.M.ACC represents

            kala.

            well

            'The client that George represents, he represents well.'

     b.   [Tu pelati   pu   o   Yorghos$_j$ tu   eftiakse ti   vivliothiki]$_k$, pro$_{\checkmark j, \checkmark m}$

            the client.s.M.DAT that the George   3.S.M.DAT repaired the bookcase   he

            tha tu$_k$ ftiaksi to   grafio.

            will 3.S.M.DAT repair the desk

            'The client that George repaired the bookcase for yesterday, he will repair the desk

            today'

(121) illustrate two sentences with CLLD-ed relative clauses, where the head of the relative clause corresponds to the relativized argument, and the entire DP corresponds to the argument in the main clause. As the difference in morphological case shows, these two DPs, that is, *ton pelati* and *tu pelati*, have distinct functions in the clause. The first is a direct object whereas the second is an indirect object of the matrix predicate. Furthermore, there is a proper name in both relatives, *o Jorghos*. Importantly, co-reference in both examples between the proper name in the relative clause and the matrix subject i.e. *pro*, is allowed. Angelopoulos and Sportiche (2018) conclude, given this, that DPs can be interpreted in the left periphery where "Late Merge" of the relative clause can take place. By undergoing "Late Merge" in the left periphery, the relative clauses as well as the proper name in it are interpreted outside the c-command domain of the subject pronoun. In this case, the proper name is allowed to co-refer with the subject pronoun.

The next set of data show that in contrast to CLLD-ed DPs, a proper name merging in a relative clause within a CLLD -ed *oti*-clause cannot co-refer with the matrix subject. This fact is illustrated below:

(122) a. Omos [oti i   Maria ihe ksehasi   se ena sirtari tis fotoghrafies pu o Janis$_j$

though   oti the Maria has forgotten in a   drawer the photos   that the John

evgale s-to   Parisi]$_k$, pro$_{*j}$ dhen to$_k$ thimotan.

took   in-the Paris   he   not 3.S.M.ACC remembered.3SG
'However, that Maria had forgotten in a drawer the photos that John took in Paris,

he did not remember.'

b. Omos [oti i   Maria ehi ghnorisi idi   tus filus   pu o Janis$_j$ ekane

though   oti the Maria has met   already the friends that the John   made

s-to   Parisi]$_k$, pro$_{*j}$ to$_k$ ihe ksehasi.

in-the Paris   he   3.S.M.ACC had forgotten.3SG
'However, that Maria had already met the friends that John made in Paris, he had

forgotten.'

(122) shows two CLLD-ed *oti*-clauses containing a relative clause, *pu o Janis evgale s-to Parisi-*'that
John took in Paris' and *pu o Janis ekane s-to Parisi-*'that John made in Paris'. The relative clauses
contain a proper name, *o Janis*. Importantly, in contrast to what we saw with CLLD-ed DPs, (122)
shows that the proper name cannot be co-referential with the subject pro.

Given this, I take this interpretive contrast below DPs and *oti*-clauses to show that the latter
only must undergo reconstruction below the subject:

Consequence 3:CLLD-ed DPs can be interpreted in the left periphery.

Consequence 4: CLLD-ed *oti*-clauses must undergo total reconstruction below the subject.

2.7.4 Analysis

In order to account for the fact that *oti*-clause must undergo total reconstruction below the sub-
ject, I consider well-known cases in the literature, which have also been argued to involve oblig-
atory reconstruction. For instance, let us consider the two examples in (123) from Takano (1995,
12a-b) where two predicates, a VP and AP, are fronted:

(123) a. * Criticize a student that John$_i$ taught, he$_i$ said Mary did.

  b. * Proud of a student that John$_i$ taught, he$_i$ said Mary is.

As shown in (123a) and (123b), *John* is in a relative clause and cannot co-refer with the matrix sub-ject, *he*. This is standardly taken to show that the predicates must reconstruct, this fact suggests the fronted VP undergoes obligatory reconstruction to a position below *he*. The relative clause is also interpreted along with the fronted predicate below *he* in which case the proper name, *John*, is in the c-command domain of the pronoun. Being in the c-command domain of the pronoun, co-reference between *he* and *John* in (123a) and (123b) is blocked due to Condition C. In Takano (1995) (see also Huang 1993, Heycock 1995 and Sportiche 2005, 2016), this fact is accounted for assuming that the fronted XPs in (123) contain a subject trace, as shown in (124).

(124) a. * [t$_j$ criticize a student that John$_i$ taught], he$_i$ said Mary$_j$ did.

  b. * [t$_j$ proud of a student that John$_i$ taught], he$_i$ said Mary$_j$ is.

Under this view, fronted predicates must undergo total reconstruction in order to satisfy the *Proper Binding Condition.* This condition states that traces must be bound at LF (cf. May 1977). In (124), this means that the fronted constituents must undergo total reconstruction below *Mary* so that binding of the trace, t$_j$, is satisfied at LF. In light of this, I propose that CLLD-ed *oti*-clauses as well are subject to the *Proper Binding Condition* because like the VP and AP in (124), *oti*-clauses contain a subject trace. Concretely, following the proposal in the previous chapter, I assume that this subject is the VP that the complementizer forming *oti*-clauses takes as subject (see derivation below repeated from previously).

(125)
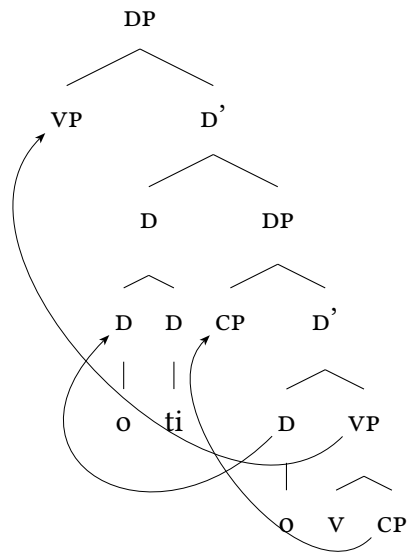
Here, the VP does not stay in Spec VP. It must undergo movement in which case it re-projects (via left adjunction). The VP might move in this case in order to go closer to T (Greek is a V-to-T language). Or, otherwise, the VP must move, because if it did not, merger of T, which selects VP would be blocked.[24]

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[24] In Sportiche (2017a), the movement step the VP undergoes into the middle field resembles a relativization, that is, the syntactic counterpart of a semantic operation shifting the type of a constituent (the DP in 126) to one of its subconstituents (that is the VP in 126).

(126)
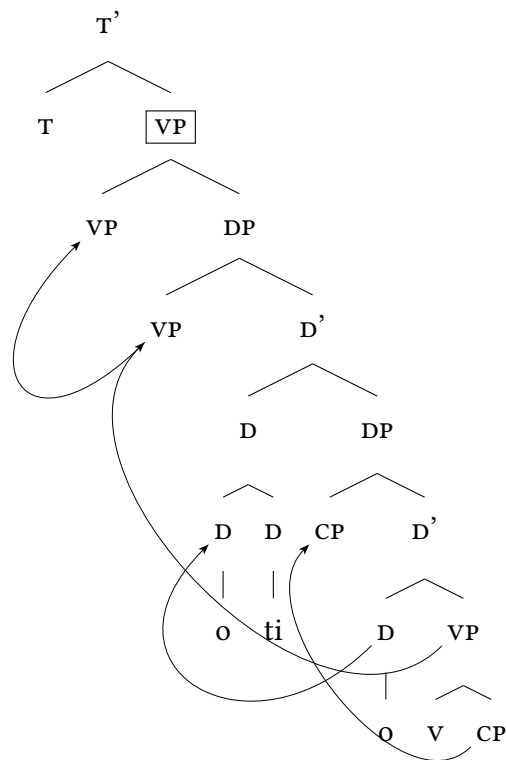
With this in mind, let us now turn our attention to CLLD, and the two empirical findings repeated from below.

Consequence 3: CLLD-ed DPs can be interpreted in the left periphery.

Consequence 4: CLLD-ed *oti*-clauses must undergo total reconstruction below the subject.

In CLLD, the *oti*-clause undergoes movement across Spec TP into a TopicP in the left periphery:

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(127)

TopicP
 DP   Topic'
        Topic   TP
                pro   T'
                      T   [VP]
                          VP   DP
                              VP   D'
                                   D   DP
                                  D D CP   D'
                                  o ti   D VP
                                           o V CP
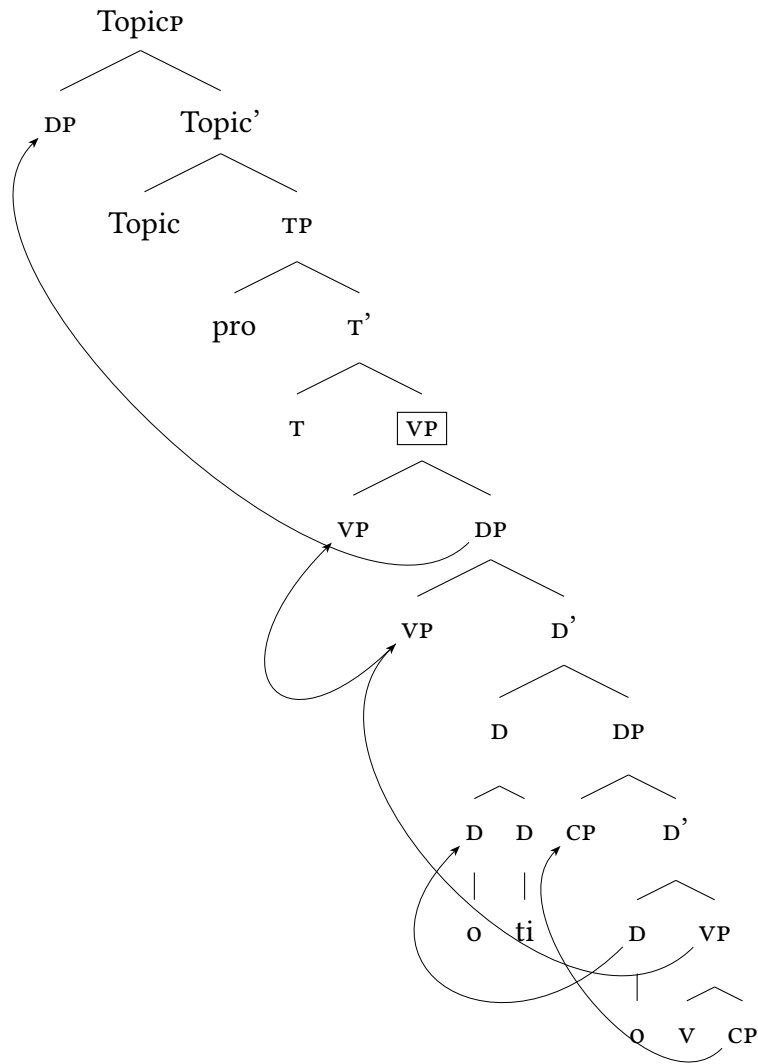
Silent subject pronouns, that is, *pro*, are interpreted in Spec TP (cf. Angelopoulos and Sportiche 2018), hence, A-bar movement of the *oti*-clause past Spec TP triggers Condition C, as we have seen before (cf. 117). Most crucially, note also that due to VP movement in the middle field, the copy of the DP/*oti*-clause in TopicP comprises a VP trace. Given this, the CLLD-ed DP/*oti*-clause must undergo total reconstruction below VP in (127) in order to avoid an unbound VP trace (*Proper Binding Condition*). As a result of this, the reconstructed DP/*oti*-clause is interpreted in the c-command domain of *pro* in Spec TP (cf. **Consequence 4**). On the other hand, CLLD-ed DPs do not contain any trace, hence, they can be interpreted in the left periphery (cf. **Consequence 3**).

2.8   The semantic approach to extraposition

In a number of recent works, the fact that clauses do not have the distribution of canonical complements like DPs, has been accounted for by semantic mechanisms. Let us refer to this analysis as the CP predicate analysis. Under this view, CPs are predicates (cf. Kratzer 2006 i.a.), and they must extrapose due to semantic considerations having to do with their semantic content of clauses as well as rules of semantic composition (cf. Moulton 2009, 2015). This analysis is developed in Moulton (2019), who proposes that CPs may come into two types depending on the way they are semantically composed with the matrix verb. In particular, Moulton argues that CPs can function as saturating and non-saturating CPs. Furthermore, he argues that saturating and non-saturating CPs exhibit distinct clusters of properties, as shown in the Table below from Moulton (2019):[25]

	Non-saturating CPs	Saturating CPs
Can modify nouns	✓	✗
Must extrapose	✓	✗

Table 2.3: Typology of CPs.

With this background in mind, I examine the predictions of Table 2.3 using as evidence new facts from the distribution of Greek *oti-/pu*-clauses. Concretely, as summarized in the Table below, I show that *pu*-clauses cannot modify nouns, still, they must be extraposed, as we saw in Section 2.5.

	Oti-CPs	*Pu*-CPs
Can modify nouns	✓	✗
Must extrapose	✓	✓

Table 2.4: Typology of finite CPs in Greek.

---

[25]   Moulton (2019) also discusses an additional property on the basis of which saturating CPs are distinct from the non-saturating ones. According to this property, saturating CPs are transparent for hyper-raising for A-movement. This is so because they stay in-situ. On the other hand, non-saturating CPs block hyper-raising. This is so because these clauses undergo an A-movement step blocking subsequent A-movement out of them.

This new state of affairs suggests that extraposition in clauses must be dissociated from the semantic property that Moulton (2015) links to noun modification. In fact, I argue in what follows that extraposition must be completely dissociated from the semantic properties of embedded clauses. This is based on new arguments I present in addition to those in Table 2.4, which show that CPs are not predicates in the first place (*contra* Kratzer 2006, Moulton 2009, 2015, 2019 i.a.). In light of this, I conclude that the alternative I proposed in the previous sections according to which clauses with an initial complementizer cross-linguistically undergo extraposition due to a universal syntactic mechanism that underlies PP formation as well (see Chapter 3) is analytically stronger.

2.8.1 The details of the semantic approach

In this section, I discuss more details of the CP predicate analysis. As discussed already, the main claim in this approach is that clauses are predicates. This claim is argued to find support in the behavior of clauses in N+CP constructions. In these constructions, clauses can be combined with nouns as shown in (128), however, in contrast to DPs, which when serve as arguments of nouns, *of* insertion is obligatory, (128a), clauses are merged bare, (128b).

(128)   a.   The destruction *(of) the city.

        b.   The idea (*of) that Bill will quit.

In addition, in contrast to DPs, clauses can be combined with non-argument-taking nouns. For instance, *claim* or *belief* do not take DP arguments, as illustrated in (129b) and (130b), still, they can combine with English *that* clauses (cf. 129c and 130c).

(129)   a.   He claimed that.

        b.   * His claim of that.

        c.   The claim that John left.

(130)   a.   He believed the story.

        b.   * His belief of the story.

c. The belief that the Earth is flat.

In addition, as Moulton (2019) notes (see also references therein), CP 'complements' of nouns behave like modifiers in obviating Condition C, unlike arguments. Thus, *of John's face* in (131a) is an argument of *depiction*, and gives rise to Condition C with the subject pronoun *he*. On the other hand, (131b) and (131c) show that modifiers like adjunct PPs and relative clauses bleed Condition C.

(131) a. * Which depiction [of John$_1$'s face] does he$_1$ hate most?

b. Which book [from John$_1$'s library] did he$_1$ read?

c. Which book [that John$_1$ hated most] did he$_1$ read? Moulton (2019, 6a-c)

Interestingly, the following two examples show that in N+CP construction, the CP is interpreted as a modifier, that is, as a relative clause or adjunct PP above, hence, it bleeds Condition C (see Moulton 2009 and references therein):

(132) a. The fact that [John$_1$ has been arrested] he$_1$ generally fails to mention.

b. Whose allegation [that John$_1$ was less than truthful] did he$_1$ refute vehemently?

These facts lead Moulton (2009) to conclude that CPs are predicates. Concretely, he argues that CPs describe sets of individuals with content, as illustrated below:

(133) ⟦ **that John is a liar** ⟧= $\lambda x_c \lambda w[\text{CONT}(x_c)(w) = \lambda w'$. John is a liar in w']

CONT is a function, which is defined as follows after Kratzer (2013):

(134) $\text{CONT}(x_c)(w) = \{w': w'$ is compatible with the intentional content determined by x_c in w$\}$

In addition, it is assumed that nouns like *rumor, idea, story* describe individuals with propositional content, like clauses, hence, in N+CP constructions of the *the claim that ...* type, the noun and the clause are assumed to be combined via Predicate modification, as illustrated below:

(135)   NP:$\{x_c: x_c$ is an idea $\&$ the content of x_c is that he is sad$\}$

NP:$\{x_c: x_c$ is an idea$\}$ CP:$\{x_c:$ **the content of** x_c is that he is sad$\}$

idea   that he is sad

Importantly, Moulton (2015) extends the idea that clauses are predicates to account for the fact that embedded clauses must undergo extraposition (cf. Stowell 1981, Kayne 2005 i.a.). Concretely, he first assumes that clause-taking verbs select for terms of type *e* (individuals with propositional content). Given this, clauses, which under the view he defends are predicates denoting properties of individuals with propositional content, cannot be combined directly with clauses as a result of the type mismatch shown below (cf. Moulton 2015, 49).

(136)   VP: type clash!

v:$<$e$<$l,st$>>$ CP:$<$e,st$>>$

$\lambda x_c \lambda e \lambda w.$explain$(x_c)(e)(w).$v $\lambda x_c \lambda w.$CONT$(x_c)(w)=$that Fred left

that Fred left
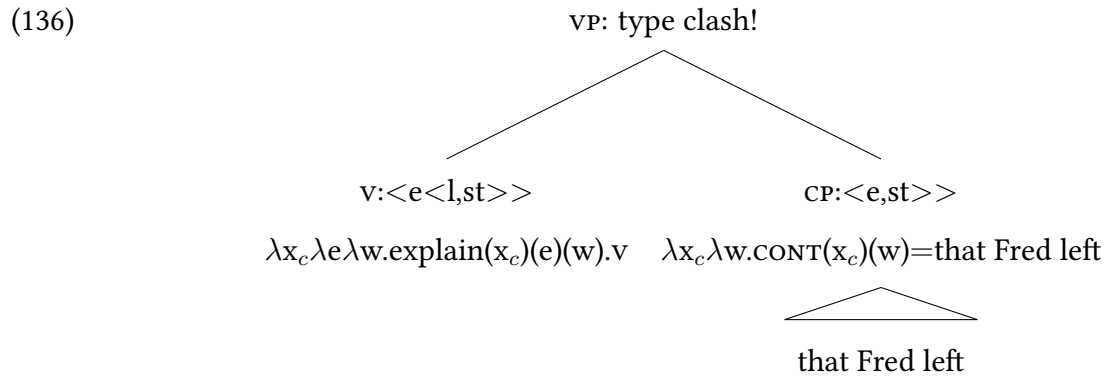
Moulton argues that this type is mismatch is resolved via leftward movement of the CP higher than AspP and remnant movement of AspP:

(137)

that Fred left
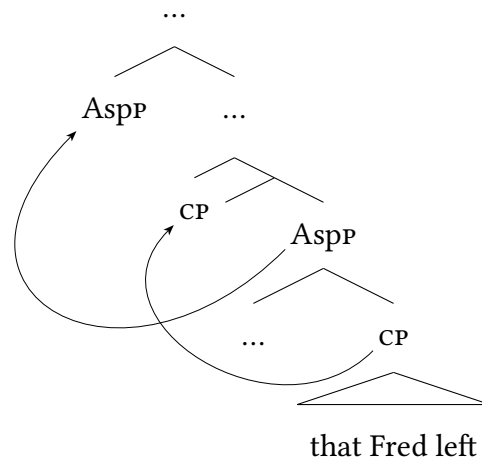
Concretely, by undergoing leftward movement, the lower trace undergoes a process that he calls *Category-Neutral Trace Conversion.* This process is similar to Fox's (2002) *Trace Conversion*, which applies to copies, and turns them into trace-converted phrases of type *e.* In (136), *Category-Neutral Trace Conversion* applies to the low copy of the CP, and turns it into a trace of type *e.* The type mismatch is avoided as a result of this, because, the verb, which selects an individual can be semantically composed with the clause. Now, with this as background, Moulton (2019) extends this analysis to account for the distribution as well as other interpretive and syntactic properties of clauses in languages with hybrid systems. One such language is Bangla, where, as discussed already, embedded clauses can be introduced with two elements, *je* and *bole.* Interestingly, it has been observed that *je-* and *bole-*clauses exhibit distinct ordering properties with respect to the verb. For instance, as shown in the pair below, clauses introduced with *je* are obligatorily extraposed:

(138)   a.   chele-Ta Suneche [je or baba aS-be].

           boy-CF   heard   c his father come-will

           'The boy heard that his father will come.'

      b.   * chele-Ta [je or baba aS-be]   Suneche.

           boy-CF   c his father come-will heard

           'The boy heard that his father will come.'   Bayer (1995, (22))

On the other hand, citing data from Bayer (1995), Moulton (2019) notes that *bole-*clauses are not

extraposed, and can, hence, surface before the verb, where DP complements canonically surface:[26]

(139) a.   chele-Ta [or baba aS-be   bole] Suneche.

           boy-CF   his father come-will C   heard

           'The boy heard that his father will come.'

     b.   * chele-Ta Suneche [or baba   aS-be   bole].

           boy-CF   heard   is father come-will C

           'The boy heard that his father will come.'   Bayer (1995, (21))

Moreover, Moulton (2019) discusses that *je-* differ from *bole*-clauses in regard to noun modification. Concretely, he argues that *je*-clauses can combine with nouns whereas *bole*-clauses cannot, as illustrated below:

(140) a.   * Se e   Kotha-Ta [Ram kal   mara gEche bole] janto.

           s/he this talk-CLA   Ram yesterday die   gone bole knew

           'She knew this talk/story/ news that Ram had died yesterday.'

     b.   Se e   Kotha-Ta [je Ram kal   mara gEche] janto.

           s/he this talk-CLA   je Ram yesterday die   gone   knew

           'She knew this talk/story/ news that Ram had died yesterday.' Moulton (2019, (49))

According to Moulton (2019), the fact that *je*-clauses can combine with nouns suggests that they describe sets of individuals with propositional content. Nouns also describe sets of individuals with content, hence, the two can be semantically composed together via Predicate Modification, like it is assumed for English *that*-clauses in N+CP constructions (cf. 135). On the other hand, Moulton proposes that *bole*-clauses denote properties of eventualities, that is, <v,t>. Given this, the claim is that *bole*-clauses cannot combine with nouns, which are of type <e<st>> due to type mismatch.

---

[26]   Recall that there are grammatical sentences reported in the literature where *bole*-clauses can surface in the extraposed position.

(141)

NP: type clash!

NP:<e<st>> CP:<vt>

... *bole*
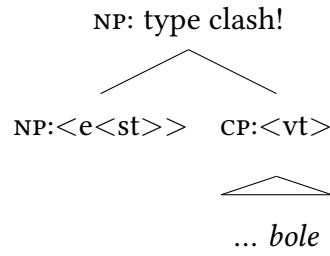
Furthermore, he assumes that these clauses stay in-situ, that is, they do not extrapose, because they can be directly composed with verbs via Predicate Modification, as shown below:

(142)

VP:<vt>

CP:<vt> v:<vt>

... *bole* *believe/claim*
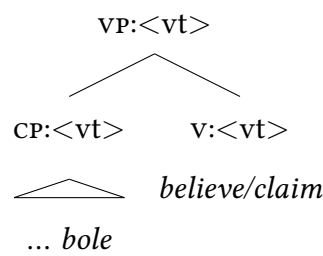
Note that in this case verbs are a simple eventuality description, that is, <vt>.

To summarize, the alternative semantic analysis links the distributional properties of clausal embeddings to their semantic content. Before we proceed with more detailed discussion of this analysis, note that some of the Bangla data reported in Moulton (2019), which are assumed to show that there is a possible link between the interpretive properties of clauses and extraposition need to be further looked into in future research. For instance, in contrast to the data cited by Moulton (2019), there are grammatical sentences in the literature, like the one below, in which *bole*-clauses can occur in N+CP constructions.

(143)   [$_{NP}$ [$_S$ gutu bilaat   jiba   BOLI] [$_{NP}$ khabar]] mun paaichi

         Gutu England will-go BOLI   news   I   have-got

         'I have received the news that Gutu will go to England.'   Bal (1990, 6(6))

Setting that aside, I proceed with new data from Greek and French in the next section, which, show that, in fact, there is no link between noun modification and extraposition. In this section, I also consider possible confounds in the arguments given in Kratzer (2006) and Moulton (2009, 2015) in support of the assumption that CPs are predicates.

2.8.2 Discussion

I start this section by discussing the Condition C data, repeated below from previously:

(144)   a.   The fact that [John$_1$ has been arrested] he$_1$ generally fails to mention.

          b.   Whose allegation [that Lee$_1$ was less than truthful] did he$_1$ refute vehemently?
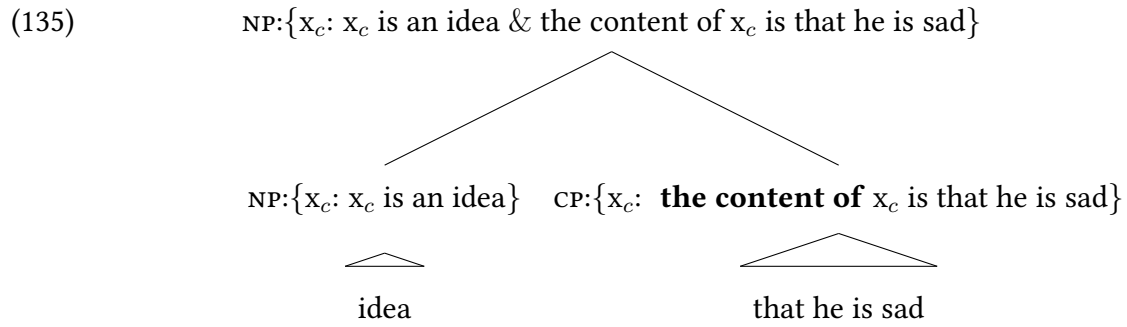
In Moulton (2013), the fact that CPs in N+CP constructions can bleed Condition C like modifiers was taken to suggest that the CPs themselves are modifiers. Importantly, let me note that the Condition C facts above can be accounted for if the CP is not a modifier itself, but, instead, is contained in a modifier. Concretely, one could make sense of this, if there is a hidden relative clause in N+CP constructions, and, crucially, the CP is contained in the relative clause. The relative clause and its sub-parts can undergo Late Merge in Moulton's terms, hence, Condition C can be bled.[27] Similarly, one could think that the CP in (145c) is externally merged in the underlying syntactic structure as an argument without necessarily being an argument of the noun.

(145)   a.   He claimed that.

          b.   * His claim of that.

---

[27]   It is also interesting that Greek N+CP do not behave like modifiers in terms of Condition C in Clitic Left Dislocation. Clitic Left Dislocation of a plain DP bleeds Condition C with the subject:

(1)   [To vivlio [pu aghorase cthes   o Janis$_i$]]$_k$ pro$_i$ to$_k$ iche agorasi ksana ke perisi.
        the book   that bought yesterday the John   he it.CL had bought again and last year
        'The book that John bought yesterday, he had bought it again last year as well.'

Thus, the proper name in the relative clause can co-refer with the subject of the verb. On the other hand,

(2)   [* Tin psedi fimi   oti aghorase aftokinito o   Adreas]]$_i$ pro$_i$ den tin$_k$ diepsefse amesos.
        the false rumor oti bought   car   the Adreas   he not it.CL falsified immediately
        'The false rumor that Adreas bought a car he did not falsify immediately.'

Here, it is shown that in contrast to DPs in relative clauses, the proper name in the N+CP construction triggers a very clear Condition C effect with the subject pronoun.

      c.   The claim that John left.

This view of course presupposes that N+CP constructions have derivational depth, which must also be the case if there is a hidden relative clause in these constructions. In other words, the derivation under this view cannot be as simple as the one assumed in Moulton (2015) where the noun and the CP are merged directly. In fact, I argue that the view that the CP is a predicate, and that it is merged directly with the noun runs into a few problems, which can be accounted for in alternative analyses where there is a hidden relative in the underlying structure and the CP is merged as an argument as in Krapova and Cinque (2015). In this work, the basic claim is that CPs can saturate, that is, they can be merged as arguments. In particular, Krapova and Cinque assume that N+CP constructions are built on an underlying inverse predicate relation in which the DP is the predicate and the subject is the CP (*contra* Potts 2002). Concretely, as Krapova and Cinque 2015 argue, that in N+CP constructions '[...] a predicate inversion has taken place, with the DP predicate inverted around the subject (the CP), becomes evident if we apply one of Moro's diagnostics for detecting inverse predications; namely the non omissibility of the copula if the predication is embedded in a "small clause" under a verb like *consider*. In fact, as also Den Dikken (2006, 244) notes, the copula between the N and its clausal "complement" cannot be omitted in such a context (146a) just as it cannot in the same context in ordinary inverse predications like (146b):

(146)   a.   I consider the claim *(to be) that Fred didn't report his income.

         b.   We consider the best candidate *(to be) Brian.'   Den Dikken (2006, 244(153b))

Given this, they conclude that in (146a), the *that*-clause is the subject and the noun is the predicate as *the best candidate* is the predicate and *Brian* the subject in (146b). In addition, Krapova and Cinque add that 'The pattern in (146) should be compared with that in (147) where *be* is omissible in the same context, diagnosing the presence of a canonical predication:[28]

(147)   a.   ? I consider that aliens are watching on us (to be) Fred's claim.

---

[28]   See Krapova and Cinque (2015, fn.20) for more discussion on how the examples in Potts (2002) can be handled.

b. We consider Brian (to be) the best candidate.'

They also discuss new data from Italian which like in English can diagnose the presence of canonical predication (cf. Krapova and Cinque 2015, fn.20):

(148) a. Considero   che Gianni sia partito il   suo problema principale.
           consider.1SG that Gianni left   the his problem   main

b. * Considero   il   suo problema principale che Gianni sia partito.
           consider.1SG the his problem   main   that Gianni left

In both cases in (148a) and (148b), the clause behaves as the argument of the noun in which case it can precede, that is the noun, and the copula can be omitted. In light of these new data, Krapova and Cinque (2015) propose the syntactic derivation below:

(149)
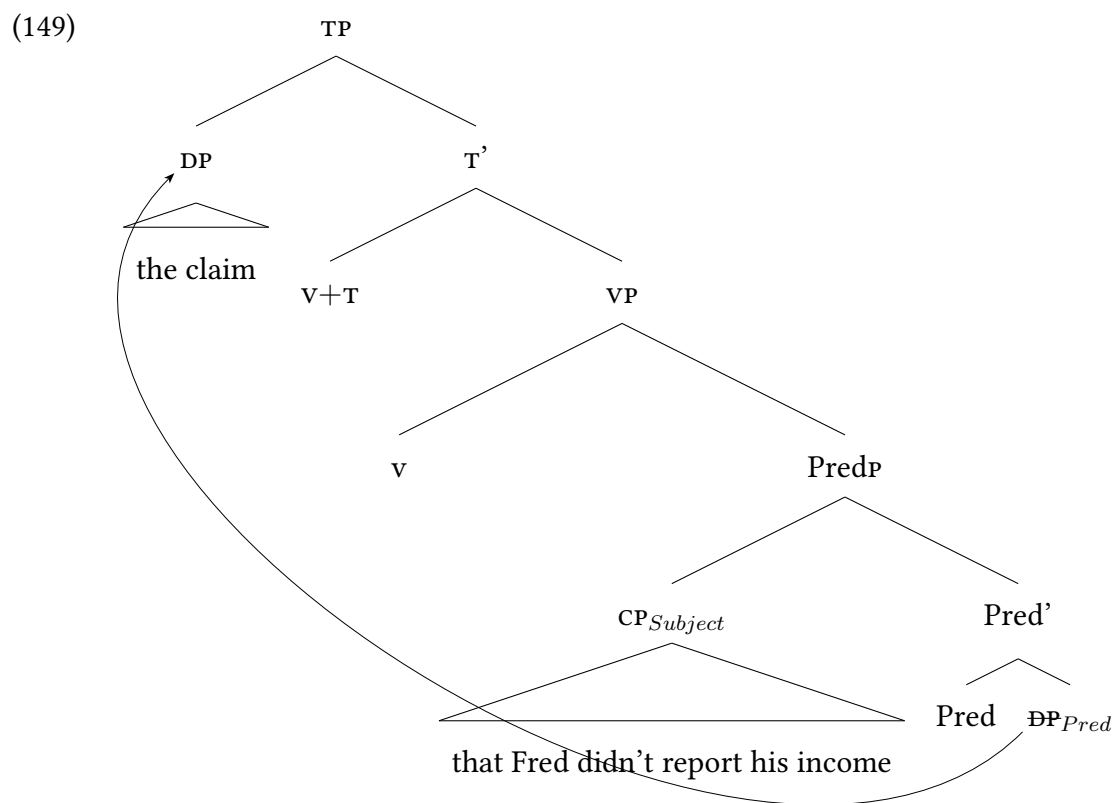
The syntactic structure in (149) corresponds to sentences such as *The claim is that Fred didn't report his income.* Note that the clause enters the derivation as a subject, and the DP, the predicate, undergoes predicate inversion to Spec TP. Importantly, Krapova and Cinque (2005) also propose

that the DP undergoes one relativization step from Spec TP. In the last step of the derivation, relative clause formation reduction takes place:

(150) a.   [the claim]$_i$ which t$_i$ is [that Fred didn't report his income]=relativization of the external head

       b.   [the claim]$_i$ ~~which is~~ [that Fred didn't report his income]=relative clause reduction

In this case the CP is inside the relative clause, hence, it can undergo Late Merge (or its effects) bleeding Condition C, as expected. Below, I present a structure, which is consistent with the proposal in Krapova and Cinque (2015) and the assumption that Cs are merged separately from their surface complement.

(151)
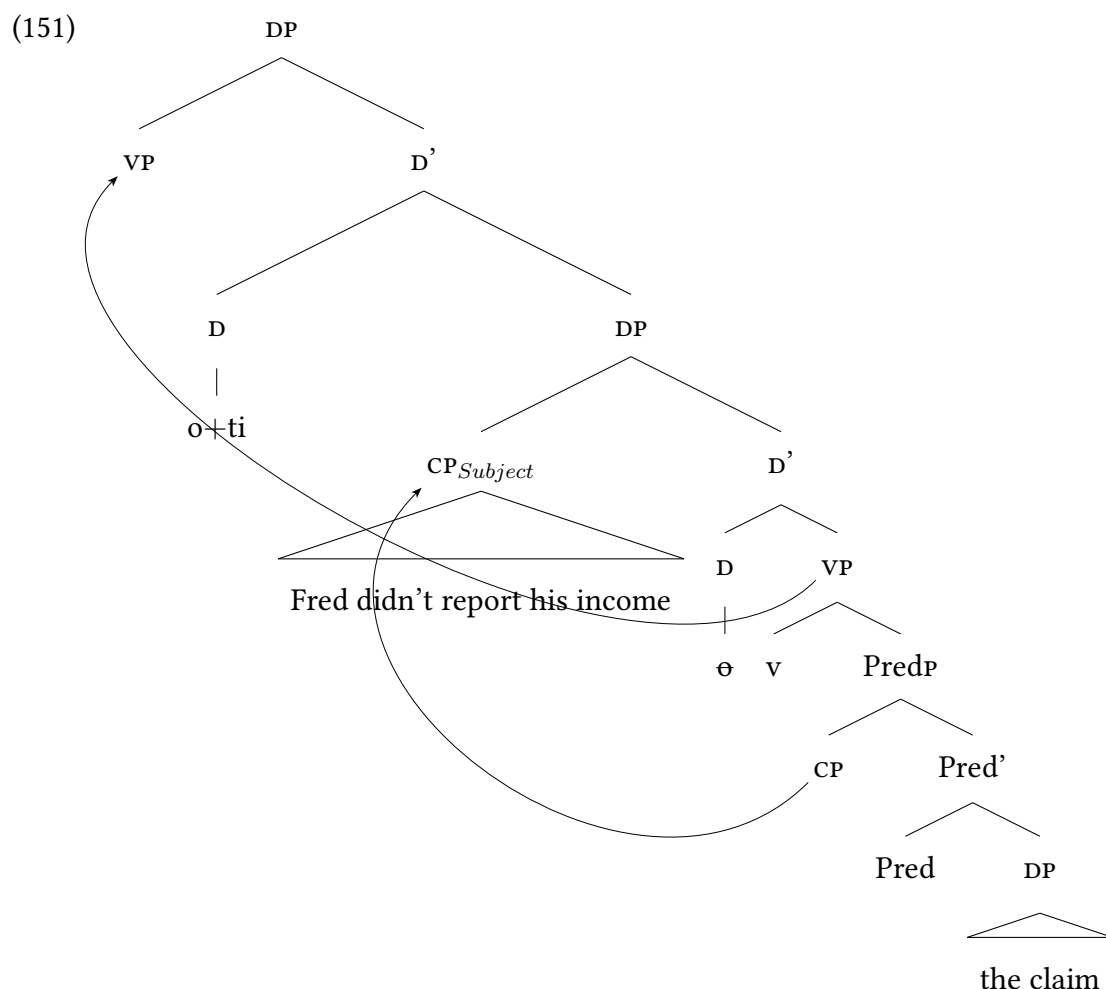
In the structure above, *oti* is merged above the hidden VP that is included in N+CP constructions. Subsequent movement steps give rise to the surface order, *the fact that* .... Note also that if the NP

e.g. *claim*, is silent above, the resulting structure gives rise to *to oti*, which looks like a nominalized clause. As expected, *to oti*-constituents have the distribution of plain DPs. That is, like DPs,

- *To oti* constituents do not give rise to the ASP-CCOMP effect. This is shown below with a Class II psych predicate:

  (152) Dhiskola   tin   enohli   to oti dhen pire   proaghoghi.
         with difficulty 3SG.ACC.F annoys.3SG the oti not   get.3SG promotion
         'The fact that she did not get promotion annoys her with difficulty.'

- *To oti* constituents do not have to undergo "extraposition" in small clauses:

  (153) Theoro   to   oti edhioksan ton Jorgho ligho ipervoliko.
         consider.1SG the oti fired.3PL   the Georg a bit too much
         'It was too much that they fired George.'

- As Roussou (1991) points out, *to oti* ... can be used as subjects:

  (154) To oti ehis   filus   dihni   pola.
         the that have.2SG friends show.3SG a   lot
         'That you have friends means a lot.'

- *To oti* constituents can surface after PS (cf. Roussou 2018):

  (155) Anisihi   me to oti dhen epestrepse   noris.
         worry.3SG with the oti not   came back.3SG early
         'She worried with the fact that she did not come back early.'

Setting aside *to oti* XPS aside for future research, I discuss next the behavior of *oti-/pu*-clauses in regard to extrapositions . We saw that these clauses we shown already to undergo obligatory extraposition (see Sections 2.6.1.2). Nonetheless, if extraposition in clauses is linked to a semantic property, that is, <e,st>, as proposed by Moulton (2015, 2019), then, both *oti-* and *pu*-clauses must be able to combine with content nouns (see also the Table below repeated from previously).

	Non-saturating CPS	Saturating CPS
Can modify nouns	✓	✗
Must extrapose	✓	✗

Table 2.5: Typology of CPS.

Interestingly, I show below that whereas *oti*-clauses can productively be used in N+CP construc-
tions with content nouns, *pu* are strictly ruled out in this case.[29]

(156) a. I   fimi   oti i   Eleana ine arosti.
           the rumor oti the Eleana is   sick
           'The rumor that Eleana is sick.'

       b. I   idhisi/ ta nea/ i   pisti oti ...
           the notice/ the news/ the belief oti ...
           'The notice/ news belied that ...'

(157) a. *I   fimi   pu i   Eleana ine arosti.
           the rumor pu the Eleana is   sick
           'The rumor that Eleana is sick.'

       b. *I   idhisi/ ta nea/ i   pisti pu ...
           the notice/ the news/ the belief pu ...
           'The notice/ news belied that ...'

These facts suggest that extraposition is not linked to any semantic property of the embedded
clauses, as proposed in Moulton (2015, 2019), and thus, the alternative view I presented here in
which extraposition must take place in order to satisfy the selectional requirements of CS fares
better with the cross-linguistic facts.

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[29] The reason why *pu*-clauses are not possible with content nouns is unclear to me at this point. Note, however,
      that *pu*-clauses are factive whereas *oti* are not. Given this, it is possible that content nouns cannot establish a
      dependency with a factive clause for reasons that must be explored in future research.

2.9 Conclusion

In the previous sections, I showed that the cs *pu* and *oti* of Greek are sensitive to the aksionsart/ inner aspect of the matrix verb. In view of this new empirical observation, I proposed an analysis according cs are merged in the matrix clause and select the matrix verb instead of being selected by it. In addition, this analysis contends that cs attract their surface complement rather than merge directly with it. This analysis captures the empirical observation that cs are sensitive to the inner aspect of the matrix predicate and, as we saw, it can also be extended to account the distributional properties of embedded clauses in different languages in a uniform way. With this as background, I set off to examine distributional and interpretive properties of pps in the next chapter. It is shown that ps as well are sensitive to properties of the verb they combine with. In addition, this chapter shows that the surface complement of p is interpreted as a bare dp. These two properties of ps are reconciled under a uniform analysis in which ps as cs are merged on the spine separately from their surface complement.

CHAPTER 3

Prepositions

3.1 Introduction

This chapter presents three new claims for PPs in Greek. The first claim is that just like Cs, Ps are merged on the spine, separately from their surface complement, as has also been proposed for functional Ps of Italian, French and English in Kayne (2000, 2005). The second claim is that, as with Cs, Ps have selectional requirements that they must satisfy under sisterhood e.g. via attraction of the XP they select into their specifier or via direct merge with this XP. The last claim is that the surface DP complements of Ps are externally merged in hierarchically organized thematic positions. Each of these syntactic positions introduce bare DP arguments with distinct theta roles, as shown in the simplified structure below for DPs in locative, agent and benefactive PPs of English introduced with *from, by* and *for* respectively.

(1)

$$
\begin{array}{l}
\text{[PP} \\
\quad \text{[P from]} \\
\quad \text{[... DP}_{Locative} \\
\qquad \text{[... ...} \\
\qquad \text{[PP} \\
\qquad\quad \text{[P by]} \\
\qquad\quad \text{[... ...} \\
\qquad\qquad \text{[vP DP}_{Agent} \\
\qquad\qquad \text{[v' [v] [... ...} \\
\qquad\qquad\qquad \text{[PP [P for] [... ...} \\
\qquad\qquad\qquad\quad \text{[ApplP DP}_{Benef.} \\
\qquad\qquad\qquad\quad \text{[Appl' [Appl] [VP]]]]]]]]]]]}
\end{array}
$$
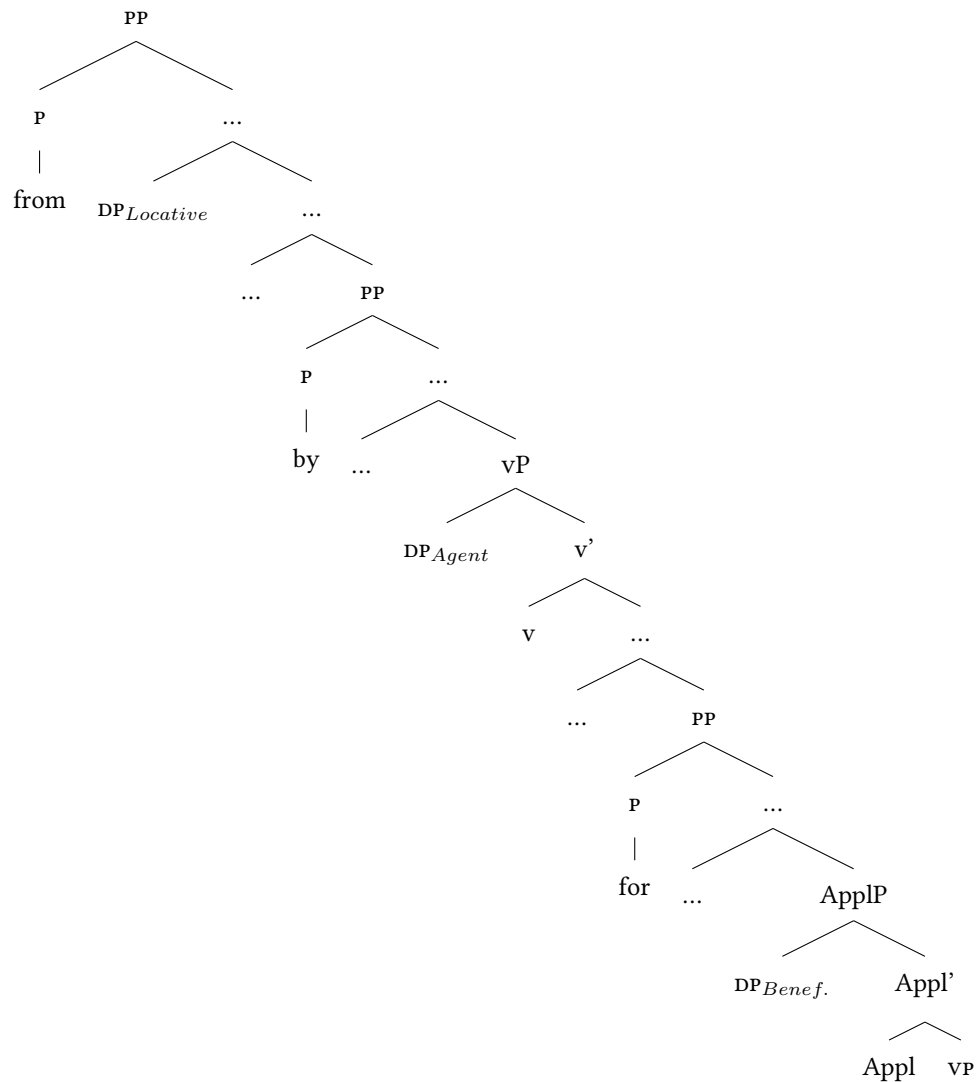
(1) finds support in new data I present here testing referential dependencies. These data show that a pronoun hosted in e.g. an agent or locative PP, uniformly triggers Condition C with a referential expression hosted in a benefactive PP. Under the proposed analysis, this is entirely predicted because the benefactive is c-commanded by the DP complements of agent and locative PS, which are externally merged in specifiers higher than the benefactive. Importantly, these data also show that in contrast to Condition C, the surface DP complements of PS exhibit non-uniform behavior with respect to reflexive binding. For instance, it is shown that only the surface DP complement of agent PPS can bind a benefactive reflexive. On the other hand, the DP in locative PPS cannot. This fact is accounted for in a straightforward manner under the proposed analysis by virtue of the fact that the surface DP complements of PS are externally merged at distinct

syntactic heights. In particular, as shown by the Condition c facts, the surface DP complement of locative PPs c-commands the surface complement of benefactive PPs, however, I assume that the first cannot bind the latter because it is externally merged outside the vP, which is the binding domain of the benefactive reflexive. Lastly, the assumption that PS have selectional properties is evidence by the behavior of an array of PS, which, as I discuss, can only surface in certain syntactic contexts, that is, only with certain vP shells. Under the proposed analysis, this fact makes sense under the assumption that PS have selectional properties, and that they select the vP shells in question.

The discussion in this chapter proceeds as follows. First, I present Kayne (2005) and Cinque (2006), which on the basis of various cross-linguistic interpretive and distributional facts defend the idea that PS merge on the spine separately from their surface DP complement and that they merge so in a hierarchical manner. The discussion that follows offers background information on the Greek reflexive *o eaftos mu*-'the self mine'. Section 3.3 presents the binding data from Angelopoulos, Collins and Terzi (2018) showing that the surface DP complements of various PS exhibit non-uniform behavior with respect to reflexive binding. These data receive an analysis in Section 3.4. This Section also presents additional data in support of the analysis proposed in the previous section using evidence from Condition c. Section 3.5 shows selectional restrictions that different PS are subject to in the syntactic contexts. This section shows that these facts make sense under the assumption that PS have selectional properties. The last Section concludes.

3.2 Prepositions as Probes

3.2.1 French à

Kayne's (2005) analysis of prepositions as probes is motivated on the basis of distributional properties of subjects preceded by *à* in French causative *faire*-constructions. The conundrum that is posed by the distribution of these subjects is illustrated in the following examples:

(2) a. * Jean a   fait   Paul manger (la tarte).

        Jean has made Paul eat.INF the pie

        'Jean made Paul eat (the pie).'

    b.   Jean a   fait   manger Paul.

        Jean has made eat.INF Paul

        'Jean has made Paul eat.'

    c. * Jean a   fait   manger Paul la tarte.

        Jean has made eat.INF Paul the pie

        'Jean has made Paul eat the pie.'

    d. * Jean a   fait   manger la tarte Paul.

        Jean has made eat.INF the pie   Paul

        'Jean has made Paul eat the pie.'

    e.   Jean a   fait   manger la tarte à Paul.

        Jean has made eat.INF the pie   to Paul

        'Jean has made Paul eat the pie.'   Kayne (2005, 86-85, (1-5))

The paradigm in (2) shows the essential ingredients in the formation of French causative construc-tions. In particular, it is shown that these constructions comprise a matrix predicate, *fait*–'made'. This predicate selects an infinitive, which can have a subject and an object. A crucial fact in these constructions is that the distribution of subjects in the infinitive is not the one of typical subjects. For instance, unlike the usual position of subjects e.g. in finite clauses, subjects have to follow the infinitive, as shown in (2a-2b). Moreover, if the infinitive takes an object, as in (2d), e.g. *la tarte*– 'the pie', subjects must be preceded by the preposition, *à*, as illustrated by the contrast between (2d) and (2e). Focusing on this pattern, Kayne (2005) proposes that *à* merges on the spine as a probe attracting rather than merging directly with its surface complement. His analysis is based on the division of labor proposed in Chomsky (2004) between internal and external merge. Con-cretely, Chomsky (2004) argues that external merge takes place only in theta-positions. Internal merge is assumed to cover everything else. Based on this division of labor, Kayne (2005) argues that 'the French dative *à* preceding the embedded subject in causative constructions does not

'get together with' that subject via external Merge but, rather via internal Merge (movement).'
In other words, Kayne argues that *à* and the DP following it cannot merge together because the
two do not stand in a theta relation. Instead, he proposes that the DP after *à* i.e. the subject of
the infinitive, occupies a case position to which it has been attracted like in Exceptional Case
Marking (ECM) with raising. The subject is attracted to this position by *à*, which acting as a probe,
functions like T, which attracts DP subjects to its specifier.

Before proceeding with the analysis, Kayne (2005, 87-88) establishes basic properties of *à* and
more general syntactic properties of the causative construction itself. First, he shows that PPs
formed with *à* are true PPs and that *à* in particular, behaves like any other P e.g. with respect to
extraction out of an adjunct, ordering restrictions with respect to the subject, subextraction of
en or *combien* or topicalization. For instance, he observes that contrary to direct objects, *à*-PPs
behave like other cases of PPs blocking subextraction of *en* or *combien.* The facts that relate to
subextraction of *en* are illustrated below:[1]

(3)   a.   Le capitaine en   a   fait   ramper   trois dans la boue.
           the captain   of-them has made crawl.INF three in   the mud
           'The captain has made three of them crawl in the mud.'

      b. * Le capitaine en   a   fait   manger de   la   boue à trois.
           the captain   of-them has made eat.INF of-the mud all   to three
           'The captain made three of them eat the mud.'   Kayne (2005, (14-15))

In (3a), the infinitive takes a subject, *trois*, of which *en*-cliticization is allowed. On the other hand,
(3b) shows that *en*-cliticization is 'blocked by *à* as it would be blocked by any other preposition.'
The next conclusion Kayne (2005, 89-90) draws about the causative constructions formed with
faire is that they are not object control. He shows this using a number of different diagnostics like
clitic climbing, order of the controller with respect to the infinitive, presence of complementizer.
Clitic climbing is illustrated below.

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[1]   The idea that *à* is challenged by findings in Angelopoulos and Sportiche (2018) showing that unlike PPs, *à* -PP
      constituents can A-move. Given this, this work concludes that *à* is a case marker.

(4) a. *Jean les veut manger.

Jean them wants eat.INF

'Jean wants to eat them.'

b. Jean les a fait manger à Paul.

Jean them has made eat   to Paul

'Jean has made Paul eat them.' Kayne (2005, (31-32))

(4a) is a subject control configuration, and it is shown that the object of *manger*–'eat', that is, *les*–'them', cannot undergo clitic climbing to the matrix predicate. On the other hand, the object of *manger* in (4b), which features a causative construction is allowed to undergo clitic climbing. Based on this fact, Kayne concludes that the causative construction is not a control construction.

In order to motivate his analysis of *à* as a probe, Kayne (2005) discusses two crucial facts, which at first sight look contradictory. The first is that *à* is 'closely linked to the matrix verb *faire*. In the absence of this particular predicate (and a few more e.g. *laisser*-'let, *entendre*-'hear' and *voir*-'see'). Kayne notes that subjects can never be preceded by *à*. Secondly, the DP that is preceded by *à* is an argument of the infinitive because it is theta-marked by it. For instance, *Paul* in (4b) can be an agent, but, as Kayne (2005) shows, this theta role varies with the verb. The obvious contradiction here is *à* and its surface DP complement are local to each other despite the fact that they are dependent upon different clauses. In order to resolve this contradiction, Kayne argues that 'the lexical DP preceded by *à* is the subject of the infinitive at some point in the derivation. The *à* itself is in the matrix clause. The embedded subject comes to look like the object of *à* as the result of raising.' Concretely, Kayne proposes that *à* is located above the causative VP, and that it attracts *Paul* into its specifier. *Paul* is first merged in the infinitive and receives its theta role from it. It is subsequently attracted by *à* for case assignment, as illustrated in (5a). In other words, '*à* is part of the Case assigning system.' Subsequently, *à* undergoes one head movement step into a higher head '[...] labeled w in that earlier work, but perhaps assimilable to one of Cinque's (1999) functional heads' because, as Kayne (2005) argues, it is a preposition. In the last step of the derivation, the causative VP raises into the specifier of w, as shown in (5b):[2]

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[2]   Dominique Sportiche (p.c.) asks how exactly the auxiliary is merged with the VP, which in (5) is shown to be

(5)   a. $\grave{a}_j$+w Paul$_i$ t$_j$ [fait t$_i$ manger une tarte]t_k

b. [fait t$_i$ manger une tarte]$_k$ $\grave{a}_j$+w Paul$_i$ t$_j$ t$_k$

Kayne claims '[...] that VP-movement must have a role in derivations involving either comple-
mentizer $\grave{a}$ or dative $\grave{a}$. We might think of this kind of VP-movement as being to English VP-
preposing what scrambling is to topicalization.' Kayne (2005) also proposes an alternative ac-
cording to which $\grave{a}$ is "twinned" with another functional head that he identifies as Agr-IO. He
assumes that these two heads, that is, $\grave{a}$ and Agr-IO, correspond to the two Agr-IOs, which in
Collins and Thráinsson (1993) are assumed to be merged above VP. In this alternative, *Paul* un-
dergoes movement to Spec Agr-IOP and $\grave{a}$, which is merged higher attracts the causative VP into
its specifier.

(6)   a. Paul$_i$ Agr-IO [fait t$_i$ manger une tarte]t_k

b. [fait t$_i$ manger une tarte]$_k$ $\grave{a}$ Paul$_i$ Agr-IO t$_k$

Notably, in other work, Kayne adopted a slightly different alternative according to which PS merge
above a KP. In this alternative, the first movement step *Paul* undergoes moves in (5a) is to the
specifier of a KP. $\grave{A}$ is merged that KP, and it attracts the v$_{caus}$P to its specifier. This is also the
alternative adopted in Cinque (2006), which I review in the next section.

3.2.2   PS cross-linguistically

Cinque (2006) explores issues regarding the syntactic height of merge of complement and adver-
bial PPs as well as the syntactic structure in which these PPs enter the derivation. This work has
a twofold goal, first, to show that PPs merge in a rigid universal order, and, second, to provide a
uniform analysis of distributional and interpretive facts which in previous works were analyzed
in more than one ways. These facts are discussed in Cinque (2006), who builds on their paradox-
ical behavior. Specifically, Cinque notes that there are properties that PPs exhibit which at first

---

in the specifier of $\grave{a}$. In order for the auxiliary to combine with the VP, it must be that the VP moves out of the
specifier and that it reprojects. In Sportiche (2017a), this movement step is described as a relativization step
(see Section 3.5.4).

sight support the traditional, pre-antisymmetry, analysis of PPs according to which the PPs are adjoined to the right of PPs, as illustrated in (7).

(7)
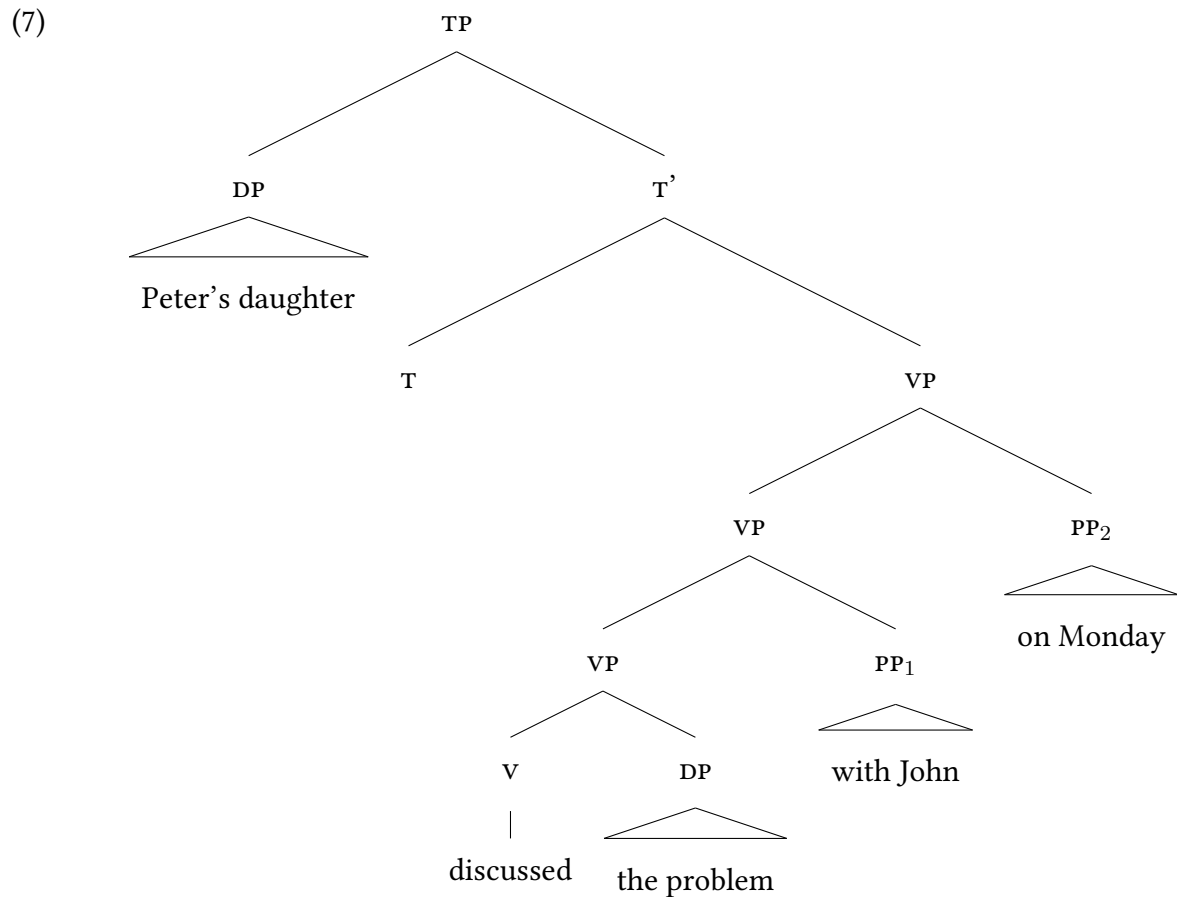
He also notes that there are other properties that seem to favor a different kind of analysis, a more Larsonian one, where a PP on the left is structurally higher and, hence, c-commands the PPs to its right, as shown below:

(8)

```
                              TP
                  ┌───────────┴───────────┐
                 DP                       T'
          ┌───────┴───────┐        ┌──────┴──────┐
        Peter's daughter          T            VP
                                         ┌───────┴───────┐
                                         V'
                               ┌─────────┴─────────┐
                               V                   VP
                               │            ┌──────┴──────┐
                           discussed       DP            V'
                                     ┌──────┴──┐    ┌─────┴─────┐
                                  the problem     V           VP
                                                        ┌──────┴──────┐
                                                       PP₁           V'
                                                  ┌─────┴──┐    ┌─────┴─────┐
                                               with John     V          PP₂
                                                                   ┌──────┴──────┐
                                                                      on Monday
```
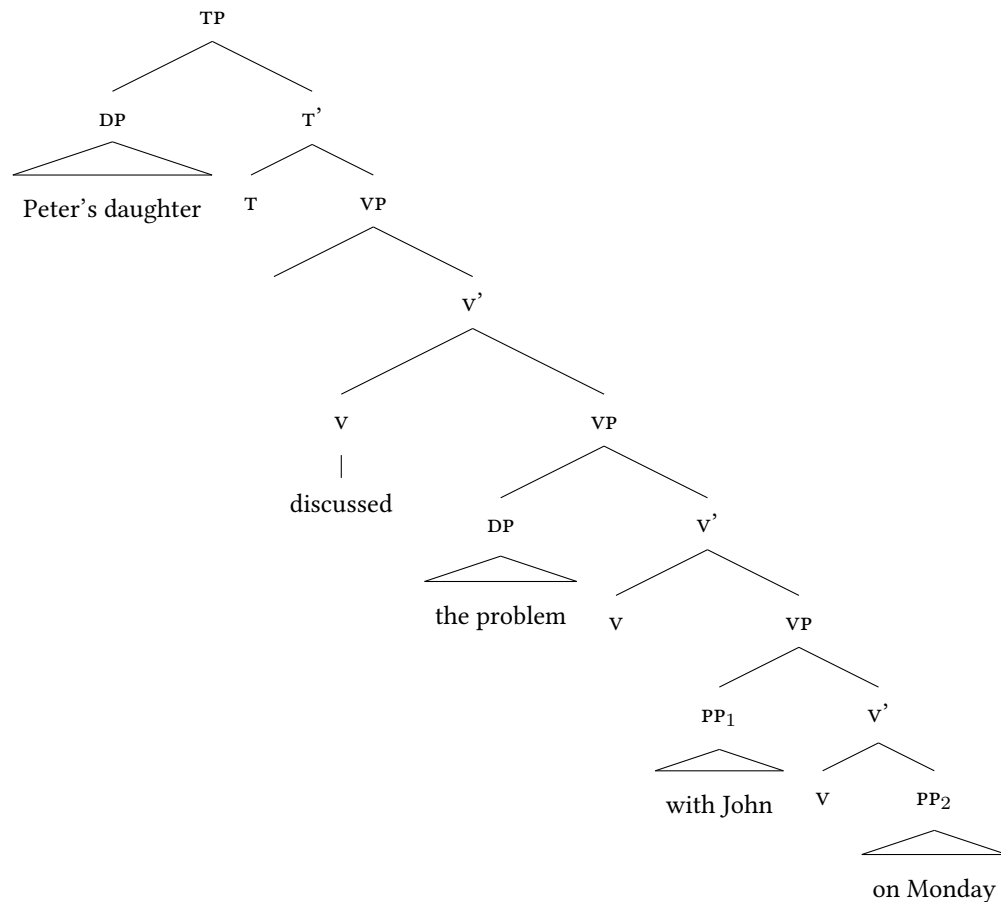
Cinque first discusses the phenomena 'apparently' favoring the left-branching structure in (7). First, the direct object in the following examples can be coreferential with an R-expression contained in adverbial adjunct to the right of it:

(9) a.   They killed him$_k$ [on the very same day John$_k$ was being released from prison]

b.   They hit him$_k$ [without John$_k$ being able to defend himself]   Cinque (2006, 3a-b)

These facts are expected under the derivation in (7) because the direct object does not c-command the adjunct into its right. This structure also finds support in the following examples involving VP movement.

(10)   He promised he would discuss the problem with John on Monday …

a.   and [discuss the problem] he did with John on Monday

b.   and [discuss the problem with John] he did on Monday

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c. and [discuss the problem with John on Monday] he did   Cinque (2006, 4a-c)

Under the standard assumption that movement is a reliable diagnostic for constituency, the examples in (10) lend support to the structure in (7). In this structure but not in (8) the verb and the object, as in (10a), the verb, the object and the following PPs, as in (10b) and (10c), form a constituent. (7) also predicts that the two PPs in (10) or the two PPs and the direct object do not form constituents, and, indeed, this prediction is correct, as shown by the fact that they cannot be clefted:

(11) a. * It is [with John on Monday] that he discussed the problem

b. * It's [the problem with John on Monday] that he discussed   Cinque (2006, 5a-c)

Cinque also discusses data favoring the syntactic structure in (8), among them the binding of anaphors, (12a), the binding of pronouns, (12b), and the licensing of negative quantifiers, (12c).[3]

(12) a. John spoke to Mary about *these people* in *each other's* houses on Tuesday Pesetsky (1996, 172)

b. Gidon Kremer performed in *every Baltic republic* on *its* independence day Pesetsky (1996, 161)

---

[3] I agree with Dominique Sportiche (p.c.) that these examples are not convincing because, first, the example in (12a) could be a case of exempt anaphora. DS gives the following example as more convincing:

(1) She talked about these two books in e.o.'s publishing houses.

He also notes that (12b) is not safe again because of confounds related to telescoping. He suggests and that one should use non-monotone increasing quantifiers as in the example to test pronominal binding:

(2) Gidon Kremer performed in [Estonia$_i$ only] on its$_i$ independence day with the right reading.

Lastly, he points out that the constraint in (12c) might be semantic, that is, downward entailment, and not syntactic. At any rate, he suggests Condition C is a more realiable test to diagnose c-command dependencies. Indeed, I apply Condition C in the examples I examine from Greek.

c. John spoke to Mary about *no linguist* in *any conference room*   Pesetsky (1996, 162)

Cinque notes that under the standard assumption that anaphor binding, pronominal binding and NPI licensing require the binder to c-command the bindee, the data in (12) favor (8). In previous works, this paradoxical behavior of PPs is also discussed in Pesetsky (1996). In Pesetsky (1996), sentences with adverbial PPs are argued to have two parallel structures: one like (7), which Pesetsky calls layered structure and was meant to capture the first set of phenomena, and the one in (13), which he calls cascade structure and was meant to capture the second set of phenomena.

(13)
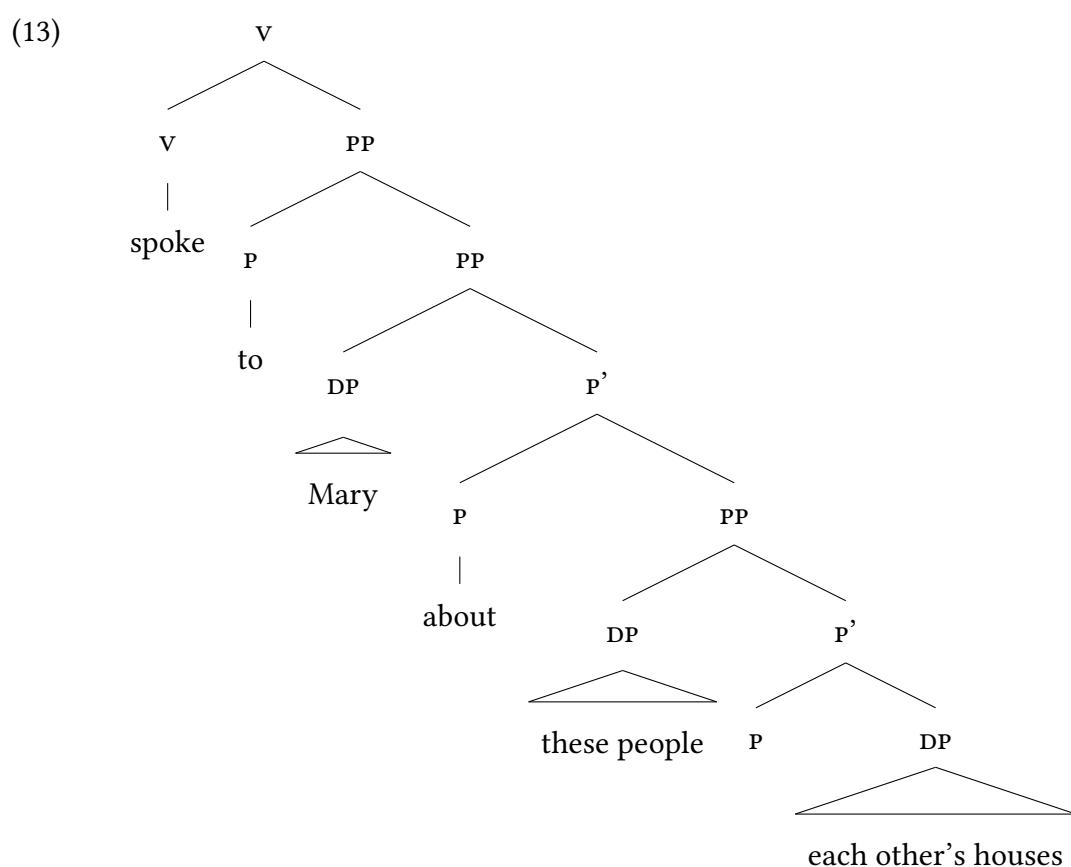
Building on Pesetsky's data, Cinque proposes an alternative 'serial' in which the distributional properties of PPs are accounted for on the basis of a single structure. Cinque begins by showing that despite appearances complement and adverbial PPs merge in a strict order. In previous literature, this kind of PPs were assumed to be merged in free order in light of the data as in (14) and (15) where it is shown that PPs can surface in either order.

(14) a. John talked to Mary about Bill

b.   John talked about Bill to Mary   Cinque (2006, 11)

(15) a.   I met John in the park on Friday

      b.   I met John on Friday in the park   Cinque (2006, 12)

Cinque notes that the assumption that complement PPs at least can be externally merged in different syntactic positions is suspicious in the first place because, they are assigned theta-role, hence, they should obey Baker's (1998) Uniformity of Theta Assignment Hypothesis (UTAH). Furthermore, he further points out that adverbial PPs might also be subject to the effects of UTAH, if they, too, are assigned a theta-role, as has been proposed in some works. At any rate, the most convincing evidence against the free ordering of complement and adjunct PPs comes from a number of asymmetries arising in idiom formation, anaphor binding, preposition stranding, phonological reduction patterns and the ordering possibilities of adverbial *pro*-forms. I review the asymmetries from Cinque (2006) arising with the phonological reduction patterns and the ordering possibilities. Starting with the phonological evidence, Cinque (2006) first discusses data illustrating that the pronominal object of a preposition can undergo phonological reduction only in a certain linear order, that is, Goal PP>Subject Matter PP:

(16) a.   John talked to Mary about' m

      b.   * John talked about Mary to' m   Cinque (2006, 15)

Based on this contrast, Cinque (2006) proposes that the linear order in (16a) corresponds more closely to the merge order of the two PPs. The surface order in (16b) is a derived one with the goal PP through a focus sensitive operation. Following anti-symmetric assumptions, Cinque takes the surface order in (16b) to be derived in two movement steps, movement of the goal PP to a Focus projection, as in (17b), and VP remnant movement to the left, as in (17c):

(17) a.   ... talked to Mary about Bill

      b.   [$_{FocusP}$ to Mary [$_{VP}$ talked t about Bill]]

      c.   [$_{XP}$ [$_{VP}$ talked t about Bill] X [$_{FocusP}$ to Mary [t]]]

Being phonologically weak and hence, noncontrastable, Cinque argues that the goal PP in (16b) cannot undergo Focus movement, as in (17b), yielding ungrammaticality. Another circumstance discussed by Cinque in which the rigid ordering of PPs reappears is with the use of certain adverbial pro-forms. For instance, citing data from Nilsen (2000), Cinque shows that in Norwegian the locative and temporal pronominal forms are strictly ordered. This is illustrated below:

(18)   a.   Jeg møtte ham **der da**
              I   met   him there then
              'I met him there then.'

        b.   *Jeg møtte ham **da   der**
              I   met   him then there
              'I met him there then.'

German is also shown to exhibit the same kind of rigidity with pro-forms used as indefinites, although, German differs from Norwegian in displaying the mirror order, that is, TempPP>LocPP, as shown below with data from Frey (2000):[4]

(19)   a.   Hans sollte **wann   wo**   da-r-über   vortragen
              Hans should sometime somewhere that-r-about talk
              'Hand should talk about it somewhere sometime.'

        b.   *Hans sollte **wo**   **wann**   da-r-über   vortragen
              Hans should somewhere sometime that-r-about talk

---

[4]   Dominique Sportiche pointed out to me that French behaves similarly with in-situ *wh*-items:

(1)   a.   Il est parti où   quand?
              He is left   where when
              'He left where when?'

        b.   Il est parti quand où?
              He is left   when where
              'He left where when?' ONLY ECHO

'Hand should talk about it somewhere sometime.'

Interestingly, like Norwegian and German pro-forms, *wh*-phrases in Bulgarian multiple *wh*-fronting are strictly ordered, as shown below with *wh*-fronting of temporal and locative *wh*-phrases (cf. Krapova and Cinque 2005):[5]

(20) a. **Koga kăde** šte hodiš tova ljato?
          when where will go-you this summer
          'When will you go where, this summer?'

     b. * **Kăde Koga** šte hodiš tova ljato?
          where when will go-you this summer
          'When will you go where, this summer?'

In sum, the data discussed so far show that adverbial and complement PPs are strictly ordered. Having established this, Cinque sets off to explore whether or not this strict order reflects the

---

[5]   Greek does not have multiple *wh*-fronting but two *wh*-phrases are possible in a sentence with one being in-situ and the other moving to the left periphery. Interestingly, there are ordering restrictions in this case. For instance, if two *wh*-phrases are present, a temporal and a locative, only the temporal can undergo *wh*-movement to the left periphery:

(1) a. Pote pije   pu?
         when went.3sg where
         'When did she go where?'

    b. *Pu   pije   pote?
         where went.3sg when
         'Where did she go when?'

Chis asymmetry possibly suggests that the order of merge is Temporal>Locative, as it is also argued in Cinque (2006) and Schweikert (2005), and that only the *wh*-phrase which is merged higher i.e. the temporal one, can undergo movement to the left periphery. Also, the temporal *wh*-phrase, being structurally higher, blocks movement of the lower locative *wh*-phrase to the left periphery (Relativized Minimality).

order of merge. He focuses in particular on the order of Temporal and Locative PPs. In Norwegian, these two must be aligned as LocPP>TempPP. On the other hand, German displays the mirror order, that is, TempPP>LocPP. He submits 'that the mirror-image relation between German and Norwegian (or English for that matter) is: (1) entirely systematic across the various PP classes; (2) related to the OV versus VO character of the two languages; and (3) just a special case of a much wider left-right asymmetry found across languages.' From a cross-linguistic perspective, Cinque (2006) notes on the basis of findings from Boisson (1981) that Temporal, Locative and Manner PPs exhibit rigidity when they surface before the verb, (21a), whereas when they surface after the verb they are found either in the same, (21c), or in the mirror-image order, Manner>Locative>Temporal, (21d). Furthermore, as the list of possible order below shows, the order Manner>Locative>Temporal, (21b), is conspicuously missing.

(21) a.   Temp>Loc>Manner> **V**

    b.   * Manner>Loc>Temporal> **V**

    c.   **V**>Temp>Loc>Manner

    d.   **V**>Manner>Loc>Temp

Quite generally, Cinque points out that 'to the left of a head (N,V,etc.) the (unmarked) order of complements, adjuncts, auxiliaries, and modifiers is unique, while to the right of the head (at least) two possibilities are found; either the same order as that found to the left of the head or its mirror order. Greenberg's (1963) Universal 20 explemplifies this state of affairs for head=N.' The U20 pattern is schematically illustrated below:

(22) a.   Dem>Num>A> **N**

    b.   * A>Num>Dem> **N**

    c.   **N**>Dem>Num>A

    d.   **N**>A>Num>Dem

As Cinque (2006, fn. 23) discusses, (22) is a simplification which, however, does not affect the thrust of the argument. Specifically, he notes that the prenominal Dem>Num>A> **N** is attested

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without exceptions, however, there are more possibilities in languages than just the two in (22). He also cites previous work of his in which the U20 patterns were derived through different leftward movements (cf. Cinque 2005) and shows how these movements can be applied to derive the PP patterns in (21). Concretely, he assumes, as in Schweikert (2005), that temporal, locative and manner PPs are merged hierarchically exactly like the linear order in (21a) suggests:

(23)

```
        /\
Temporal  ...
         /\
       ...  \
          Locative  ...
                   /\
                 ...  \
                   Manner  VP
                            |
                            V
```
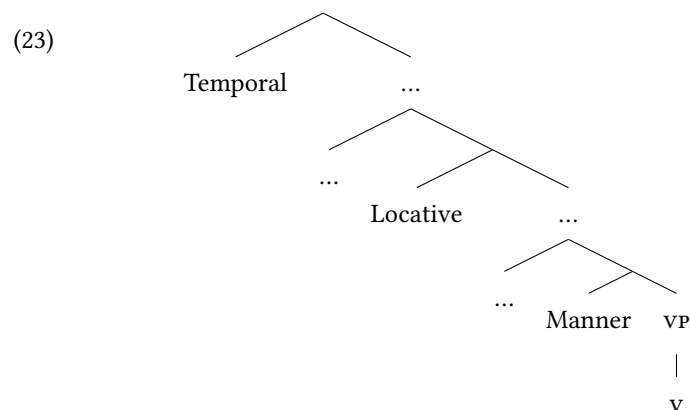
In (21c), the VP undergoes movement across the temporal, locative and manner PP, as shown below.

(24)

```
        AgrP
       /\
     VP   Agr'
          /\
        Agr  \
          Temporal  ...
                   /\
                 ...  \
                   Locative  ...
                            /\
                          ...  \
                            Manner  VP
                                     |
                                     V
```
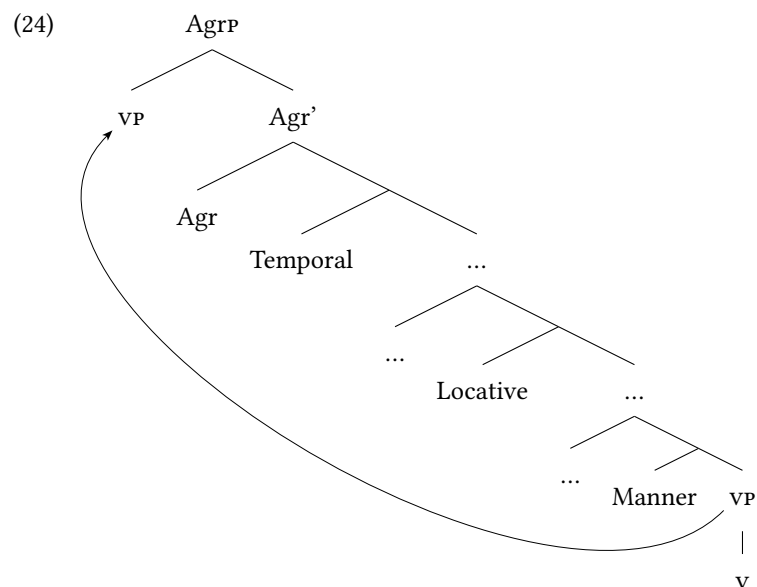
In (21d), the VP undergoes intermediate movement step to an AgrP above Manner. The VP subsequently pied pipes this AgrP to a different AgrP above Locative. The VP pied pipes again the higher AgrP above the Temporal, giving rise to **V**>Manner>Loc>Temp:

(25)
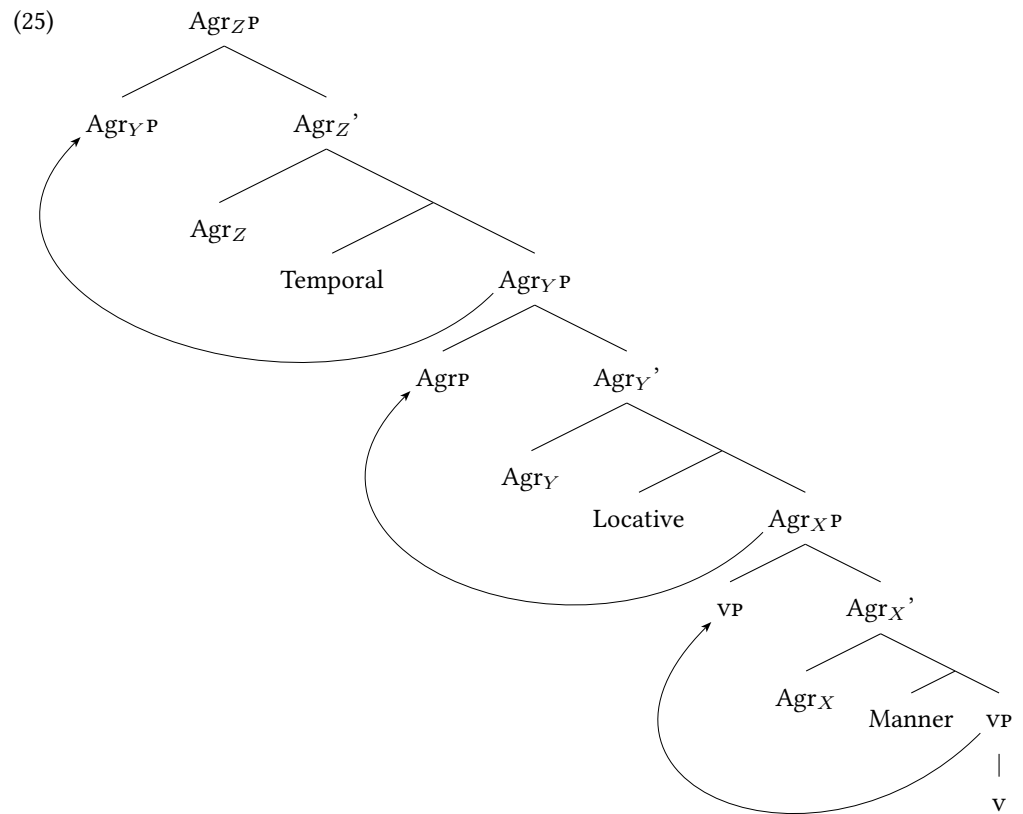
In Cinque (2005), the rest of the u20 patterns are derived in a similar manner with a series of leftward xp movements, that is, plain xp movement, pied piping and remnant movement. In the last part of the paper, Cinque discusses how the data in (12)—previously accounted for in cascade structures—can be captured under a uniform syntactic structure, which is compatible with the independently motivated movements in (24) and (25). Specifically, he argues that these data can be captured if we assume following Kayne (2000) that '[…] prepositions are not merged with (their) ultimate complement but are merged higher up, immediately above the projections of Case to which each DP moves. As we will see, this makes it possible before the roll-up derivation (i.e., attraction of remnants), for the *bare* complement of a p to come to properly c-command the complement of another p after moving to the Spec of its own CaseP (in a structure that is essentially a [reverse] cascade structure).' I refer to Cinque (2006) for more details about the binding data. In line with this approach, I discuss in the next section how exactly Kayne's analysis of ps can be implemented to account for the distribution of the Greek reflexive in different pps.

3.3 Binding from PPs

3.3.1 Background on the Greek reflexive

The Greek anaphor *o eaftos mu* literally translates to 'the self mine'. The *eaftos* 'self' noun is invariably masculine, while the preceding determiner agrees with the noun in the relevant features. The possessive pronoun agrees in ϕ-features with its antecedent. *O eaftos mu* has been discussed in the past in a number of articles focusing on different aspects of its behavior, such as the fact that it can be clitic doubled (cf. Iatridou 1988) without giving rise to Condition B violations or that it can be used with nominative case in some derived subject positions (cf. Anagnostopoulou and Everaert 1999 i.a.). In these analyses it is acknowledged that, despite its peculiar syntactic behavior in some contexts, *o eaftos mu* is no different from the English reflexive in requiring a local c-commanding antecedent, as shown below.

(26) a.   O   Jorghos$_1$ estile   ta   vivlia ston   eafto tu$_1$.
           the George   sent.3s the books to.the self   his
           'George sent the books to himself.'

      b.   *I   mitera tu   Jorghu$_1$ estile   ta   vivlia ston   eafto tu$_1$.
           the mother the George   sent.3s the books to.the self   his
           'George's mother sent the books to himself.'

Importantly, one property of *o eaftos mu* that has received less attention in the literature is that it is strictly anti-logophoric and, thus, fundamentally different from the English reflexive in this respect. Thus, in contexts in which the English reflexive has been argued to function as a logophor that is anteceded by perspective centers, the Greek reflexive is totally ruled out. For instance, consider the following ungrammatical sentences in Greek and compare them with the grammatical counterparts in the English translations. The two sentences in (27) feature anaphors with attitude holders as antecedents (cf. Charnavel and Zlogar 2015 and references therein).

(27) a.   *O   Vasilis$_1$ ipe   oti i   vrochi katestrepse   tis fotografies tu   eaftu tu$_1$.
               the Bill   said.3s that the rain   destroyed.3s the photos   the self   his.GEN
               'Bill said that the rain destroyed the photos of himself.'

b. * O Janis$_1$ kafchithike oti i vasilisa kalese tin Anna ke ton eafto tu$_1$ ja

the John boasted.3s that the queen invited.3s the Anna and the self his for

poto.

drink

'John boasted that the queen invited Anna and himself for a drink.'

In (28) the anaphors have empathy loci as antecedents (cf. Charnavel and Zlogar 2015).

(28) * O Pavlos$_1$ duleve se ena panepistimio me ti jineka tu opu fisiki opos

the Paul worked.3s at a university with the wife his where physicts like

o eaftos tu$_1$ echeran ipsilis ektimisis.

the self his enjoyed.3SG high regard

'Paul worked at a university with his wife where physicists like himself were highly

regarded.'

With this background in mind, let us now look in the next section at binding data in different PPs.

3.3.2 Binding Data

This section presents binding data from Angelopoulos, Collins & Terzi (2018). This work looks at agentive PPs in the Greek passive introduced with the preposition *apo*. These data show that the presence of *apo* does not count for c-command since its surface DP complement can bind into a benefactive reflexive (cf. 29a). However, not all DPs within PPs can do so, as shown in (29b).

(29) a. Aftes i diataksis psifistikan apo tus vuleftes$_1$ tis kivernisis ja

these the regulations were voted.3SG by the MPs the government.GEN for

ton eafto tus$_1$.

the self their

'These regulations were voted by the MPs of the government for themselves.'

b. * Aftes i   diataksis psifistikan   eksetias ton vulefton$_1$ tis kivernisis

these the regulations were voted.3SG because the MPS   the government.GEN

ja   ton eafto tus$_1$.

for the self   their

'These regulations were voted because of the MPS of the government for themselves.'

c. Aftes i   diataksis psifistikan   eksetias ton vulefton tis kivernisis

these the regulations were voted.3SG because the MPS   the government.GEN

ja aftus ce   tis ikojenies tus.

for them and the family   their

'These regulations were voted because of the MPS of the government for them and their families.'

Thus, (29a) and (29b) show that while the benefactive can be bound by the agent DP in the *apo*-phrase, this is not possible by a DP in a reason PP. As (29c) shows, the intended meaning can be expressed differently suggesting that the ungrammaticality of (29b) is only due to binding. The next two sets of examples examines binding from agent *by*-phrases, locative and comitative PPs into benefactive PPs.

(30) a. Aftes i   bluzes epilechtikan   apo ta pedja$_1$ ja ton eafto tus$_1$.

these the t-shirts were selected.3P by   the kids   for the self   their

'These t-shirts were selected by the kids for themselves.'

b. * Aftes i   bluzes epilechtikan   brosta/   koda sta   pedja$_1$ ja ton eafto tus$_1$.

these the t-shirts were selected.3PL in front / near at.the kids   for the self   their

'These t-shirts were selected in front of/ near the kids for themselves.'

c. Aftes i   bluzes epilechtikan   brosta sta   pedja ja afta ce tis

these the t-shirts were selected.3PL in front at.the kids   for them and the

ikojenies tus.

families   their

'These t-shirts were selected in front of the kids for them and their families.'

(31) a. * Aftes i bluzes epilechtikan (mazi) me ta pedja$_1$ ja ton eafto tus$_1$.

these the t-shirts were selected.3PL together with the kids for the self their

'These t-shirts were selected together with the kids for themselves.'

b. Aftes i bluzes epilechtikan (mazi) me ta pedja ja afta ce tis

these the t-shirts were selected.3PL together with the kids for them and the

ikojenies tus.

families their

'These t-shirts were selected together with the kids for them and their families.'

(30a) shows again that a DP hosted in a *by*-phrase, for instance *ta pedja*-'the kids' above, can bind a reflexive in a benefactive PP. On the other hand, if *ta pedja* is hosted in a locative PP as in (30b) or a comitative one as in (30c), the DP cannot function as an antecedent for a reflexive in the benefactive PP. (30c) and (31b) are the benchmark examples showing that (30b) and (31b) are ruled out only due to binding.

As a last case, I would like to present a few more binding data testing whether reflexive binding is possible if the order of the reflexive and its antecedent in the *by*-phrase is reversed. Let us consider the following sentences:

(32) a. * Aftes i diataksis psifistikan apo ton eafto tus$_1$ ja tus vuleftes$_1$ tis

these the regulations were voted.3SG by the self their for the MPs the

kivernisis.

government.GEN

'*These regulations were voted by themselves for the MPs of the government.'

b. * Aftes i bluzes epilechtikan brosta s-ton eafto tus$_1$ ja ta pedja$_1$.

these the t-shirts were selected.3PL in front of to-the self their for the kids

'*These t-shirts were selected in front of themsselves for the kids.'

c. * Aftes i bluzes epilechtikan (mazi) me ton eafto tus$_1$ ja ta pedja$_1$.

these the t-shirts were selected.3PL together with the self their for the kids

'*These t-shirts were selected with themselves for the kids.'

d. * Aftes i   bluzes epilechtikan   eksetias tu   eaftu tus$_1$ ja ta pedja$_1$.

these the t-shirts were selected.3PL because of-the self   their for the kids

'*These t-shirts were selected because of themselves for the kids.'

In (32a) and (32d), the reflexive is hosted in a *by-*, locative, comitative or reason PP respectively. Interestingly, it is shown that the reflexive in these cases cannot have as antecedent a DP in the benefactive DP. This is different from what we saw previously in (29a) and (30a) where the *by-*phrase can bind a reflexive in a benefactive PP. I discuss in the following section how this contrast as well as the fact that only *by-*phrases can bind into a benefactive PP can be directly accounted for under the prism of the idea that PS are merged on the spine in a hierarchical manner.

3.4   Background Assumptions

As shown in the previous section, only the DPs in *by-*phrases can bind the non-exempt anaphor of Greek, *o eaftos mu.* On the other hand, DPs hosted in reason, comitative and locative PPs cannot. In this section, I present an overview of the analysis I pursue for this binding data and background assumptions on PP formation, binding principles and applicative constructions.

3.4.1   Binding Principles and PP formation

To start with, I take non-exempt anaphors like *o eaftos mu* to be, as standardly assumed, subject to Principle A of Binding Theory:

(33)   Principle A: An anaphor must be bound in its domain.   (Sportiche et al. 2014, 168)

Additionally, following Charnavel and Sportiche (2016), I assume that Condition A holds at LF. Turning now our attention to the PP formation algorithm, I assume as in Kayne (2005) and Cinque (2006) that it exhibits the following properties:

1. PS are merged on the spine separately from their surface DP complement,

2. these DPs are externally merged in thematic positions, and they must receive case by undergoing movement to designated case positions (hereafter, KPS),

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3. PS take KPs as complements,

4. the complement of K undergoes movement into Spec P,

5. PS have selectional requirements, which can only be satisfied locally under sisterhood and not via long distance operations such as Agree.

Given (1), I argue that binding is possible when the surface DP complement of a given P is externally merged in the binding domain of a reflexive. Concretely, I propose that the surface DP complement of agent *by*-phrases can bind a benefactive reflexive because both the agent DP and the benefactive reflexive are externally merged within the vP, which, as will be argued, constitutes the binding domain of the reflexive. On the other hand, the surface DP complement of comitative, reason and locative PPs is externally merged outside the vP, thus, it cannot bind a benefactive reflexive. Moreover, in regard to 5 above, it is important to note that *apo* and *ja* are not in free alternation. Thus, for instance, the first co-occurs with passivized verbs and *ja* is used in applicative constructions. In adddition, (34) and (35) show that *ja* cannot be used like *apo* in the passive, and, unlike *ja*, *apo* cannot introduce a benefactive argument, as shown in (35):

(34) I   tenia   hirokrotithike   apo/ *ja to   cino.
      the movie applauded.NACT.3SG by/   for the audience
      'The movie was applauded by the audience.

(35) I   Maria edhose   ena vivlio ja/ *apo tin Eleana.
      the Maria gave.3SG a   book for apo the Eleana
      'Maria gave a book for Eleana.

Under the proposed analysis of PP formation, I argue that the behavior of *apo* and *ja* in (34) and (35) can be expressed as a local selectional relation between *apo* and VoiceP (or little vP, which introduces the external argument) and between *ja* and an ApplP.[6] This locality selection can be encoded in different ways in the "probe" analysis.

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[6]   This type of analysis was first pursued for Greek PS in Michelioudakis and Angelopoulos (2019), who use as evidence the behavior of PP realization in Greek and Englsh nominalizations and compounds.

- One view is presented in Kayne (2005) according to which ᴘs are merged directly with the xᴘs they select as in Kayne (2005) (Section 3.2).

- The second alternative is the one reviewed in Section 3.2.2. According to this alternative, ᴘs merge with ᴋᴘs, and crucially, the ᴘᴘ formation algorithm comprises movement of the xᴘ complement of ᴋ into Spec ᴘ. Under this latter view, the selectional properties of ᴘs are satisfied after movement of the xᴘ into ᴘ's specifier.

I adopt the second alternative although nothing really hinges on it as the facts I discuss are entirely compatible with the first one. Now, under this view, *apo* is merged with ᴋᴘ. In addition, the complement of ᴋ in (36) is Voiceᴘ, hence, it must undergo movement to Spec *apo*. This means that the selectional requirements of ᴘs such as *apo* can be satisfied under sisterhood in the resulting configuration, that is, after movement of ᴋ's complement into Spec ᴘ.

(36)
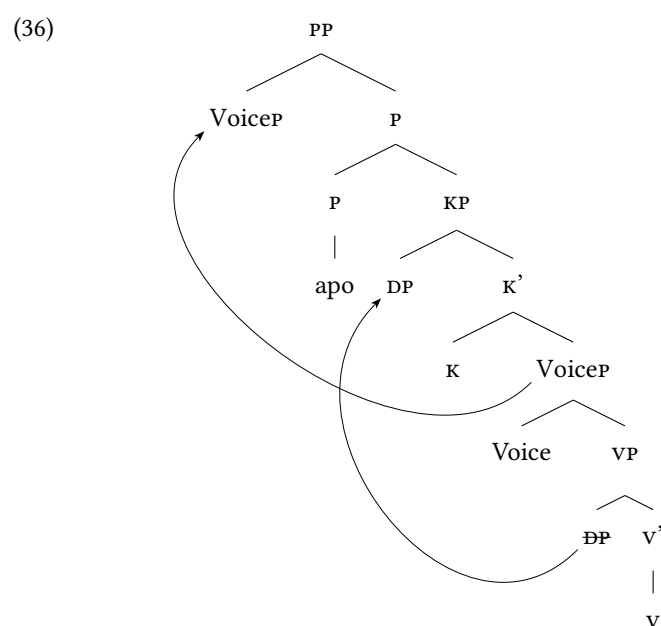
On the other hand, if the complement of ᴋ is an Applᴘ, as in (37), merger of *apo* is blocked, thus, this structure is marked as * below, because in contrast to *ja*, *apo* does not select Applᴘ.

(37)

```
                    *PP
                   /    \
              ApplP      P
               ↑        /  \
                       P    KP
                       |   /   \
                      apo DP    K'
                               /  \
                              K    ApplP
                                   /   \
                                 Appl  ...
```
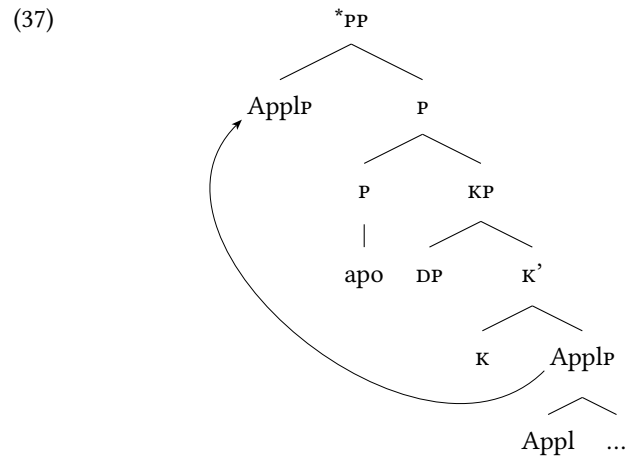
Similarly, I assume that *ja* can be merged in (38) where the complement of ᴋ is an ApplP in the sense of Pylkkänen (2000) (see Anagnostopoulou 2003 and Michelioudakis 2012 for the height of merge of these ApplPs in Greek).

(38)

```
                    PP
                   /    \
              ApplP      P'
               ↑        /  \
                       P    KP
                       |   /   \
                      ja  DP    K'
                               /  \
                              K    ApplP
                                   /   \
                                 Appl  ...
```
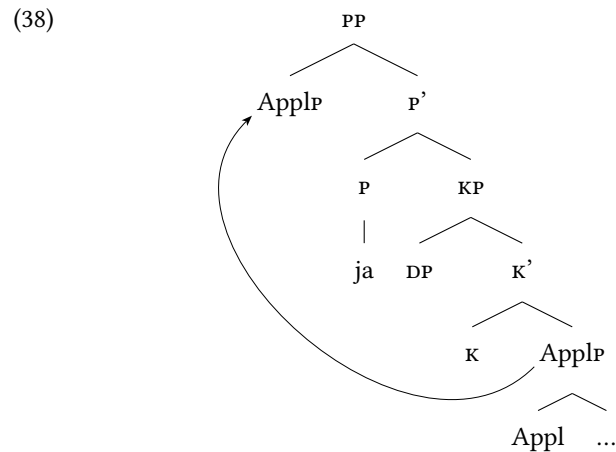
If the complement of ᴋ is VoiceP, merger of *ja* would be blocked.

3.4.2 Binding in Benefactives from ᴘᴘs

In the previous section, I introduced background assumptions in regard to binding and ᴘᴘ formation. In this section, I consider the binding data discussed previously in light of these assumptions. Let us first consider the binding data in the following example, repeated from previously:

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(39) Aftes i bluzes epilechtikan   apo ta pedja₁ ja ton eafto   tus₁.
      these the t-shirts were selected.3PL by   the kids.ACC for the self.ACC their
      'These t-shirts were selected by the kids for themselves.'

In (39), the DP *ta pedja*-'the children' is interpreted as an agent. Following Baker's (1998) UTAH, I assume that this DP enters the derivation in the specifier of little vP, just like the corresponding DP argument in the active. In addition, I assume that the benefactive argument, that is, *ton eafto tus*-'themselves', enters the derivation in an ApplP, which is merged below vP (in one or two distinct positions à la Pylkkänen's low and high applicatives). Lastly, the theme DP is introduced vP internally:

(40)
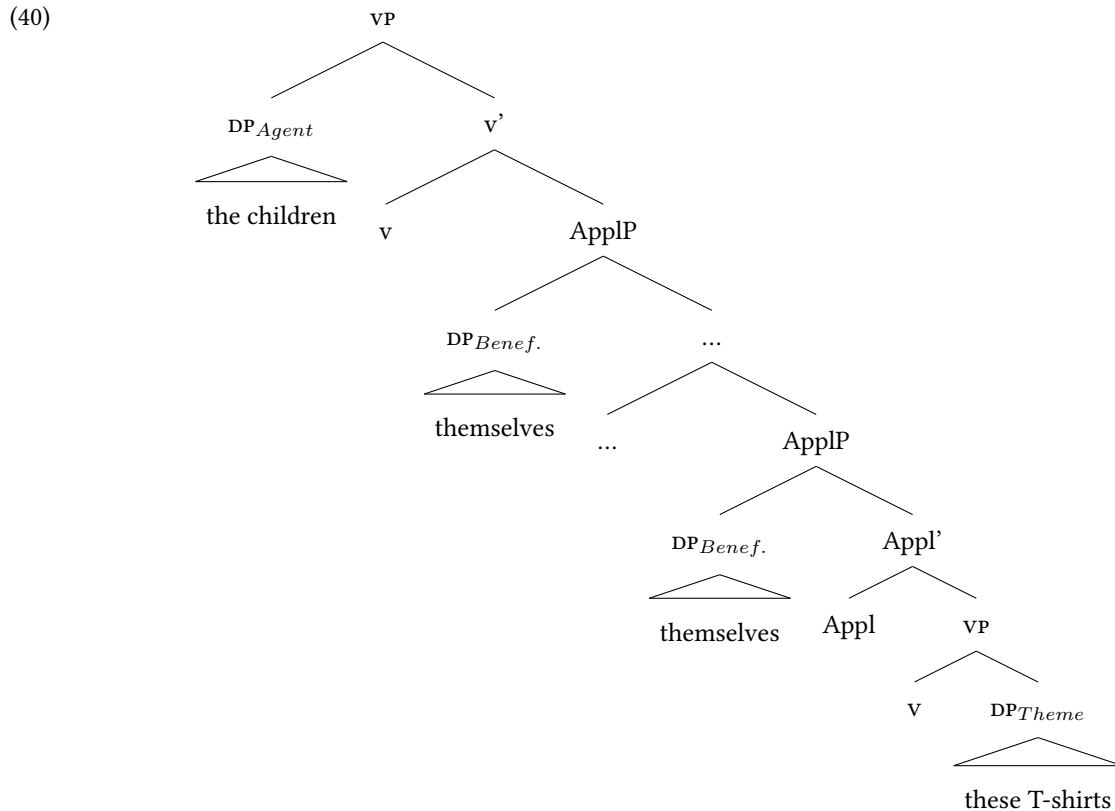
As noted before, these DP arguments are assigned case by moving to KPs. These KPs are merged in a functional domain (hereafter, case domain) located higher than the one in which DPs receive their theta role (hereafter, theta domain). I assume also that KPs are merged higher than VoiceP, which is built in the passive. Now, under standard assumptions, the KP merged first in the case domain must attract the highest, and hence, closest DP from the theta domain. In (40), the closest DP

to ᴋᴘ is the one in Spec vP. This ᴅᴘ undergoes movement to ᴋᴘ, as shown in (41). *By* merges with this ᴋᴘ and its selectional requirements for Voiceᴘ are satisfied under sisterhood after movement of the complement of ᴋ into Spec ᴘ:

(41)

```
                        PP
                   ╱         ╲
              Voiceᴘ          ᴘ'
                           ╱      ╲
                         ᴘ          KP
                         │       ╱     ╲
                        apo   DP_Agent    ᴋ'
                             ╱    ╲     ╱    ╲
                      the children  ᴋ   V̶o̶i̶c̶e̶ᴘ̶
                                        ╱      ╲
                                     Voice      vP
                                            ╱      ╲
                                      D̶P̶_Agent      v'
                                                 ╱     ╲
                                               v        …
                                                      ╱    ╲
                                                    …       ApplP
                                                          ╱      ╲
                                                   DP_Benef.     Appl'
                                                    ╱    ╲      ╱    ╲
                                               themselves   Appl   vP
```
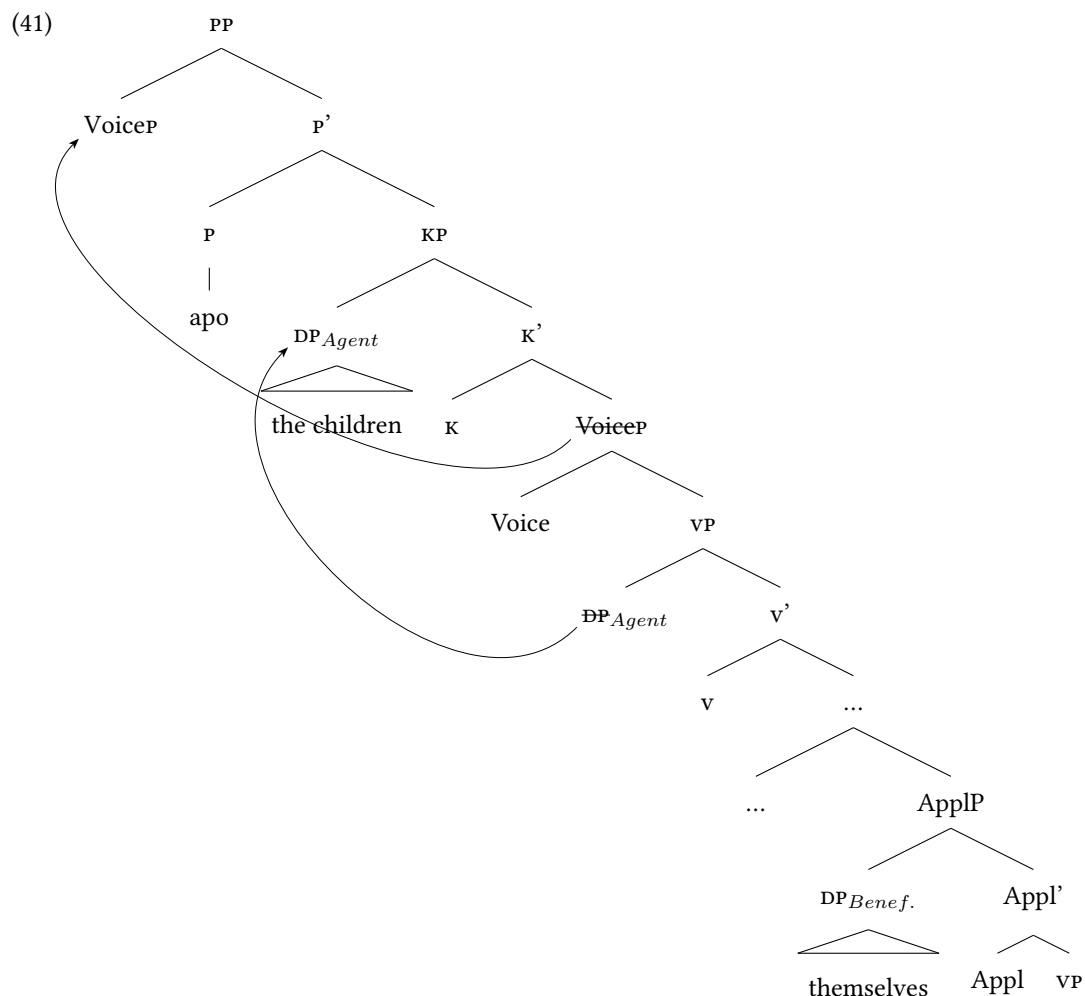
Now, the benefactive ᴅᴘ, which must also receive case moves to a ᴋᴘ merged higher than the ᴘᴘ headed by *apo*. This movement step is illustrated in (42) (see Section 3.4.3 for evidence from Condition ᴄ showing that this movement step does indeed take place).

(42)

P'
├── P
│   └── ja
└── KP
    ├── DP$_{Benf.}$
    │   └── themselves
    └── K'
        ├── K
        └── YP
            ├── Y
            └── PP
                ├── VoiceP
                │   ├── Voice
                │   └── vP
                │   ├── ~~DP$_{Ag.}$~~
                │   └── v'
                │   ├── v
                │   └── ...
                │   ├── ...
                │   └── ApplP
                │   ├── ~~DP$_{Benf.}$~~
                │   └── Appl'
                │   ├── Appl
                │   └── vP
                └── P'
                    ├── P
                    │   └── apo
                    └── KP
                        ├── DP$_{Ag.}$
                        │   └── the children
                        └── K'
                            ├── K
                            └── ~~VoiceP~~
                                ├── ...
                                └── ...
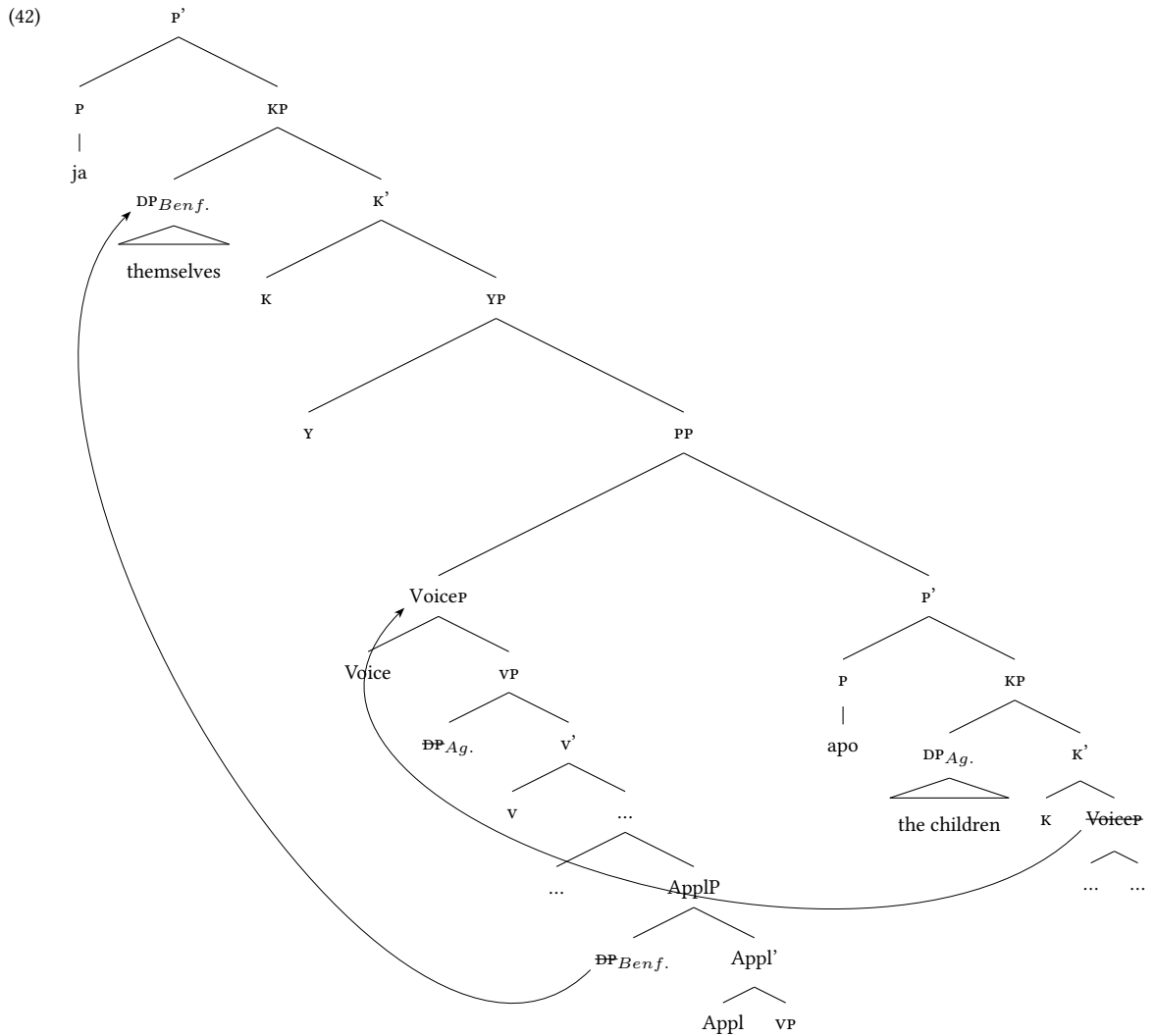
Specifically, the benefactive DP undergoes movement to KP from the VoiceP in the specifier position of the PP headed by *apo*. In this copy of the vP in Spec PP, the copy of the agent does not block movement of the benefactive because copies do not count as interveners (cf. Chomsky 2000, Anagnostopoulou 2003, Bošković 2011). Now, a few short notes are in order. *Ja* takes the higher KP as complement, and according to the PP formation algorithm, the complement of K undergoes movement to Spec *ja*. Let us assume for now that the complement of K shown as YP in (42) in fact is an ApplP.[7] Given this, after movement of YP into Spec *ja*, the selectional

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[7] In (54), I assume that a possible way in which an XP like ApplP above can re-project is via movement and left adjunction. In Section 3.5.4, I discuss the alternative proposed in Sportiche (2017a) where left adjunction and re-projection is analyzed in terms of relativization.

properties of *ja* are satisfied under sisterhood. In addition, this last movement step gives rise to the surface order of the two PPs in (39), that is, *apo*-PP>>*ja*-PP. Importantly, I assume that in this syntactic structure the vP, which introduces the agent forms its own binding domain. Under standard binding assumptions, this is so because the vP introduces the external argument, which is a subject, thus, forming a complete functional complex in Chomsky's (1986b) terms. In more recent approaches where the binding domain is reduced to Spell out domains, that is, to phasal domains, as in Charnavel and Sportiche (2016), the vP introducing the agent again constitutes its own binding domain under the assumption that little v is a phase head.

With this background in mind, I discuss why binding between the agent and the benefactive reflexive is possible. The first is that the agent DP can bind the benefactive reflexive if they both undergo total reconstruction in their merge position, that is, in Spec vP and Spec ApplP respectively. Condition A, which as has been shown more recently in Charnavel and Sportiche (2016) holds at LF, can be satisfied under total reconstruction because, first, the agent c-commands the benefactive reflexive from Spec vP and second, they are both interpreted in the minimal domain i.e. the vP, in which the benefactive must be bound. Interestingly, note also that in this syntactic derivation, the benefactive DP does not c-command the agent at any point in its binding domain, that is, within the vP. This in turn explains, as repeated below from previously, why the benefactive cannot bind a reflexive in the *by*-phrase.

(43)   * Aftes i   bluzes epilechtikan   apo ton eafto tus$_1$ ja ta phedja.
        these the t-shirts were selected.3PL by   the self   their for the kids
        'These t-shirts were selected together with the kids for themselves.'

The only point at which the benefactive DP c-commands the agent DP is after movement to the highest KP. Given this, one might wonder why the benefactive cannot license binding of the reflexive from Spec KP, as shown in (44), which is the syntactic structure corresponding to (43).

(44)

PP
├── ...
└── P'
    ├── P
    │   └── ja
    └── KP
        ├── DP$_{Benef.}$
        │   └── the children
        └── K'
            ├── K
            └── YP
                ├── Y
                └── PP
                    ├── VP
                    │   ├── ~~DP~~$_{Agent}$
                    │   └── V'
                    │   ├── V
                    │   └── ...
                    │   ├── ...
                    │   └── ApplP
                    │   ├── ~~DP~~$_{Benef.}$
                    │   └── Appl'
                    │   ├── Appl
                    │   └── VP
                    └── P'
                        ├── P
                        │   └── apo
                        └── KP
                            ├── DP$_{Agent}$
                            │   └── themselves
                            └── K'
                                ├── K
                                └── ~~VP~~
                                    ├── ...
                                    └── ...
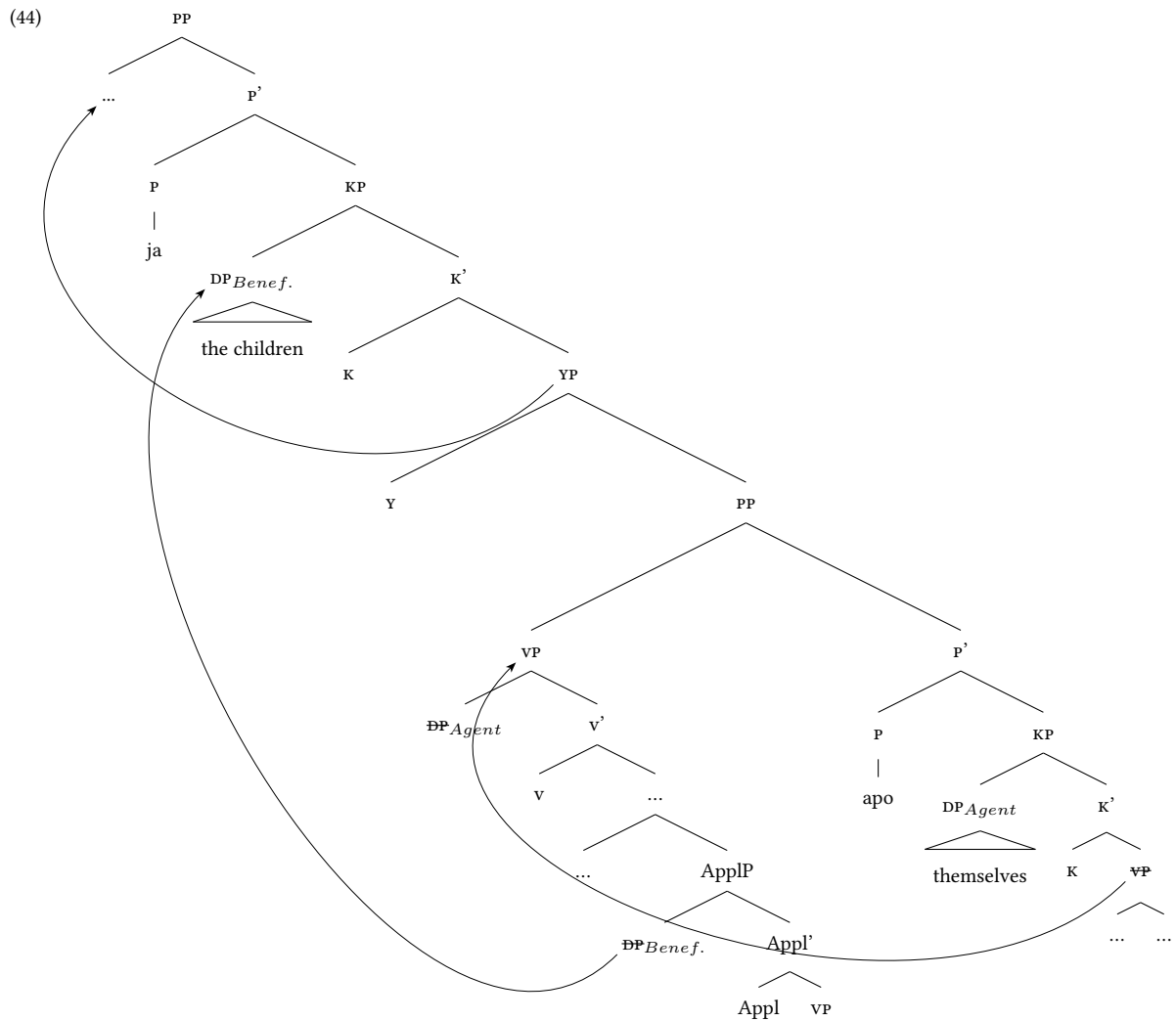
In this structure, I assume that the highest copy of the agent DP, which can be interpreted at LF and hence, matter for Condition A is the one in Spec KP. This is where the agent is spelled out hence, it obeys the Overt Scope Principle put forward in Kayne (1998). This principle in brief states that:

A syntactic object cannot be interpreted higher than where it is pronounced in the syntax.

In addition, I assume that Ps like *apo*, which project a subject position are phase heads forming their own binding domain, as has independently been argued in Charnavel and Sportiche (2016). Now, since *apo* is a phase head, its specifier is a phase edge, and as a result, the benefactive is allowed undergo movement out of this PP into Spec KP, as shown in (44). The fact now that the

benefactive DP in the highest KP of (44) cannot bind the reflexive makes sense because the lowest KP where the agent is interpreted and the higher one where the benefactive DP moves for case are in distinct phasal and hence, binding domains. With this in mind, let us now turn our attention to locative, comitative and reason PPs. In the previous section, we saw that in contrast to the DP of agent *by*-phrases, DPs in locative, comitative and reason PPs cannot bind a benefactive reflexive. I repeat one of the examples we discussed.

(45) * Aftes i   bluzes epilechtikan   brosta/ koda sta pedja$_1$ ja ton eafto tus$_1$.
        these the t-shirts were selected.3PL in front / near at.the kids   for the self their
        'These t-shirts were selected in front of/ near the kids for themselves.'

The crucial difference in this case is that the DPs in locative, comitative and reason PPs are introduced higher than vP, that is, outside the domain in which the reflexive is bound by the agent. This is shown below with locative PPs. Reason and comitative PPs are introduced above vP as well but at a different syntactic height.

(46)
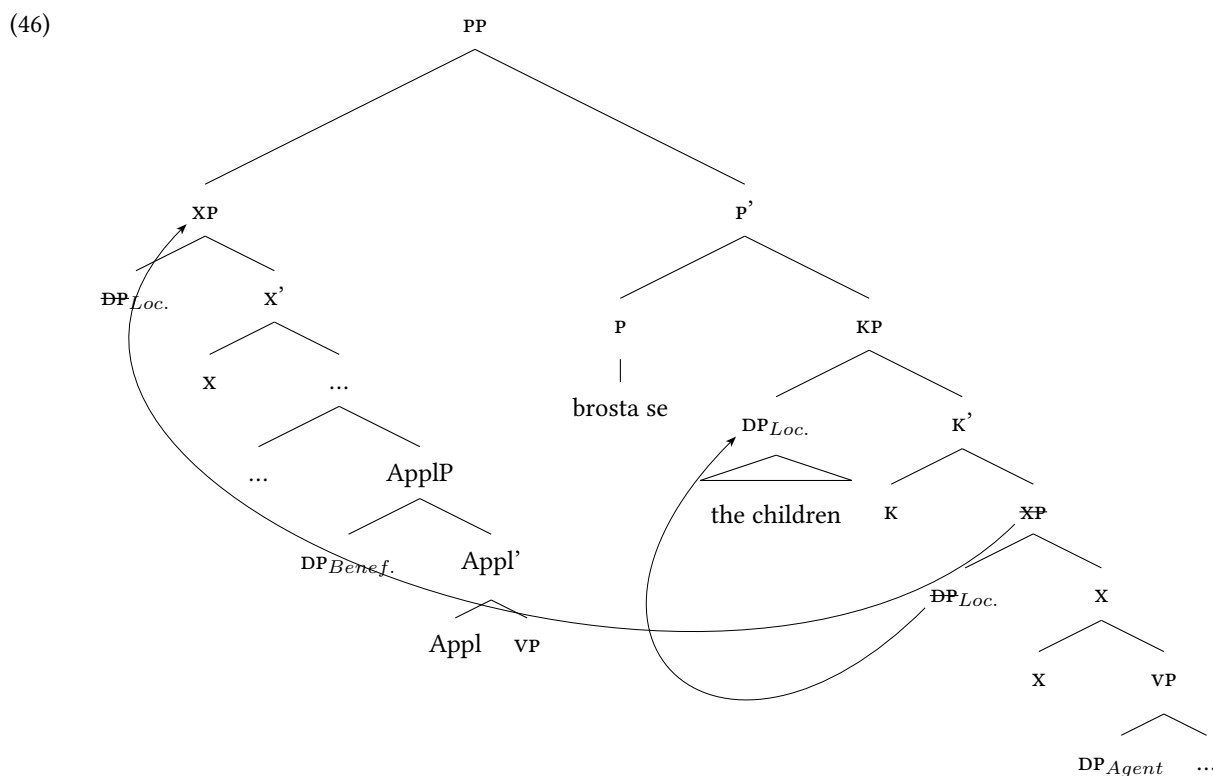
The surface complement of the locative P is introduced higher than vP in a position labeled as XP in (46) where it is assigned the theta role giving rise to the locative interpretation. KP merges

higher than the theta domain and it attracts the locative DP which is the highest argument. The locative P is merged subsequently, selects the KP as complement, and attracts the complement of K into its specifier.[8] The higher K is merged next, and the benefactive DP which also needs to get case undergoes movement to Spec KP from within the XP remnant. As in (44), *ja* is subsequently merged higher—not shown—and attraction of the complement of K to Spec of *ja* gives rise to the surface order in (45).

3.4.3   c-command and Condition C

In this section, using Condition C as diagnostic, I show that the DP complements of locative, reason and comitative PPs c-command the benefactive as is also the case with the DP complement of *by*-phrases. This finding supports my claim that the different binding possibilities of the surface complements of Ps are determined by the height of merge of different PPs and, not e.g. by the absence of c-command. Let us first consider the relevant examples.

(47) a. Dhimiurghithike apo aftin$_{*1/2}$ ja tin Maria$_1$.
          was created.3SG by   her   for the Maria
          'It was created by her for Maria.'

      b. Dhimiurghithike me   aftin$_{*1/2}$ ja tin Maria$_1$.
          was created.3SG   with her   for the Maria
          'It was created with her for Maria.'

      c. Dhimiurghithike eksetias aftis$_{*1/2}$ ja tin Maria$_1$.
          was created.3SG because her   for the Maria
          'It was created because of her for Maria.'

      d. Topothetithike koda se aftin$_{*1/2}$ ja tin Maria$_1$.
          was placed.3SG near to her   for the Maria
          'It was placed near her for Maria'

---

[8]   The locative P in this case is a complex spatial expression. I do not go into the further decomposition of this P. I assume for the ease of the reader that it is merged as one syntactic item.

It is shown that if a pronoun is hosted in *by*-PPs, comitative, reason or locative PPs, this pronoun cannot be coreferential with the proper name hosted in benefactive PP. Let us now consider this fact from the perspective of the proposed analysis. In this analysis, I proposed that all Ps merge on the spine and their surface DP complements are merged in specifiers merging at distinct syntactic heights. Specifically, in the syntactic structure corresponding to the linear order in (47), the benefactive argument is merged lower than the DPs in agents, comitative, locative and reason PPs, and, crucially, it is c-commanded by their surface DP complement of these PPs in the merge order. Given this, we can conclude that coreference between the proper name and the pronoun is blocked in (47) due to Condition C. This Condition is standardly taken to rule out coreference between a proper name and a pronoun that c-commands it. Interestingly, if the pronoun is now hosted in the benefactive PP and the proper name is in the *by*-phrase, the following data shows like in the previous cases, that coreference between the two DPs is still not possible.

(48) a. Dhimiurghithike apo tin Maria$_1$ ja aftin$_{*1/2}$.
          was created.3SG by the Maria for her
          'It was created by Maria for her.'

      b. Dhimiurghithike me tin Maria$_1$ ja aftin$_{*1/2}$.
          was created.3SG with the Maria for her
          'It was created with Maria for her.'

      c. Dhimiurghithike eksetias tis Maria$_1$ ja aftin$_{*1/2}$.
          was created.3SG because the Maria for her
          'It was created because of Maria for her.'

      d. Topothetithike koda s-tin Maria$_1$ ja aftin$_{*1/2}$.
          was placed.3SG near to Maria for her
          'It was placed near Maria for her.'

Notably, recall from previous discussion that benefactive DPs are never interpreted in the same binding domain with the DP in comitative, reason and locative PPs. This fact now suggests that Condition B, which blocks coreference between a pronoun and a referential expression in a local binding domain cannot be behind the disjoint coreference effect in (48b-48d). Given this, I propose

an alternative according to which coreference is blocked due to Condition C. Condition C applies in this case, because, as was already shown in (42), the agent DP in Spec vP is c-commanded by the benefactive in the KP, where it is internally merged for case. Similarly, the benefactive DP c-commands from Spec KP the surface DP complement of comitative, reason and locative PPs (cf. 46). This dependency, which I assume gives rise to Condition C effects in (48d) is also shown below based on the structure that I proposed for locatives in (46):

(49)

```
                        KP
                ┌────────┴────────┐
           DP_Benef.             K'
              △           ┌───────┴───────┐
             her          K              ...
                               ┌──────────┴──────────┐
                              ...                    PP
                                          ┌───────────┴───────────┐
                                         XP                      P'
                                   ┌──────┴──────┐          ┌─────┴─────┐
                                DP_Loc.         X'          P           KP
                                          ┌─────┴─────┐     │      ┌─────┴─────┐
                                          X          ...   near  DP_Loc.     K'
                                               ┌──────┴──────┐          △     ┌──┴──┐
                                              ...          ApplP       Maria  K   ...
                                                     ┌───────┴───────┐
                                                  DP_Benef.        Appl'
                                                              ┌──────┴──────┐
                                                             Appl          vP
```
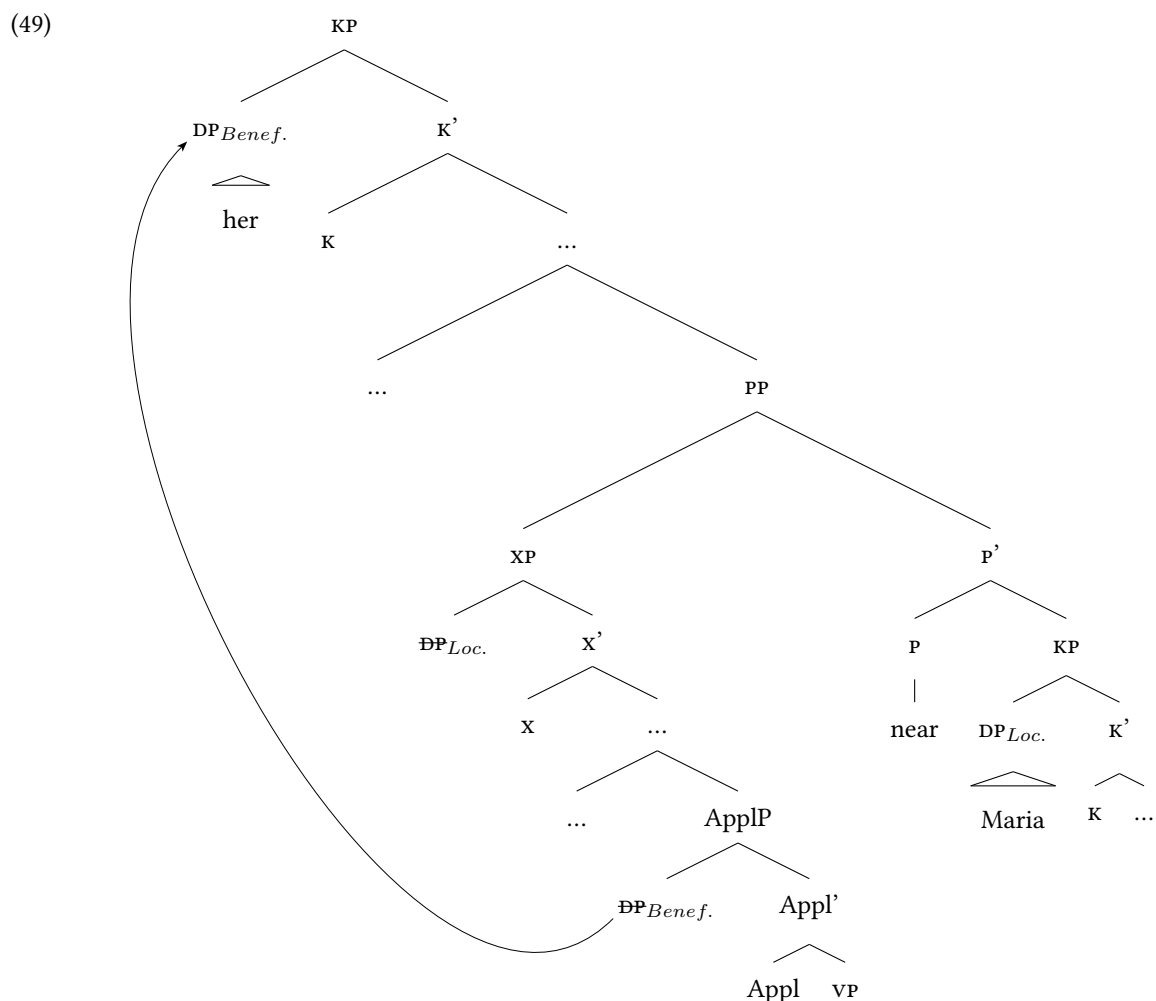
3.5   Ps and selectional properties

This chapter is an extension of the discussion in Section 3.4.1. It discusses one more P, that is, *me*, and focuses only on a specific aspect of their behavior. Concretely, it is shown that just like *apo* and *ja*, *me* has selectional properties, which restrict its distribution only to certain syntactic

contexts. Building on the analysis proposed in the previous sections, this section provides an account of this distributional restriction of *me*.

3.5.1 Theta-role Assignment

Me can introduce PPs bearing different theta-roles. In what follows, I show *me* introducing PPs which are interpreted as the instrument, (50a), and PPs, interpreted as the Target of Emotion, as in (50b).

(50) a. Ekopse to harti me lazer.
cut.3SG the paper with lazer
'He cut the paper with lazer.'   Instrument

b. Afto to arthro ekane tin Eleana   na thimosi/ nevriasi me tin
this the article made the Eleana.ACC na get angry/ get upset with the
kivernisi.
government
'This article made Eleana get angry/ upset with the govenment.'   T. of Emotion

3.5.2 Aspectual Sensitivity

Instrument PPs are well known to be compatible only with eventive predicates. Here, I show that *me* in Target of Emotion PPs exhibits identical behavior. This is illustrated in the following pair where I discuss cases in which a *me* Target of Emotion PP is used in a periphrastic construction formed with a verb and a psych noun.

(51) a. O idhios   pire   meghali hara $\boxed{\text{me}}$ ton titlo   afto.
the same.NOM took.3SG great   joy with the award this
'He got very happy with this award.'

b. ?? O idhios   iche   meghali hara $\boxed{\text{me}}$ ton titlo   afto.
the same.NOM had.3SG great   joy with the award this
'He was very happy with this award.'

In (51), there are two predicates, *pire*-'took' and *iche*-'had'. These two predicates differ in terms of aksionsart/ inner aspect. Concretely, the first is an eventive predicate whereas the second is stative. Hence, (51a) suggests that *me* can combine with the eventive predicate, that is *pire*. On the other hand, (51b) shows if the predicate is stative, the sentence is a lot more degraded as indicated above.

3.5.3   Analysis

The fact that *me* is only compatible with eventive predicates shows that it can merge as low as the process projection, that is, the projection which encodes eventivity (proP in Ramchand 2008). Under the proposed analysis, this makes more sense if *me* selects this process projection (or a projection merged higher than the process projection). With this in mind, let us consider one of the constructions in which *me* is used. For instance, let us take the construction in (50b). The verbs in this case that is, *thimosi/ nevriasi*-'get angry/ upset', select two arguments, a DP assigned the experiencer theta role, *tin Eleana*, and a *me*-PP interpreted as the Target of Emotion. Following Pesetsky (1996) and Landau (2009), I assume that the experiencer is introduced VP internally, and that the position in which it is entered is syntactically higher than the one introducing the Target of Emotion, as shown below:

(52)

$$
\begin{array}{c}
\text{VP} \\
\diagup\diagdown \\
\text{DP}_{Experiencer} \quad \text{V}' \\
\diagup\diagdown \\
\text{V} \quad \text{DP}_{Target\,of\,Emotion}
\end{array}
$$
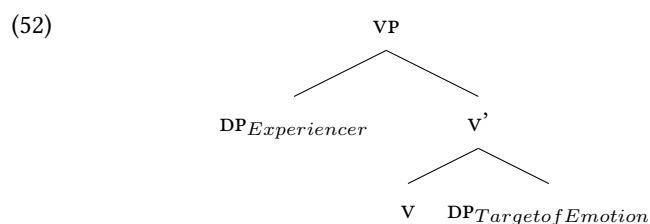
Since this predicate is eventive, the process projection must be syntactically present. In addition, the first KP is merged higher than the process projection and attracts the experiencer, that is, the highest argument in the VP, as shown below:

(53)

KP
 DP$_{Experiencer}$ K'
                K   vP$_{Process}$
                   v$_{Process}$ VP
                           ~~DP~~$_{Experiencer}$ V'
                                        V   DP$_{Target of Emotion}$
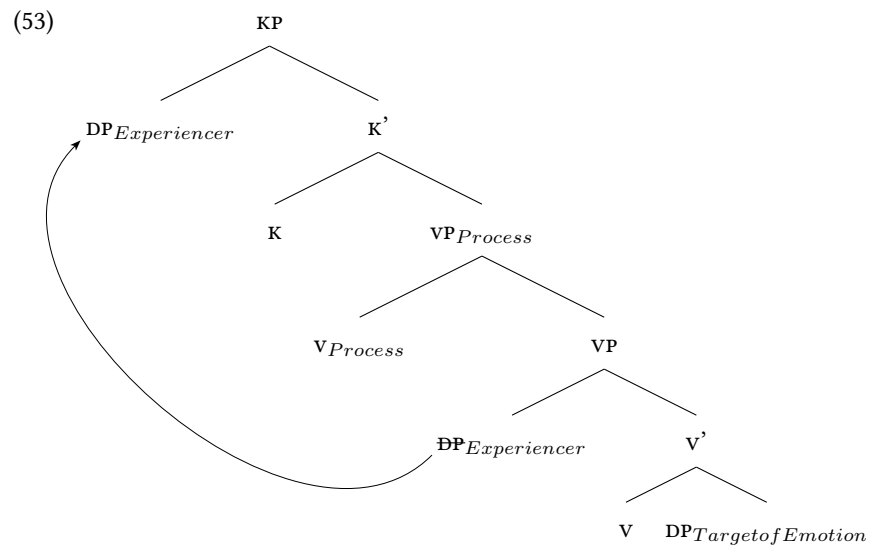
The vP is moved, and is merged as a left adjunct to KP (or a higher projection), as shown below:

(54)

vP$_{Process}$
 vP$_{Process}$ KP
  v$_{Process}$ VP   DP$_{Experiencer}$ K'
          ~~DP~~$_{Experiencer}$ V'   K   vP$_{Process}$
                    V   DP$_{Target of Emotion}$
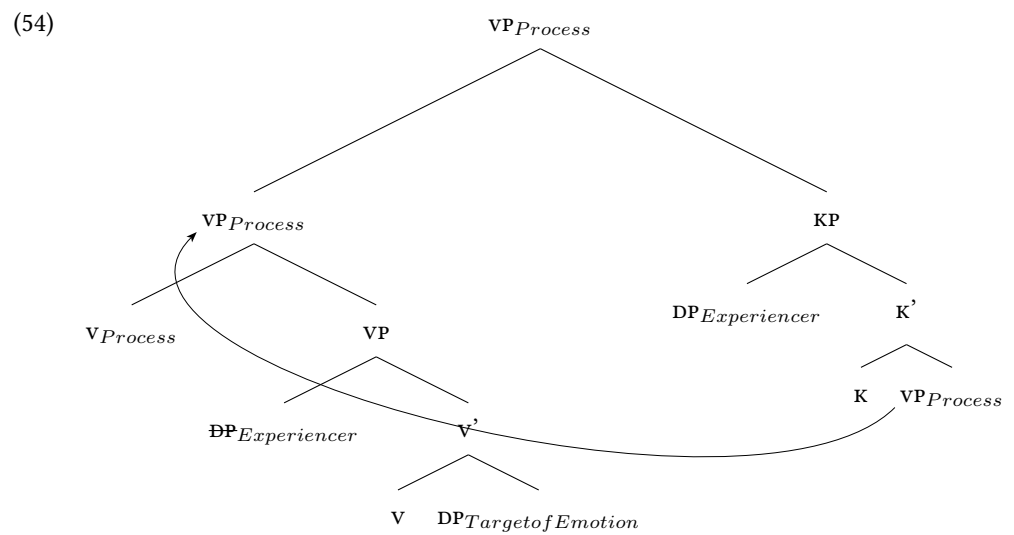
An additional KP is merged higher, and attracts the DP assigned the Target of Emotion theta role. *Me* selects this higher KP, and attracts the complement of K into its specifier satisfying its selectional requirements:

(55)

$$
\begin{array}{c}
\text{PP} \\
\swarrow \qquad \searrow \\
\text{VP}_{Process} \qquad\qquad \text{P'} \\
\qquad\qquad \swarrow \qquad\qquad \searrow \\
\qquad\qquad \text{P} \qquad\qquad\qquad \text{KP} \\
\qquad\qquad | \\
\qquad\qquad \text{me} \\
\qquad\qquad\qquad \text{DP}_{Target\,of\,Emotion} \qquad \text{K'} \\
\qquad\qquad\qquad\qquad\qquad \swarrow \qquad\qquad \searrow \\
\qquad\qquad\qquad\qquad \text{K} \qquad\qquad\qquad \text{VP}_{Process} \\
\qquad\qquad\qquad\qquad\qquad\qquad \swarrow \qquad\qquad \searrow \\
\qquad\qquad\qquad\qquad\qquad \text{VP}_{Process} \qquad\qquad \text{KP} \\
\qquad\qquad\qquad\qquad \swarrow \quad\searrow \qquad\qquad \swarrow \quad \searrow \\
\text{V}_{Process} \qquad \text{VP} \qquad \text{DP}_{Exper.} \quad \text{K'} \\
\qquad\qquad \swarrow \quad \searrow \qquad\qquad\qquad \swarrow \searrow \\
\qquad\qquad \text{DP}_{Exper.} \quad \text{V'} \qquad\qquad \text{K} \quad \text{VP}_{Proc.} \\
\qquad\qquad\qquad\qquad \swarrow \searrow \\
\qquad\qquad\qquad \text{V} \quad \text{DP}_{Target\,of\,Emotion}
\end{array}
$$
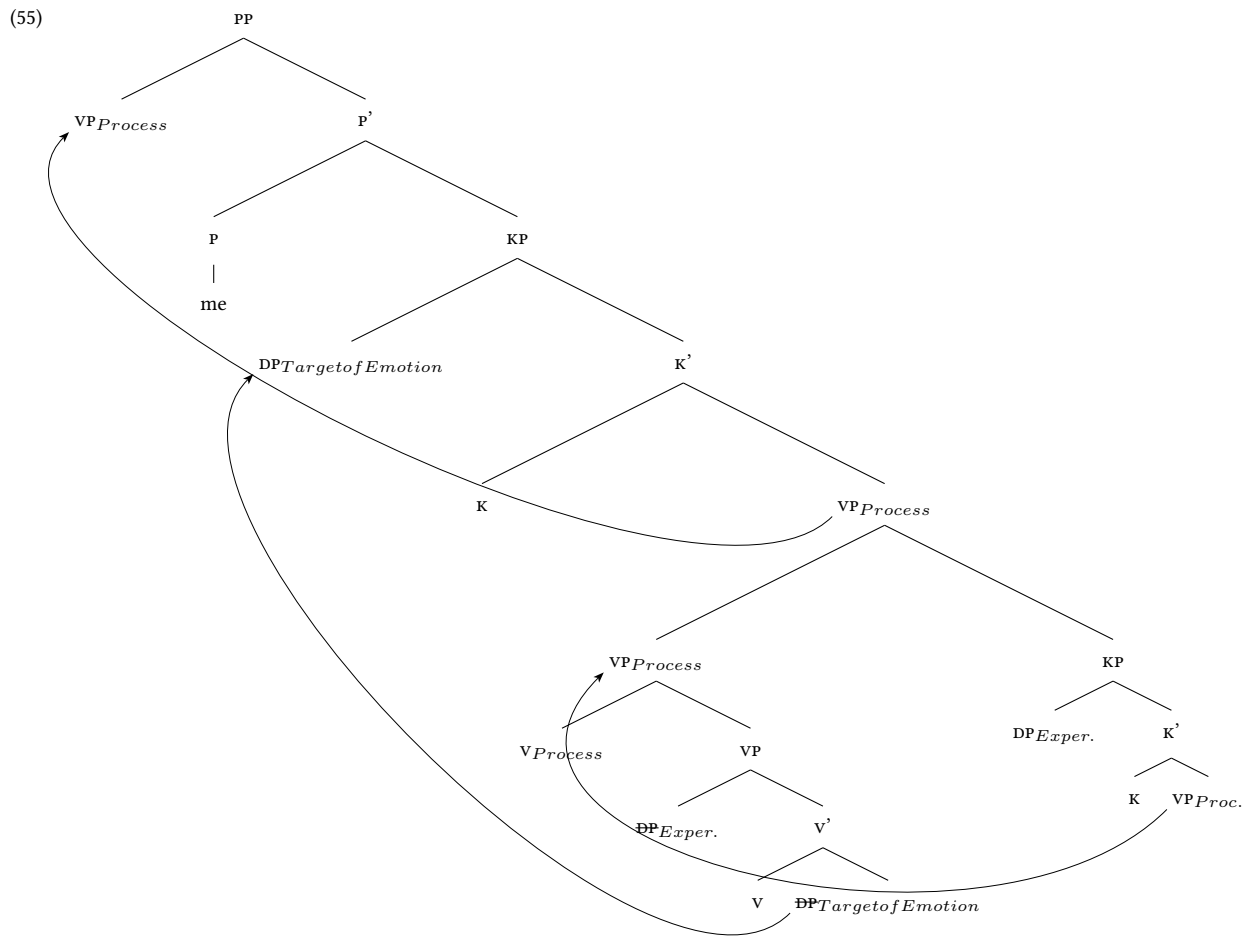
3.5.4 VP re-projection

In Section 3.5.3, I proposed that Ps have selectional properties, and attract various VPs into their Spec. With this in mind, let us now turn our attention to heads merging higher than the PP, and examine how they can be merged. For instance, let us consider T. This head is standardly assumed to select VP as complement. Nonetheless, under the proposed analysis, it is unclear how T and VP can be merged together because the XP, which is projected after VP movement to Spec P is a PP, not a VP, as illustrated below:

(56)

VP … P'

P … KP

… K'

K … VP

… …

PP
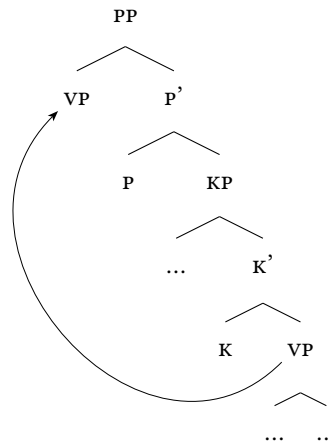
This issue also arises in (42) where *ja* must attract an ApplP into its specifier in order to satisfy its selectional requirements. In this case, ApplP is not immediately available because it is hosted in the specifier of the PP headed by *apo*. In order to resolve this issue, I assumed in the previous section that a formal mechanism through which a VP may re-project is left adjunction. In particular, I assumed that the VP can undergo movement, and be merged as a left adjunct, as shown in (54). Here, I discuss an alternative proposed in Sportiche (2017c) which handles this re-projection issue dispensing with adjunction. To start with, Sportiche examines PPs like in (57):

(57)   A cow is missing in the barn.

and argues that the PP *in the barn* and the VP *is missing* are not combined via adjunction. His claim is as follows. The semantic counterpart of an adjunction structure is interpreted via the Predicate Modification rule of Heim and Kratzer (1998). Nonetheless, as Sportiche points out, Predicate Modification derives the following incorrect interpretation: a cow is missing and is in the barn. The correct interpretation, Sportiche notes, is one in which '[...] the barn is missing a cow or to put it more closely to the surface syntax, a "missing" is occurring in the barn, which is a missing of a cow.' He takes this interpretation to mean that '[...] the subject is the expression denoting the missing (of a cow).' More concretely, he claims that '[...] the underlying VP $[_{VP}$ a cow miss] denotes the definite or indefinite "event" "the missing of a cow" or the indefinite "event" "a missing of a cow".' Based on this, he proposes that the VP denoting the event is the subject of the PP in the barn, as shown below:

(58) $[_{PP} [_{VP}$ a cow miss] [in [the barn]]]

Notice, now, the similarity between the structure proposed for ᴘᴘs in Sportiche (2017a) and the analysis of ᴘᴘ formation I proposed previously. Specifically, ᴘs in both analysis project a specifier hosting a subject. The only difference is that the ᴘ's subject in Sportiche's analysis is externally merged in Spec ᴘᴘ whereas it is internally merged in the one I proposed. This difference is not crucial as (58) can be modified along the lines of the analysis I put forward here i.e. as in (46). Note also that both analyses run into the same problem in regard to locality of selection. That is, if the ᴠᴘ is not projected in (58), it is unclear how ᴛ can be merged in this structure. In other words, the conundrum in this case is that both structures in (59) are needed, however, for different purposes.

(59) a. $[_{PP}$ $[_{VP}$ a cow miss] [in [the barn]]]

      b. $[_{VP}$ $[_{VP}$ a cow miss] [in [the barn]]]

(59a) is the syntactic structure capturing the underling predicate-argument relation between the ᴘ and the ᴠᴘ. On the other hand, (59b) is the structure in which ᴛ can be merged with the ᴠᴘ. The state of affairs in (59) is an apparent contradiction, which, as Sportiche notes, can be resolved '[...] by allowing the ᴠᴘ to occur twice, once as subject of the ᴠᴘ and one outside of it:

(60) $[_{VP}$ $[_{VP1}$ sleep] $[_{PP}$ $[_{VP2}$ sleep] [in the barn]]]'

Sportiche argues that '[...] the syntactic structure created by the device that allows a constituent—-here the ᴘᴘ—to be seen from its outside as one of its subconstituents—here the ᴠᴘ subject of ᴘᴘ. This device is of course relativization, the syntactic counterpart of a semantic operation shifting the type of a constituent to one of its subconstituents. In the standard case of a relative clause, a relative clause is seen from the outside as one of the ɴᴘs it contains. Accordingly the structure in (60) involves ᴠᴘ relativization with ᴠᴘ$_2$ controlled by or trace of ᴠᴘ$_1$, and thus silent.' Importantly, assuming that relativization in the sense of Sportiche (2017c) is involved in the ᴘᴘ formation algorithm can resolve the re-projection issue in the proposed analysis more successfully via an indepedently motivated operation, that is, relativation. For instance, in (42), Applᴘ may undergo relativization from Spec apoᴘ into the position shown as ʏᴘ, and, hence re-project, which would in turn allow *ja* satisfy its selectional requirements by attracting Applᴘ into its specifier.

3.6 Conclusion

In this chapter, I presented binding data in Greek, which speak in favor of three assumptions. The first is that Ps merge uniformly on the spine separately from their surface complement. In addition, the surface DP complement of P is merged in distinct syntactic positions, which are hierarchically organized depending on their theta role. Lastly, Ps select KPs as complements, and have selectional requirements, which are satisfied attracting the complement of K into the specifier of P. Given this, I showed that Ps are not merged at random. Instead, they can only merge at syntactic heights in which the complement of K can satisfy their selectional requirements.

CHAPTER 4

PPS in a hierarchy

4.1 Introduction

In Chapter 3, I argued on the basis of binding data that PPS are merged hierarchically in a fixed order. In this chapter, I present new claims in support to the merge order arising from the binding data using as evidence new data from the distribution of *wh*-possessors in bare DPS, as in the three patterns in (1), and in DPS embedded in PPS, as in (2).

(1) a. Dhiavase pjanu   to vivlio?
         read.3SG whose.GEN the book.ACC
         'Whose book did she read?'

     b. Pjanu   to vivlio   diavase?
         whose.GEN the book.ACC read.3SG
         'Whose book did she read?'

     c. Pjanu   diavase to vivlio?
         whose.GEN read.3SG the book.ACC
         'Whose book did she read?'

(2) a. Harike   ja pjanu   ton horismo.
         got happy.NACT.3SG for who.GEN the separation.ACC
         'For whose separation did she get happy?'

     b. Ja pjanu   harike   ton horismo?
         for who.GEN got happy.NACT.3SG the separation.ACC
         'For whose separation did she get happy?'

Interestingly, I show that the fixed order in which PPs are merged in Greek is strikingly similar—if not identical to—the order, in which PPs in other languages e.g. German, have been shown to be merged (cf. Schweikert 2005 and Cinque 2006). I assume that this similarity is not an accident of languages, and that it strongly suggests that PPs are cross-linguistically merged in a universal order, as has been proposed in Schweikert (2005) and Cinque (2006). In addition, looking at distribution of *wh*-possessors in bare and embedded PPs, I suggest that the underlying syntax of certain patterns can be understood from a new perspective according to which internal merge is involved in a more pervasive manner than originally thought. Concretely, focusing on the pattern in (1c), I show that despite appearances, the possessor only seemingly undergoes extraction by itself. I suggest that in fact, the possessor in (1c) stays in-situ in a bigger DP containing a copy of the possessum, which has undergone movement into the middle field between vP and TP.

The discussion in this chapter proceeds as follows. First, I present background information on the distribution of *wh*-possessor in DPs in different argument positions (section 4.2). In light of this background information, I proceed in Section 4.2.2 where I present new data and a new analysis of the pattern in (1c). According to this analysis, the possessum undergoes one movement step into the middle field, and the possessor pied pipes a DP remnant into the left periphery. In what follows in this section, I present in support of this new analysis new data from the distribution of *wh*-possessors in DPs embedded in PPs. This new data shows that the possessum can undergo movement into the middle field only from a subset of PPs. In Section 4.3, I argue that this is so due to the fact that PPs are merged in a fixed order. I also show that this order is strikingly similar to the one proposed in Schweikert (2005). Section 4.4 concludes.

4.2   A-bar movement of possessors in Greek

4.2.1   A-bar movement of possessors out of bare DPs

The discussion in this section starts with possessors in direct object positions (themes). This position is easy to extract from, but, in fact, I discuss that DP arguments with distinct theta-roles e.g. agents or causers, behave similarly. I focus on three distinct patterns in which a *wh*-possessor

can surface. The first is the one in (3) where the DP occurs in a post-verbal position. Post-verbal possessors can surface in two positions, prenominally, as in (3a) or postnominally, as in (3b).

(3) **In-situ wh-possessor**

    a.   Ipes   s-tin Eleana   pos diavases to vivlio   tinos ?
         told.2SG to-the Eleana.ACC pos read.2SG the book.ACC who.GEN
         'Whose book did you tell Eleana that you read?'

    b.   Ipes   s-tin Eleana   pos diavases tinos   to vivlio?
         told.2SG to-the Eleana.ACC pos read.2SG who.GEN the book.ACC
         'Whose book did you tell Eleana that you read?'

The next pair of sentences shows that the possessor can pied pipe the possessum into the left periphery in which case the *wh*-possessor can surface again prenominally or postnominally.

(4) **Pied-piping**

    a.   To vivlio   tinos   ipes   s-tin Eleana   pos diavases?
         the book.ACC who.GEN told.2SG to-the Eleana.ACC pos read.2SG
         'Whose book did you tell Eleana that you read?'

    b.   Tinos   to vivlio   ipes   s-tin Eleana   pos diavases?
         who.GEN the book.ACC told.2SG to-the Eleana.ACC pos read.2SG
         'Whose book did you tell Eleana that you read?'

There is also a third pattern to which I will be referring as '**possessor splitting**'. In this pattern, the possessor surfaces in the left periphery separately from the possessum.

(5) **Possessor Splitting**

    Tinos   ipes   s-tin Eleana   pos diavases to vivlio?
    who.GEN told.2SG to-the Eleana.ACC pos read.2SG the book.ACC

    'Whose book did you tell me that you read?'

The next set of examples illustrates that possessor splitting is available with more internal theta roles than just themes. For instance, the following examples show DPs bearing the target of emotion permit the same extraction patterns:

(6) **In-situ wh-possessor**

    a.   Mu   ipes   pos latrepses   to vivlio   <u>tinos</u>?

        1SG.DAT told.2SG pos adored.2SG the book.ACC who.GEN

        'Whose book did you tell me you adored?'

    b.   Mu   ipes   pos latrepses   <u>tinos</u>   to vivlio?

        1SG.DAT adored.2SG pos adored.2SG who.GEN the book.ACC

        'Whose book did you tell me you adored?'

(7) **Pied-piping**

    a.   To vivlio   <u>tinos</u>   mu   ipes   pos latrepses?

        the book.ACC who.GEN 1SG.DAT told.2SG pos adored.2SG

        'Whose book did you tell me you adored?'

    b.   <u>Tinos</u>   to vivlio   mu   ipes   pos latrepses?

        who.GEN the book.ACC 1SG.DAT told.2SG pos adored.2SG

        'Whose book did you tell me you adored?'

(8) **Possessor Splitting**

    <u>Tinos</u>   mu   ipes   pos latrepses   to vivlio?

    who.GEN 1SG.DAT adored.2SG pos adored.2SG the book.ACC

    'Whose book did you tell me you adored?'

As in many other null subject languages e.g. Turkish, Hindi, Russian, Palauan, Hungarian, Japanese and Basque, external arguments exhibit the same extraction possibilities (cf. Stepanov 2001). That is, external arguments of Greek permit DP internal possessors, pied piping and possessor splitting (cf. Philippaki-Warburton and Spyropoulos 2002, Kotzoglou 2010), as shown below:

(9) **In-situ wh-possessor**

    a.   Ipes   oti o pateras |tinos| tha kani   parapona?

        said.2SG oti the father.NOM who.GEN will make.3SG complaints

        'Whose father did you say will complain?'

    b.   Ipes   oti |tinos| o pateras   tha kani   parapona?

        said.2SG oti who.GEN the father.NOM will make.3SG complaints

        'Whose father did you say will complain?'

(10) **Pied-piping**

    a.   O pateras |tinos| ipes   oti tha kani   parapona?

        the father.NOM who.GEN said.2SG oti will make.3SG complaints

        'Whose father did you say will complain?'

    b. |Tinos| o pateras   ipes   oti tha kani   parapona?

        who.GEN the father.NOM said.2SG oti will make.3SG complaints

        'Whose father did you say will complain?'

(11) **Possessor Splitting**

    |Tinos| ipes   oti o pateras   tha kani   parapona?

    who.GEN said.2SG oti the father.NOM will make.3SG complaints

    'Whose father did you sayd will complain?'

To sum up, this section presented data from previous literature showing that *wh*-possessors originating in DPs in different argument positions can give rise to three distinct patterns depending on the position they occupy with respect to the verb and the possessum argument. The following table summarizes these three patterns.

	External arguments	Internal arguments
DP internal possessor: Pre/Postnominal possessor	✓	✓
Pied-piping: Pre/Postnominal possessor	✓	✓
Possessor Splitting	✓	✓

Table 4.1: A-bar movement of possessors.

4.2.2 Discussion

Since Horrocks and Stavrou (1987), possessor splitting from Table 4.1 is standardly analyzed in terms of possessor extraction. Under this view, the specifier of the DP in Greek is an A-bar specifier. In possessor splitting, the possessor uses Spec DP as an escape hatch for A-bar movement into the left periphery, as shown in the structure below:

(12) $[_{CP}$ Tinos   [diavases $[_{DP}$ t$_i$ $[_{D'}$ to$_D$ vivlio   t$_i$]]]?
          whose.GEN   read.2SG   the book.ACC
          'Whose book did you read?'

This standard analysis makes direct theoretical sense simply because "possessor extraction" seems to be matching the successive cyclic movement analysis so well. However, as I show next, the possessum as well forms a constituent exactly like the possessor hence, as illustrated below, it can undergo extraction.

(13) a. Pjo   vivlio   dhiavases tu Seferi?
           which book.ACC read.2SG   the Seferi.GEN
           'Which book of Seferi's did you read?

b. Pja   tenia idhate tu Fellini?

which movie saw.2PL the Fellini.GEN

'Which movie of Fellini's did you see?'

This fact is not taken into account in Horrocks and Stavrou (1987), who as a result, do not consider alternative analyses. Yet, the standard possessor extraction analysis is problematic: if we embed the DP within PPs, as in (14), we will see that the *wh*-possessor in fact always stays DP internally, hence, it must always follow the P, (14), whereas the possessum can separate from (certain) PPs as in (15), where it surfaces alone in a post-verbal position (hereafter PP-possessor splitting).

(14) * Pjanu   harike   ja ton horismo?

whose.GEN be.happy.3SG for the separation.ACC

'For whose separation was she happy?'

(15) Ja pjanu   harike   ton horismo?

for whose.GEN be.happy.3SG the separation.ACC

'For whose separation is she happy?'

In light of the contrast in (14) and (15), I propose a new analysis of the "Possessor Splitting" pattern repeated below:

(16) **Possessor Splitting**

Tinos ipes   oti o pateras   tha kani   parapona?

who.GEN said.2SG oti the father.NOM will make.3SG complaints

'Whose father did you sayd will complain?'

According to this analysis, "possessor splitting' involves at least two movement steps. The first is movement of the possessum DP into the middle field below TP shown as XP below:

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(17)

FocusP
- DP
  - dP_{Acc}
    - the book (struck through)
  - D'
    - D
    - dP_{Gen}
      - whose
- Focus'
  - Focus
  - TP
    - ...
    - T'
      - T
      - XP
        - dP_{Acc}
          - the book
        - X'
          - X
          - VP
            - V
            - DP
              - dP_{Acc}
                - the book (struck through)
              - D'
                - D
                - dP_{Gen}
                  - whose
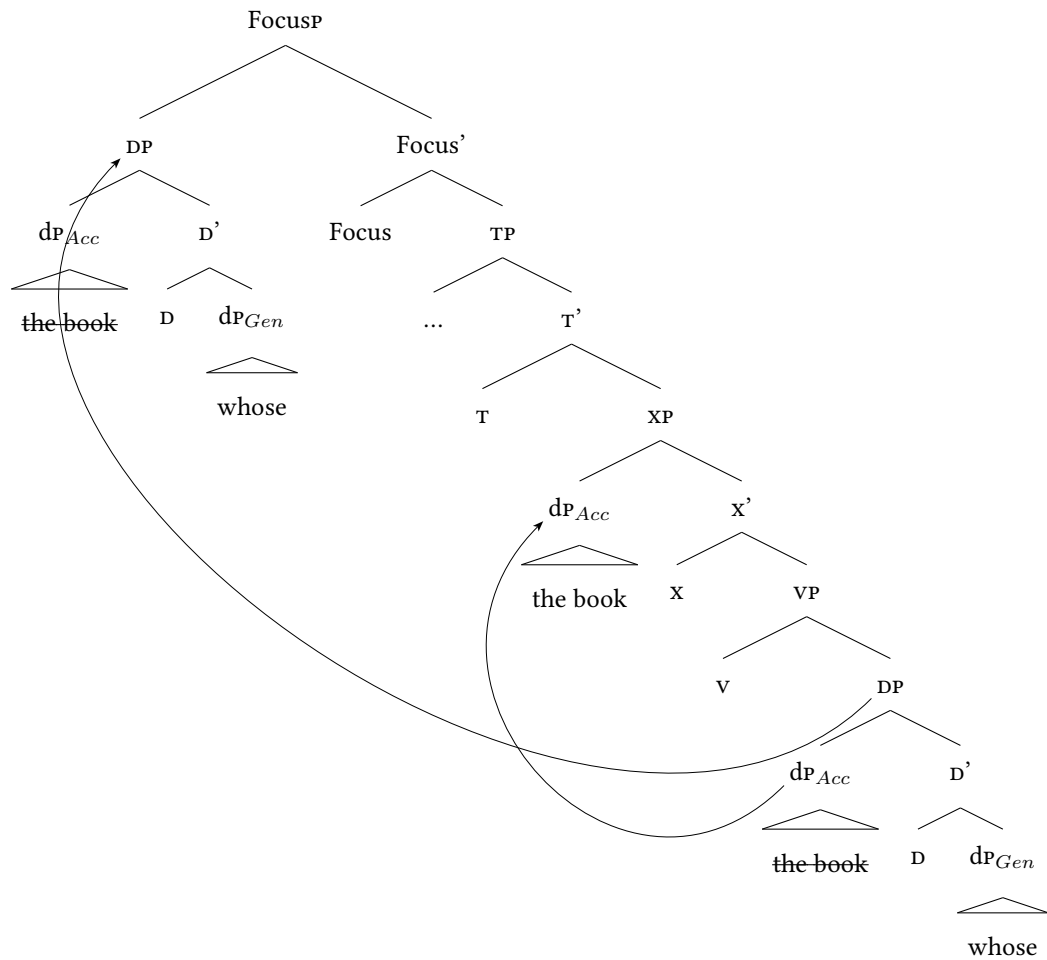
Moreover, I suggest that the genitive possessor stays DP internally and that it pied pipes the dP remnant containing the copy of the possessum into the left periphery. This derivation raises several questions. For instance, where exactly is X located in the hierarchy? I use Greek PPs to help illuminate this question. Since I have shown that Ps are merged at different heights in the spine, the question is if PP-possessor splitting of (15) which, as I discuss, involves movement of the possessum to XP can be replicated with all PPs, or is only found with some PPs. I investigate this question by using the Universal hierarchy of PPs established by Schweikert (2005) and Cinque (2006) and apply it to Greek. Concretely, using data from an informal study with ten native speakers of Modern Greek, I show that agent, causer, benefactive, instrument, source and matter PPs permit PP-possessor splitting (Group A PPs). On the other hand, PP-possessor splitting is blocked in temporal and evidential PPs (Group B PPs). Lastly, PP-possessor splitting is subject to

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speaker variation in comitative and locative PPs (Group C PPs).[1]

(18) a. **Group A**: Agent, Causer, Benefactive, Instrument, Matter and Source,

    b. **Group B**: Evidential, Temporal,

    c. **Group C**: Locative, Comitative.

Given these three groups, I propose that Ps that Group A PPs are merged below x of (17) hence, they allow PP-possessor splitting. On the other hand, I assume that Group PPs are merged above x blocking PP-possessor splitting. Group C PPs are subject to speaker variation as XP can occupy a different position for different speakers.

    Before closing, I would like to note that although PPs behave differently with respect to PP-possessor splitting, they are uniformly subject to a pied piping requirement. That is, the possessum cannot be split from an in-situ PP, as shown in (19):

(19) * Harike   ton horismo   ja pjanu?
      be.happy.3SG the separation.ACC for whose.GEN
      'For whose the separation was she happy?'

Instead, the PP must undergo pied-piping into the left periphery, which is the case in (15). With as much as background, let us now examine the behavior of Group A-C in more detail in the following sections.

4.2.3   Group A PPs

4.2.3.1   Matter and Target of Emotion PPs

This section focuses on the distribution of *wh*-possessors in target of emotion and matter PPs. PPs bearing these theta roles are used with subject experiencer predicates like *harike*-'got happy' in (20) and are introduced with *me* and *ja* respectively (cf. Roussou 2018).

---

[1]   I suspect that speaker variation has to do with age and regional differences.

(20) a. I Eleana harike me ton Jani.

the Eleana.NOM got.happy.NACT.3SG with the John.ACC

'Eleana got happy with John.'

b. I Eleana harike ja ton Jani.

the Eleana.NOM got.happy.NACT.3SG for/about the John.ACC

'Eleana got happy about John.'

First, I show that *ja-* and *me-*PPs hosting *wh*-possessors can surface post-verbally, (21) and (22). Or, the possessor can pied-pipe the *ja-* or *me-*PP in the left periphery, as shown in (23) and (24). In both cases, the possessor can appear prenominally or postnominally.

(21) **In-situ wh-possessor**

a. Harike ja ton horismo pjanu?

was.happy.3SG for/about the separation.ACC who.GEN

'About whose separation was she happy?'

b. Harike ja pjanu ton horismo?

was.happy.3SG for/about who.GEN the separation.ACC

'About whose separation was she happy?'

(22) **In-situ wh-possessor**

a. Harike me ton horismo pjanu?

got happy.3SG with the separation.ACC who.GEN

'With whose separation did she get happy?'

b. Harike me pjanu ton horismo?

got happy.3SG with who.GEN the separation.ACC

'With whose separation did she get happy?'

(23) **Pied-piping**

a. Ja ton horismo pjanu harike?

for/about the separation.ACC who.GEN was.happy.3SG

'About whose separation was she happy?'

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b.   Ja   ☐pjanu☐   ton horismo   harike?

for/about who.GEN the separation.ACC was.happy.3SG

'About whose separation was she happy?'

(24) **Pied-piping**

a.   Me   ton horismo   ☐pjanu☐   harike?

with the separation.ACC who.GEN got happy.3SG

'With whose separation did she get happy?'

b.   Me   ☐pjanu☐   ton horismo   harike?

with who.GEN the separation.ACC got happy.3SG

'With whose separation did she get happy?'

As discussed already, the possessor splitting pattern in which the possessor extracts from the PP into the left periphery is strictly prohibited in all PPs. This is illustrated below with *ja-* and *me-*PPs:

(25) **Possessor Splitting**

a.   *☐Pjanu☐   harike   ja   ton horismo?

who.GEN got happy.3SG for/about the separation.ACC

'About whose separation was she happy?'

b.   *☐Pjanu☐   harike   me   ton horismo?

who.GEN got happy.3SG with the separation.ACC

'With whose separation did she get happy?'

Lastly, matter *ja-* and causer *me-*PPs permit PP-possessor splitting in which case the P and the possessor surface in the left periphery, and the possessum is stranded post-verbally as illustrated in (26a) and (27a). In addition, both *me-* and *ja-*PPs are subject to the pied piping requirement, as shown in (26b) and (27b).

(26) **PP-possessor Splitting**

a.   Ja   ☐pjanu☐   harike   ton horismo?

for/about who.GEN was happy.3SG the separation.ACC

'About whose separation was she happy?'

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b. * Harike   ton horismo   ja | pjanu |?

was happy.3sg the separation.acc for who.gen

'About whose separation was she happy?'

(27) **pp-possessor Splitting**

a. Me | pjanu | harike   ton horismo?

with who.gen got happy.3sg the separation.acc

'With whose separation did she get happy?'

b. * Harike   ton horismo   ja | pjanu |?

got happy.3sg the separation.acc for/about who.gen

'With whose separation did she get happy?'

In the next sections, I show that agent, causer pps, instrument and benefactive pps allow the same patterns as matter and Target of Emotion pps.

4.2.3.2 Agent and Causer pps

Agent and causer pps are introduced in Greek with *apo*, as shown in (28) and (29).

(28)   Enohlithike   apo ti siberifora   tis Eleanas.

got.annoyed.3sg by   the behavior.acc the Eleana.gen

'She got annoyed by Eleana's behavior.'

(29)   Dolofonithike apo ton aderfo   tis Marias.

got.killed3sg   by   the brother.acc the Maria.gen

'He got murdered by Mary's brother.'

Interestingly, causer and agent *apo*-pps permit the same patterns with *wh*-possessors, like *ja*- and *me*-pps. Thus, they allow post-verbal possessors and pied-piping, (30)-(31) and (32)-(33) respectively.

(30) **In-situ wh-possessor**

a. Enohlithike   apo tin siberifora   ☐pjanu☐?
got annoyed.3SG by   the behavior.ACC who.GEN
'By whose behavior did she get annoyed?'

b. Enohlithike   apo ☐pjanu☐   tin siberifora?
got annoyed.3SG by   who.GEN the behavior.ACC
'By whose behavior did she get annoyed?'

(31) **In-situ wh-possessor**

a. Dolofonithike   apo ton aderfo   ☐pjanu☐?
got murdered.3SG by   the brother.ACC who.GEN
'By whose brother did he get murdered?'

b. Dolofonithike   apo ☐pjanu☐   ton aderfo?
got murdered.3SG by   who.GEN the brother.ACC
'By whose brother did he get murdered?'

(32) **Pied-piping**

a. Apo tin siberifora   ☐pjanu☐   enohlithike?
by   the behavior.ACC who.GEN got annoyed.3SG
'By whose behavior did she get annoyed?'

b. Apo ☐pjanu☐   tin siberifora   enohlithike?
by   who.GEN the behavior.ACC got annoyed.3SG
'By whose behavior did she get annoyed?'

(33) **Pied-piping**

a. Apo ton aderfo   ☐pjanu☐   dolofonithike?
by   the brother.ACC who.GEN got murdered.3SG
'By whose brother did he get murdered?'

b. Apo ☐pjanu☐ ton   aderfo   dolofonithike?
by   the   brother.ACC who.GEN got murdered.3SG
'By whose brother did he get murdered?'

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Moreover, possessor splitting is uniformly ruled out in causer and agent *apo*-PPs.

(34) **Possessor Splitting**

    a. * Pjanu   enohlithike   apo tin siberifora?

        who.GEN got annoyed.3SG by   the behavior.ACC

        'By whose behavior of whose did she get annoyed?'

    b. * Pjanu   dolofonithike   apo ton aderfo?

        who.GEN got murdered.3SG by   the brother.ACC

        'By whose brother did he get murdered?'

Lastly, both agent and causer PPs permit PP-possessor splitting, as long as the P and possessor are left peripheral.

(35) **PP-possessor splitting**

    a. Apo pjanu   enohlithike   tin siberifora?

        by   whose.GEN got annoyed.3SG the behavior.ACC

        'By whose behavior did she get annoyed?'

    b. * Enohlithike   tin siberifora   apo pjanu ?

        got annoyed.3SG the behavior.ACC with whose.GEN

        'By whose behavior did she get annoyed?'

(36) **PP-possessor splitting**

    a. Apo pjanu   dolofonithike   ton aderfo?

        by   whose.GEN got murdered.3SG the brother.ACC

        'By whose brother did he get murdered?'

    b. * Dolofonithike   ton aderfo   apo pjanu ?

        got murdered.3SG the brother.ACC by   whose.GEN

        'By whose brother did he get murdered?'

4.2.3.3 Instrumental PPs

Instrumental PPs in Greek are introduced with *me*, which, as we saw, also introduces Target of Emotion PPs. (37) illustrates instrumental *me* in a plain example combining where the P is combined with an accusative DP.

(37)   I   Maria   evapse   me ta pinela   tis Eleanas.
         the Maria.NOM painted.3SG with the brushes.ACC the Eleana.GEN
         'Maria painted with Eleana's brushes.'

As with matter, agent and causer PPs, instrumental *me*-PPs allow post-verbal possessors, (38), pied piping, (39), and PP-possessor splitting, (41). On the other hand, they block possessor splitting (cf. 40).

(38)   **In-situ wh-possessor**

     a.   Evapse   me ta pinela $\boxed{\text{pjanu}}$?
           painted.3SG with the brushes.ACC who.GEN
           'With whose brushes did she paint?'

     b.   Evapse   me $\boxed{\text{pjanu}}$ ta pinela?
           painted.3SG with who.GEN the brushes.ACC
           'With whose brushes did she paint?'

(39)   **Pied-piping**

     a.   Me ta pinela $\boxed{\text{pjanu}}$ evapse?
           with the brushes.ACC who.GEN painted.3SG
           'With whose brushes did she paint?'

     b.   Me $\boxed{\text{pjanu}}$ ta pinela   evapse?
           with who.GEN the brushes.ACC painted.3SG
           'With whose brushes did she paint?'

(40)   **Possessor Splitting**

    * ⬚Pjanu⬚ evapse   me ta pinela?
    who.GEN painted.3SG with the brushes.ACC

    'With whose brushes did she paint?'

(41)   **PP-possessor splitting**

    a.   Me ⬚pjanu⬚ evapse   ta pinela?
          with who.GEN painted.3SG the brushes.ACC
          'With whose brushes did she paint?'

    b.   * Evapse   ta pinela   me ⬚pjanu⬚?
          painted.3SG the brushes.ACC with who.GEN
          'With whose brushes did she paint?'

4.2.3.4   Benefactive PPs

Benefactive PPs are introduced in Greek with *ja*, the P also used in the formation of matter PPs. These PPs can serve alone as arguments of verbs, (42a), or together with an accusative DP theme, as in (42b).

(42)   a.   Aghonizete ja tin ikojenia   tis.
          fight.3SG   for the family.ACC her.GEN
          'She fights for her family.'

    b.   Aghorase   ena dhoro   ja tin Eleana.
          bought.3SG a   gift.ACC for the Eleana.ACC
          'She bought a gift for Eleana.'

Here, I focus on verbs with a single benefactive argument, as in (42a), for reasons of consistency since as with agent, causer, matter PPs in the previous sections as well as with locative, temporal, reason, source, comitative PPs discussed next, I do not consider ditransitive predicates. Having clarified this, I show in what follows that benefactive PPs permit post-verbal *wh*-possessors and the pied piping pattern, (43)-(44). In addition, they block possessor splitting (45). On the other

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hand, PP-possessor splitting works exactly as we have seen so far e.g. with causer, matter PPs (cf. 46).

(43) **In-situ wh-possessor**

    a.   Aghonizete ja tin ikojenia   pjanu ?

           fight.3SG   for the family.ACC who.GEN

           'For whose family does she fight?'

    b.   Aghonizete ja pjanu tin ikojenia?

           fight.3SG   for who.GEN the family.ACC

           'For whose family does she fight?'

(44) **Pied-piping**

    a.   Ja tin ikojenia   pjanu aghonizete?

           for the family.ACC who.GEN fight.3SG

           'For whose family does she fight?'

    b.   Ja pjanu tin ikojenia   aghonizete ?

           for who.GEN the family.ACC fight.3SG

           'For whose family does she fight?'

(45) **Possessor Splitting**

    *Pjanu aghonizete ja tin ikojenia?

    who.GEN fight.3SG   for the family.ACC

    'For whose family does she fight?

(46) **PP-possessor splitting**

    a.   Ja pjanu aghonizete tin ikojenia?

           for who.GEN fight.3SG   the family.ACC

           'For whose family does she fight?'

    b.   * Aghonizete tin ikojenia   ja pjanu ?

           fight.3SG   the family.ACC for who.GEN

           'For whose family does she fight?'

4.2.3.5   Source PPs

Source PPs are introduced with *apo* in Greek, which is also used in causer and agent PPs. To start with, *apo* takes accusative DP arguments, as shown in the example below:

(47)   Adigrafi apo to leksiko   tu Triadafilidhi.
           copy.3SG from the dictionary.ACC the Triadafilidhi.GEN
           'She copied from Triadafilidhi's dictionary.'

Source PPs permit post-verbal *wh*-possessors, pied-piping and PP-possessor splitting, and block possessor splitting.

(48)   **In-situ wh-possessor**

     a.   Adigrafi apo to leksiko   pjanu ?
          copy.3SG from the dictionary.ACC who.GEN
          'From whose dictionary did she copy?'

     b.   Adigrafi apo   pjanu   to leksiko?
          copy.3SG from who.GEN the dictionary.ACC
          'From whose dictionary did she copy?'

(49)   **Pied-piping**

     a.   Apo to leksiko   pjanu   adigrafi?
          from the dictionary.ACC who.GEN copy.3SG
          'From whose dictionary did she copy?'

     b.   Apo pjanu to leksiko   adigrafi?
          from who.GEN the dictionary.ACC copy.3SG
          'From whose dictionary did she copy?'

(50)   **Possessor Splitting**

*⬚Pjanu⬚   adigrafi apo to leksiko?

whose.GEN copy.3SG from the dictionary

'From whose dictionary did she copy?'

(51)   **PP-possessor splitting**

a.   Apo ⬚pjanu⬚   adigrafi to leksiko?

from who.GEN copy.3SG the dictionary.ACC

'From whose dictionary did she copy?'

b.   * Adigrafi to leksiko   apo ⬚pjanu⬚?

copy.3SG the dictionary.ACC from who.GEN

'From whose dictionary did she copy?'

4.2.4   Group B PPs

4.2.4.1   Temporal PPs

This section focuses on *prin-*'before' and *meta-*'after', two temporal PP which as other PS in the previous sections can combine with a bare accusative DP:

(52)   Efighe prin/   meta ton aderfo   tis Eleanas.

left.3SG before/ after the brother.ACC the Eleana.GEN

'She left before Eleana's brother.'

Temporal PPs behave differently from all other PPs we have examined so far with respect to PP-possessor splitting. As I show, these PPs strictly block PP-possessor splitting. They behave like all other PPs with respect to DP internal possessors, possessor splitting and pied-piping.

(53)   **In-situ wh-possessor**

a.   Efighe prin/   meta ton aderfo   ⬚pjanu⬚?

left.3SG before/ after the brother.ACC who.GEN

'Before whose brother did she leave?'

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b.   Efighe   prin/   meta $\boxed{\text{pjanu}}$ ton aderfo?

      left.3sɢ before/ after who.ɢᴇɴ the brother.ᴀᴄᴄ

      'Before whose brother did she leave?'

(54)   **Pied-piping**

a.   Prin/   meta ton aderfo $\boxed{\text{pjanu}}$ efighe?

      before/ after   the brother.ᴀᴄᴄ who.ɢᴇɴ left.3sɢ

      'Before whose brother did she leave?'

b.   Prin/   meta $\boxed{\text{pjanu}}$ ton aderfo   efighe?

      before/ after   who.ɢᴇɴ the brother.ᴀᴄᴄ left.3sɢ

      'Before whose brother did she leave?'

(55)   **Possessor splitting**

     *$\boxed{\text{Pjanu}}$ efighe   prin/   meta ton aderfo?

     who.ɢᴇɴ left.3sɢ before/ after   the brother.ᴀᴄᴄ

     'Before whose brother did she leave?'

(56)   **ᴘᴘ-possessor splitting**

a.   * Prin/   meta $\boxed{\text{pjanu}}$ efighe   ton aderfo?

      before /   afterwho.ɢᴇɴ left.3sɢ the brother.ᴀᴄᴄ

      'Before whose brother did she leave?'

b.   * $\boxed{\text{Pjanu}}$ efighe   prin/   meta ton aderfo?

      who.ɢᴇɴ left.3sɢ before/ after   the brother.ᴀᴄᴄ

      'Before whose brother did she leave?'

4.2.4.2   Evidential ᴘᴘs

Evidential ᴘᴘs are introduced with the ᴘ *kata.* This ᴘ is combined with accusative ᴅᴘs, as shown below:

(57) Eprepe na apohorisun kata   ti ghnomi   tu stratighu.
      must na depart.3PL according to the opinion.ACC the general
      'They must have departed according to the opinion of the general.'

Just like temporal PPs, evidential PPs strictly block PP-possessor splitting, and they behave like all other PPs with respect to the rest of the patterns.

(58) **In-situ wh-possessor**

   a. Eprepe na apohorisun kata   ti ghnomi   pjanu ?
       must na depart.3PL according to the opinion.ACC whose.GEN
       'According to whose opinion must have they departed?'

   b. Eprepe na apohorisun kata   pjanu   ti ghnomi?
       must na depart.3PL according to whose.GEN the opinion.ACC
       'According to whose opinion must have they departed?'

(59) **Pied piping**

   a. Kata ti ghnomi   pjanu   eprepe na   apohorisun?
       must na depart.3PL according to the   opinion.ACC whose.GEN
       'According to whose opinion must have they departed?'

   b. Kata   pjanu   ti ghnomi   eprepe na apohorisun?
       according to whose.GEN the opinion.ACC must na depart.3PL
       'According to whose opinion must have they departed?'

(60) **Possessor splitting**

   *Pjanu   eprepe na apohorisun kata   ti ghnomi?
   whose.GEN must na depart.3PL according to the opinion.ACC

   'According to whose opinion must have they departed?'

(61) **pp-possessor splitting**

    a. *Kata   pjanu   eprepe na apohorisun ti ghnomi?

          according to whose.GEN must   na depart.3PL the opinion.ACC

          'According to whose opinion must have they departed?'

    b. *Eprepe na apohorisun ti ghnomi   kata   pjanu?

          must   na depart.3PL the opinion.ACC according to whose.GEN

          'According to whose opinion of the general must have they departed?'

4.2.5 Group c pps

In this section, I focus on the distribution of *wh*-possessors in comitative and locative pps. Unlike other pps, the informal survey I conducted suggests that there are two groups of speakers who have different judgments for pp-possessor splitting in these two kinds of pps.

4.2.5.1 Comitative pps

This section focuses again on *me* in its use as a comitative p this time:

(62)   Ftani   me ton adherfo   tu Filipu.

       arrive.3SG with the brother.ACC the Phillip.GEN

       'She is arriving with Phillip's brother.'

Comitative pps allow postverbal DP possessors, pied piping, and just like all other pps block possessor splitting (cf. 63, 64 and 65). In addition, four out of ten speakers in my survey find that pp-possessor splitting as in (66) is possible in *me*-comitative pps. Six out of speakers find pp-possessor splitting in this kind of pp seriously degraded.

(63) **In-situ wh-possessor**

    a. Ftani   me ton adherfo   pjanu?

          arrive.3SG with the brother.ACC who.GEN

          'With whose brother is she arriving?'

b. Ftani   me   pjanu   ton adherfo?

arrive.3sg with who.gen the brother.acc

'With whose brother is she arriving?'

(64) **Pied-piping**

a. Me   ton adherfo   pjanu   ftani?

with the brother.acc who.gen arrive.3sg

'With whose brother is she arriving?'

b. Me   pjanu   ton adherfo   ftani?

with who.gen the brother.acc arrive.3sg

'With whose brother is she arriving?'

(65)   **Possessor Splitting**

*Pjanu   ftani   me   ton adherfo?

who.gen arrive.3sg with the brother

'With whose brother is she arriving?'

(66) **pp-possessor splitting**

a. ?? Me   pjanu   ftani   ton adherfo?

with who.gen arrive.3sg the brother.acc

'With whose brother is she arriving?'

b. * Ftani   ton aderfo   me   pjanu?

arrive.3sg the brother.acc with who.gen

'With whose brother is she arriving?'

4.2.5.2 Locative pps

In this section, I focus on locative pps denoting place introduced with *se*.[2]

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[2]   Future work should examine the behavior of directional pps.

(67) Padrevonde   s-to   horio   tis nifis.
      get married.3PL in-the village.ACC the bride.GEN
      'They are getting married in the village of the bride.'

As with *me*-comitative PPs, the same four speakers find PP-possessor splitting possible in locative PPs. On the other hand, six out of ten agree that PP-possessor splitting is seriously degraded in *se*-locative PPs. The behavior of *se*-PPs does not hold any surprises with respect to the rest of the patterns, as illustrated in (68) to (70).

(68) **In-situ wh-possessor**

   a. Padrevode   s-to   horio   pjanu ?
       get married.3PL in-the house.ACC who.GEN
       'In whose village are they getting married?'

   b. Padrevode   se pjanu   to horio?
       get married.3PL in who.GEN the house.ACC
       'In whose village are they getting married?'

(69) **Pied-piping**

   a. S-to   horio   pjanu   padrevode?
       in-the house.ACC who.GEN get married.3PL
       'In whose village are they getting married?'

   b. Se pjanu   to horio   padrevode?
       in who.GEN the house.ACC who.GEN   get married.3PL
       'In whose village are they getting married?'

(70)   **Possessor Splitting**

  *⟦Pjanu⟧ padrevode   s-to   horio?

  who.GEN get married.3PL in-the village.ACC

  'In whose village are they getting married?'

(71)   PP-**possessor splitting**

  a. ?? Se ⟦pjanu⟧   padrevode   to   horio?

      in who.GEN get married.3PL the village.ACC

      'In whose village are they getting married?'

  b.   * Padrevode   to   horio   se ⟦pjanu⟧?

      get married.3PL the village.ACC in who.GEN

      'In whose village are they getting married?'

4.2.6   Interim Conclusion and Discussion

In the previous sections, I focused on the distribution of *wh*-possessors in DPs in different argument positions and in different kinds of PPs. The different patterns I discovered in PPs are summarized in Table 4.2.

		Evid.	Tem.	Loc.	Comt.	Src.	Agnt	Caus.	Benf.	Instr.	Matr
a	In-situ wh-possessor: pre/postnom.,	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
b	Pied-piping: pre/postnom. possessor	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
c	Possessor Splitting	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
d	PP-Possessor Splitting	✗	✗	✓/✗	✓/✗	✓	✓	✓	✓	✓	✓

Table 4.2: Patterns with *wh*-possessors in PPs.

Properties (a) and (b) show that PPs exhibit uniform behavior with respect to pied piping and postverbal possessors. PPs also exhibit uniform behavior with respect to property (c) but, they exhibit distinct behavior with respect to (d). The fact that PPs behave differently with respect to this property suggests under the proposed analysis that only some of them permit movement of the possessum into XP (cf. 17). Concretely, I assume that the different behavior of PPs with respect to PP-possessor Splitting depends on the relative height of merge of the P and its surface complement relative to XP. The PPs, which are merged lower than XP permit PP-possessor splitting whereas those merged higher do not.

4.3 Analysis

4.3.1 PP-possessor Splitting

In sections 4.2.3-4.2.4, I showed using evidence from PPs that possessors always stay DP internally. What varies is whether the possessum can be outside of the PP. In light of these two new

observations, I proposed in section 4.2.2 that the classical DP extraction analysis of plain possessor splitting of Horrocks and Stavrou (1987) should be abandoned for the analysis below—shown in simplified terms—where the possessum raises out of the DP, and the PP internal possessor pied-pipes the DP:

(72)
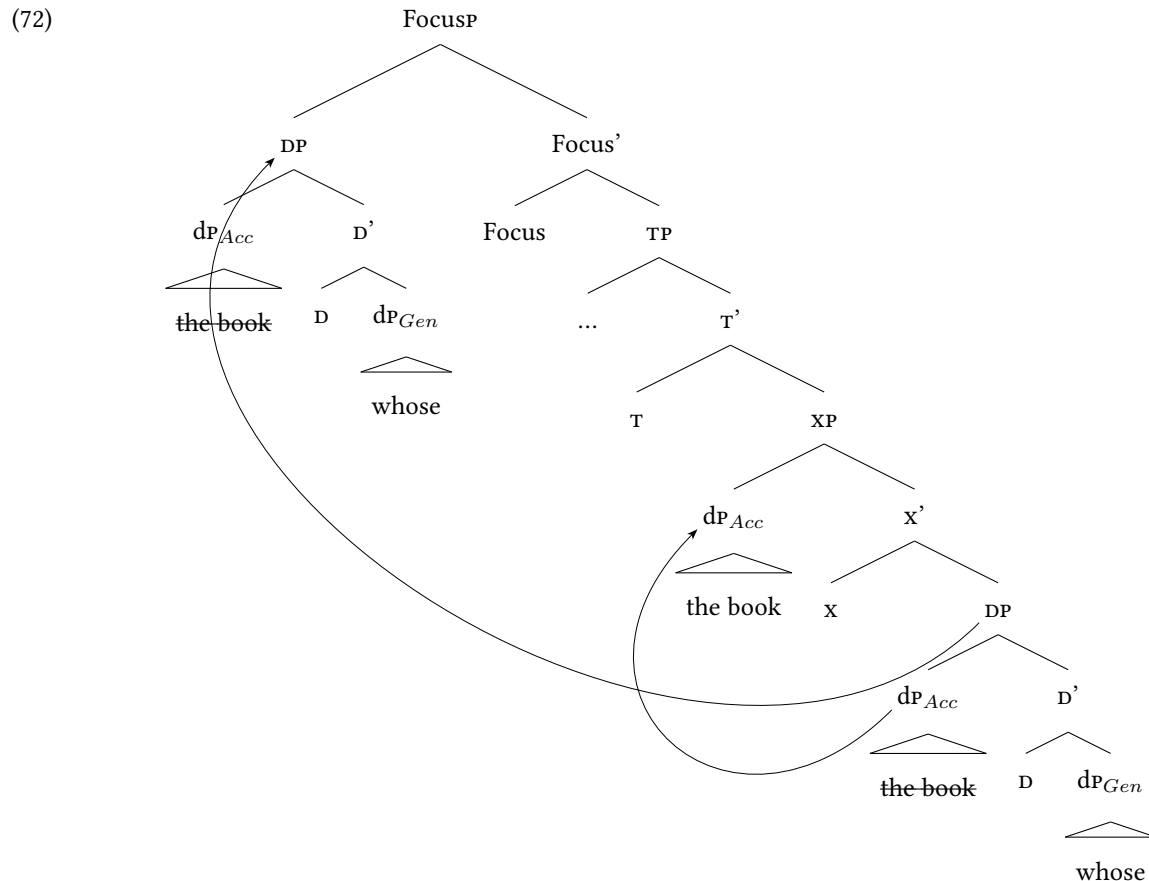
Note that in (72) I am not concerned with the internal structure of the DP in which the possessor and the possessum originate, thus, these are shown in simplified terms to be merged in a complement and specifier position accordingly. Given this derivation, the question that arises is where the PPs allowing PP-possessor splitting are merged with respect to XP. As I show below, in order to form the PP-possesssor splitting construction, both the P and its surface complement must be merged below XP.

(73)
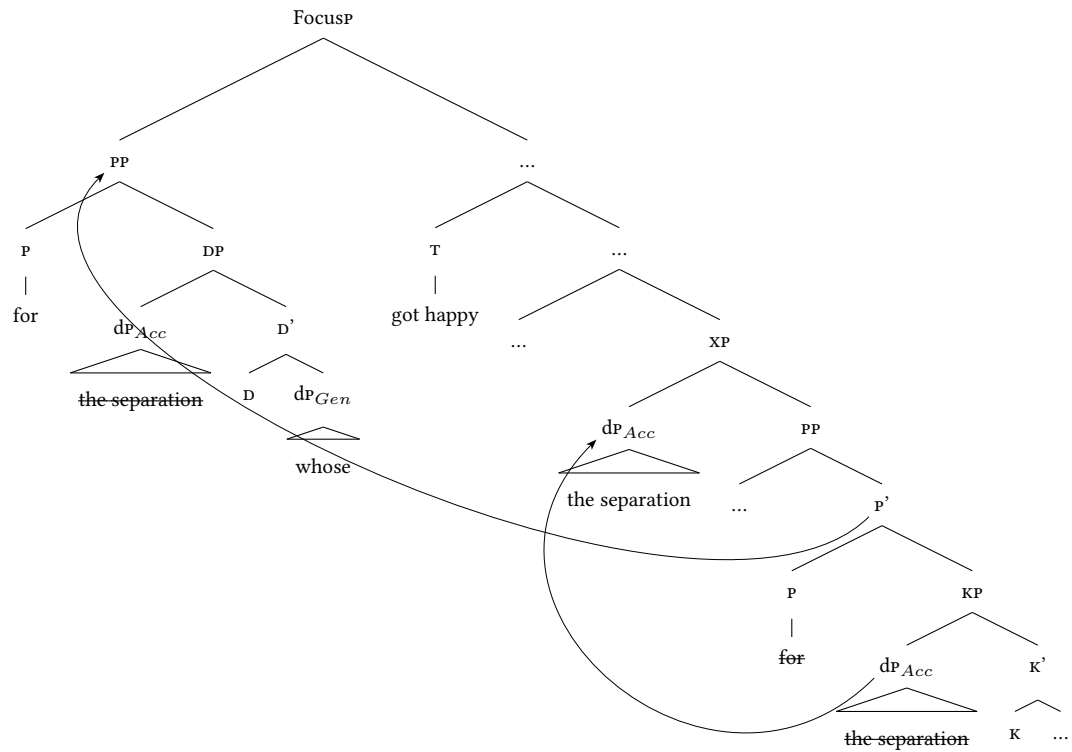
With this structure in mind, let us now turn our attention to Table 4.2 again. I propose that source, agent, causer, instrument, benefactive and matter PPs in Greek permit possessor splitting because they are merged lower than XP, as the PP in (73). On the other hand, temporal and evidential PPs block PP-possessor splitting because they are introduced in the syntactic derivation higher than XP, as shown in below:

(74)

PP
... P'
P ...
... YP
DP$_{Temp./Evid.}$ Y'
Y ...
... XP
X ...
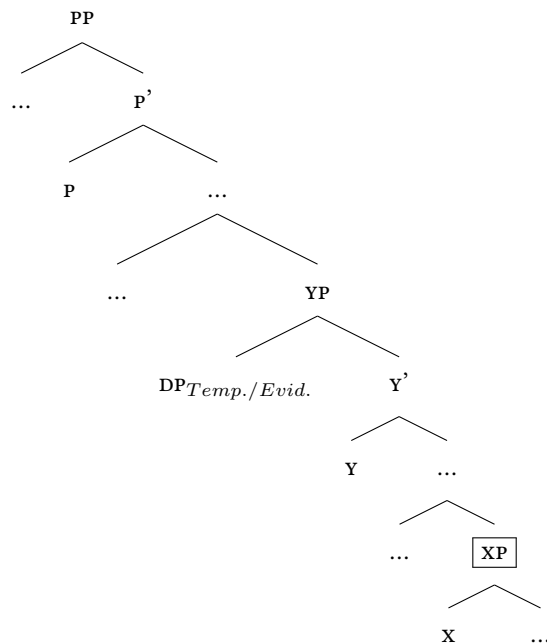
In addition, I assume that comitative and locative PPs are merged lower than temporal and evidential PPs and higher than source, agent, causer, instrument, benefactive and matter PPs. The XP might be merged higher or lower than comitative and locative PPs in the grammars of different speakers depending on whether for these speakers PP-possessor splitting is possible with these two kinds of PPs or not. This state of affairs is summarized in the scheme below:

(75) Evidential, Temporal > —XP— > Locative, Comitative > —XP— >
Benefactive, Source, Agent, Causer, Instrument, Matter

Importantly, the fact that locative and comitative PPs are merged higher than agent and benefactive PPs was already shown to be the case in Chapter 3 where I used binding data for evidence. Furthermore, the state of affairs in (75) is highly reminiscent of the universal order in which PPs Schweikert (2005, 107) argued to be merged:

(76) Evidential > Temporal > Locative > Comitative > Benefactive > Source > Instrument
> Matter

In particular, in both merge orders in (75) and (76), evidential and temporal PPs are merged higher than locative and comitatine PPs. The latter are in turn merged higher than benefactive, source,

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agent, causer, instrument, matter. I take this correlation to provide further support to the idea that PPs are merged in a universal hierarchy, which is organized as proposed in Schweikert (2005) (see also Cinque 2006). With this in mind, let us now consider the pied piping requirement.

4.3.2 Background

In the previous section, I proposed an analysis capturing basic insights about height of merge, and how this relates to different distributional patterns. Here, I delve into the finer details of the pied piping requirement. I show that this requirement arises due to restrictions applying in the finer internal structure of the DP in which the possessum as well as the possessor enter the syntactic derivation.

To start with, recall that DP internal possessors can surface either prenominally or postnominally, as in (77a) and (77b) respectively.

(77)   a.   Harike   ja $\boxed{\text{pjanu}}$ ton horismo?
           got happy.3SG for who.GEN the separation.ACC
           'For whose separation did she get happy?'

       b.   Harike   ja   ton horismo $\boxed{\text{pjanu}}$?
           got happy.3SG for the separation.ACC who.GEN
           'For whose separation did she get happy?'

Following the consensus in cartographic approaches (cf. Rizzi 2006), I assume that *wh*-possessors are always licensed via Spec head with a Focus head. In (77), I assume that these Focus heads are projected DP internally. The fact that DPs have a left periphery that can project a FocusP or TopicP, exactly like the left periphery of clauses, has been defended extensively in previous literature (cf. Ntelitheos 2002 for Greek i.a.). Given this, let us consider next where the possessum is located in (77a) and (77b) in regard to the focused possessor.

4.3.2.1 Prenominal possessors

I propose that when there is a DP internal possessor as in (77), the DP projects a FocusP in its left periphery and, crucially, a low TopicP. The possessum undergoes movement to the TopicP. The *wh*-possessor can only stay DP internally and pied pipes the DP remnant into Spec FocusP, as shown below:

(78)
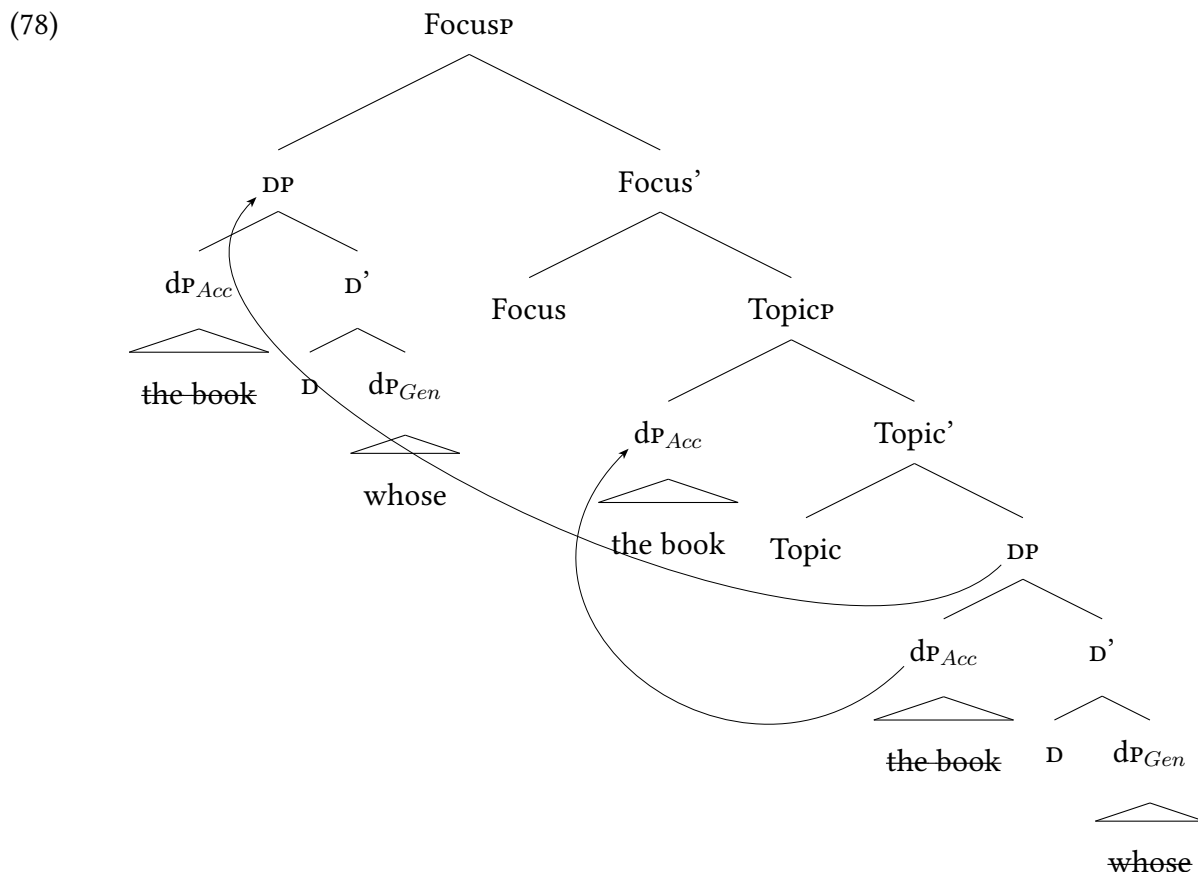
This structure gives rise to DP internal prenominal *wh*-possessors, as in (77a). Note that the alternative derivation in (79) where TopicP is not projected and the big DP moves from the complement position of the Focus head to its spec is blocked due to principles against maximally local XP movement e.g. Abels's (2003) anti-locality. This principle bans movement of the complement of a head H to the specifier of H (see also Kayne 2005).

(79)

```
                           FocusP
                 ┌───────────┴───────────┐
                DP                      Focus'
            ┌────┴────┐           ┌───────┴───────┐
         dP_Acc      D'         Focus            DP
         ┌──┴──┐   ┌──┴──┐                   ┌────┴────┐
     the book   D   dP_Gen                dP_Acc      D'
                    ┌──┴──┐            ┌────┴────┐  ┌──┴──┐
                   whose              the book   D   dP_Gen
                                                      ┌──┴──┐
                                                     whose
```
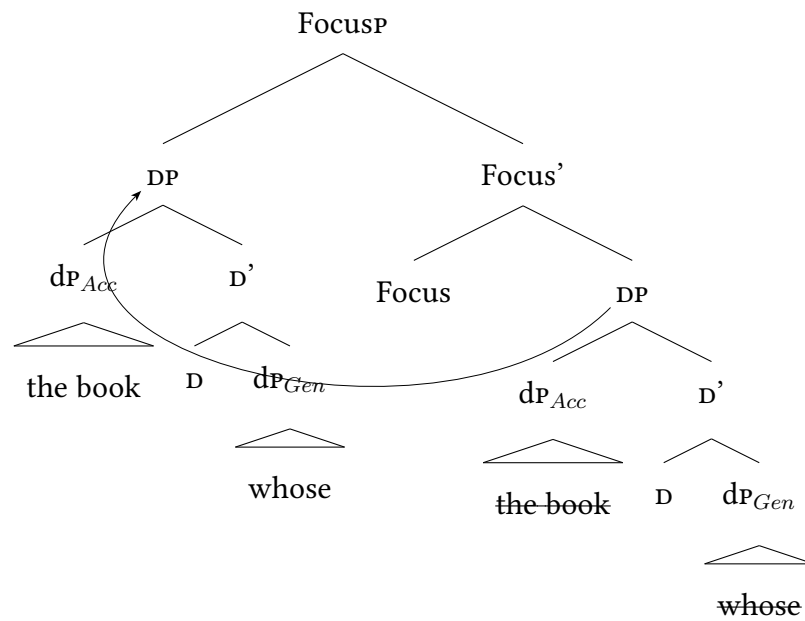
4.3.2.2 Postnominal Possessors

Given the restriction in (79), I propose that with postnominal DP internal possessors as in (77b), the low TopicP is present again in the underlying syntactic derivation. In particular, I assume that in this case the possessum transits through the low TopicP and reaches a TopicP projected higher than FocusP (see Rizzi 1997 for the idea that a FocusP may be between two TopicPs). The FocusP which is sandwiched between the two TopicPs licenses the *wh*-possessor as illustrated below:

(80)

TopicP
- dP_Acc
  - the book
- Topic'
  - Topic
  - FocusP
    - DP
      - dP_Acc
        - ~~the book~~
      - D'
        - D
        - dP_Gen
          - whose
    - Focus'
      - Focus
      - TopicP
        - dP_Acc
          - ~~the book~~
        - Topic'
          - Topic
          - DP
            - dP_Acc
              - ~~the book~~
            - D'
              - D
              - dP_Gen
                - ~~whose~~
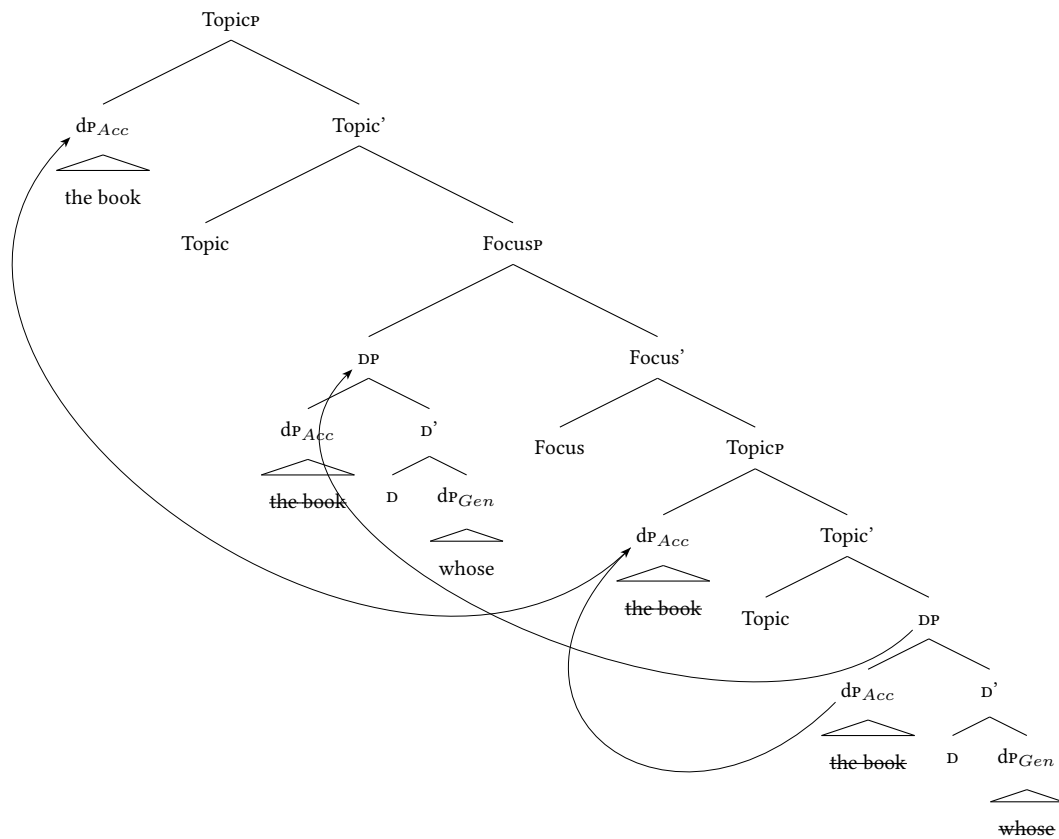
4.3.2.3 The pied piping requirement

In this section, I provide an analysis for the pied piping requirement in PP-possessor splitting. In this case, we saw that if the possessum is separated from the possessor and the P, the possessor obligatorily moves into the left periphery pied piping the P as shown below:

(81) a. Ja pjanu   harike   ton horismo?
          for whose.GEN got happy.3SG the separation.ACC
          'For whose the separation did she get happy?'

      b. * Harike   ton horismo   ja pjanu?
          got.happy.3SG the separation.ACC for whose.GEN
          'For whose the separation did she get happy?'

In (81a), I assume that the accusative possessum, *ton horismo*-'the separation' moves to the middle field i.e. to the position which I previously labeled as XP, however, it is important that it can do so by moving directly from a bare DP as shown below:

(82)

XP

dP_{Acc}

the book

...

...

VP

V

DP

dP_{Acc}

~~the book~~

D

dP_{Gen}

whose
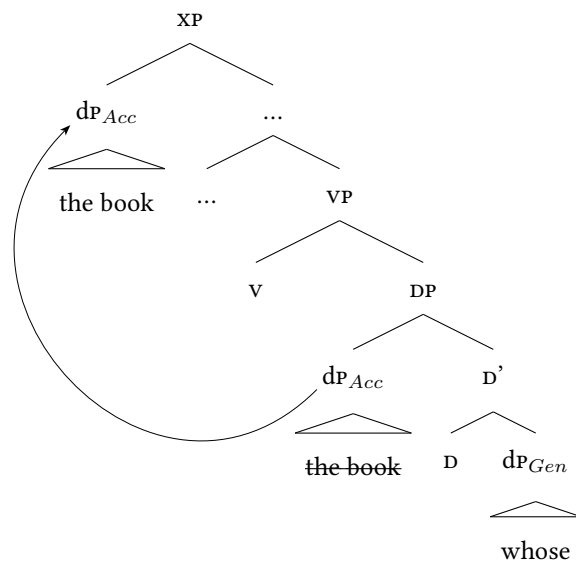
In other words, I suggest that the possessum cannot undergo movement into the middle field through a DP internal Topic position. That is, the movement step shown with dashed lines in (83) is precluded.

(83)

XP

dP_{Acc}

the book

...

...

VP

V

FocusP

DP

dP_{Acc}

~~the book~~

D'

D

dP_{Gen}

whose

Focus'

Focus

TopicP

dP_{Acc}

the book

Topic'

Topic

DP

dP_{Acc}

~~the book~~

D'

D

dP_{Gen}

~~whose~~
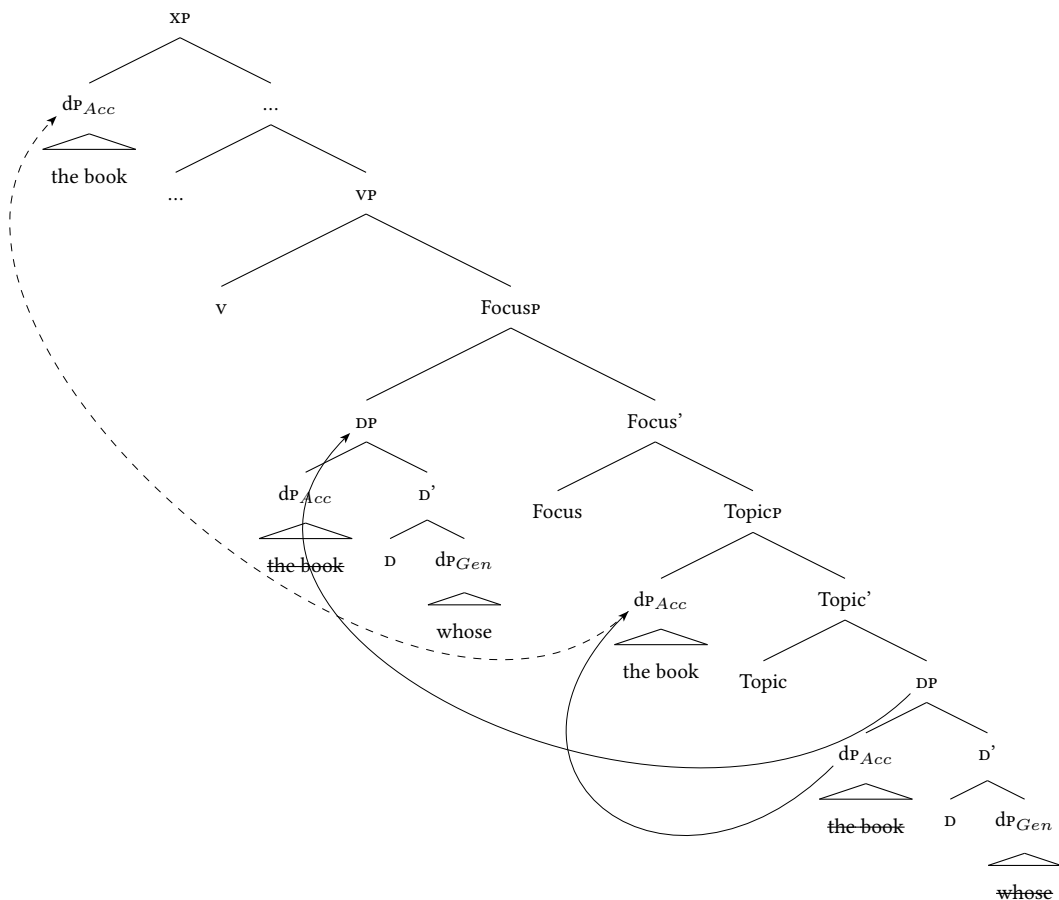
I suggest that this is so due to restrictions topicalized (and focalized phrases) are subject to. Concretely, I assume as in extensive cartography literature that TopicPs as well as FocusPs encode a scope-discourse property through a Criterion e.g. a Topic criterion and, crucially, that this criterion can be satisfied in a Spec-head configuration (cf. Rizzi 2006 i.a.).[3] In addition, following this literature again, I assume that a phrase meeting a criterion 'is frozen in place, and unavailable for further movement.' Given this, the fact that the possessum cannot undergo the movement step indicated with dashed lines in (83) follows from movement restrictions topicalized phrases are subject to. In (82), repeated below as (84), the possessum does not transit through a TopicP, hence, unlike the possessum in (83), it is not subject to any movement constraint.

(84)
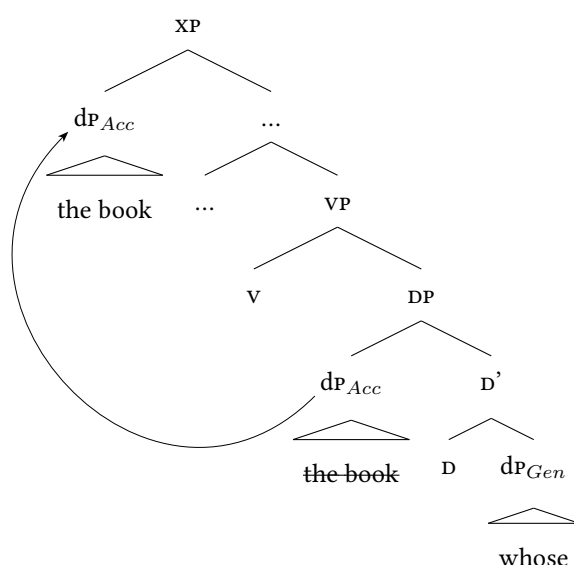
Nonetheless, recall from (79) that since TopicP is absent in the left periphery of the DP (84), the *wh*-possessor in (82) cannot be licensed in a DP internal FocusP. Given this, the possessor must undergo movement in this case to a Focus head in the left periphery of the clause for licensing.

---

3   These criteria 'require Spec-head agreement with respect to features of the relevant class: Q, Top, Foc, R, etc. for questions, topic, focus, relatives, etc.' Below you can see a formal definition of this requirement, as defined in Rizzi (2006, 8):

(1) XP_F and X_F must be in a Spec-head configuration, for F = Q, Top, Foc, R, …

The possessor pied pipes the P, which in turn gives rise to what we have discussed so far as the pied piping requirement.

4.4 Conclusion

In this chapter, I proposed a unifying analysis of possessor and PP-possessor splitting phenomena. In constrast to previous analyses, the novel claim is that the possessor can never move out of a DP. Instead, the possessum undergoes movement out of a DP or PP to the middle field and the possessor pied pipes the XP remnant to the left periphery. Lastly, I showed under the proposed analysis of the A-bar phenomena and the assumption that PPs are merged hierarchically in the universal order as in Schweikert (2005) and Cinque (2006), we can also account for the fact that only some PPs permit PP-possessor splitting.

CHAPTER 5

Conclusion

The dissertation examined in detail distributional and interpretive properties of the complementizers *oti* and *pu* and their surface complements, as well as prepositions and their surface complements. It was shown that:

- *oti* and *pu* are sensitive to grammatical properties of the matrix verb,

- *oti-* and *pu-*clauses have distinct distribution from DPs, that is, they undergo obligatory extraposition, they exhibit striking subject-object asymmetries and they cannot surface after Ps,

- unlike DPs, *oti-* and *pu-*clauses undergo obligatory reconstruction in CLLD.

In addition,

- Ps are sensitive to the grammatical properties of the matrix verb,

- their surface DP complement is interpreted as the corresponding bare DP argument for binding purposes (Condition C and reflexive binding),

- depending on theta role, PPs exhibit distinct extraction properties in split *wh*-possessor constructions.

In light of these findings, I proposed a unified analysis of CP and PP formation. In this analysis, Cs and Ps are merged separately from their surface complement. They are sensitive to the grammatical properties of the verb they combine with because they select this verb instead of being selected by it. In addition, these selectional properties are satisfied in a local manner because in

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contrast to standard assumptions, *oti* and *pu* are merged in the matrix clause and as probes, they attract their surface complement rather than merge directly with it. Given this, I suggested that the distributional and interpretive properties of *oti* and *pu*-clauses are the result of the way *oti* and *pu* get together with their surface complement. Turning to PPs, I assumed that their surface complement behaves as the corresponding bare DP argument for binding purposes because it is introduced as such in the underlying syntactic structure. Building on this analysis, I proposed that Ps and their surface DP complements are introduced at distinct syntactic heights depending on theta role. It was shown that this analysis provides new insights into the derivation of split *wh*-possessor constructions, and suggests a hierarchy of PPs strikingly similar to the universal hierarchy proposed in Schweikert (2005).

APPENDIX A

Appendix A: Class of Verbs

A.1 Stative vs. Eventive Predicates

The semantic distinction between stative and eventive predicates and how this distinction interacts with argument structure has received particular attention in previous literature. Importantly, this previous literature makes radically different assumptions about the way the different classes of predicates are formed. There is the 'constructional' view for word formation (cf. Borer 2005, Harley 1995, Marantz 1997, Ramchand 2008 i.a.), which I follow here, as it corresponds to the decompositional approaches assuming a direct syntax semantics mapping, and the so-called 'projectionist/ constructionist' view (cf. Rappaport Hovav and Levin 1998, Levin and Hovav 2005). The latter defers from the first in that the argument structure of the verb as well as its lexical aspect properties are determined pre-syntactically. I briefly explain below how it works. Concretely, the "constructionist" view holds that argument structure is tied semantically to the lexical structure of the verb. In particular, the assumption is that the meaning of the verb is such so that it requires its arguments to be the way they are with respect to their number, hierarchy and Case-status. Under this view, the morphological/ syntactic properties of the arguments of the verb are the reflection of the lexical meaning of the verb. Let us briefly consider one example with the predicate *blossom*. As noted in Rappaport Hovav and Levin (1998), this predicate can be stative. The stative use of this predicate can be seen in examples such as below:

(1) The amaryllis blossomed for ten days. Rappaport Hovav and Levin (1998, 125, (48))

Here, the predicate is stative as it can be modified by a *for*-adverbial. This predicate can take one argument due to the event structure template below that stative predicates realize.

(2) [x <STATE>] Rappaport Hovav and Levin (1998, 108)

This structure suggests that a state holds of a certain argument. In this template, this argument is realized by *the amaryllis* which is in a state of blossoming. Crucially, this predicate is also available as a change of state, like below, where a telic modifier is allowed to modify the verb.

(3) The tree blossomed in a day. Rappaport Hovav and Levin (1998, 125, (48))

In Rappaport Hovav and Levin (1998), the change of state eventive reading is created via a BECOME operator that is added at the lexical level and turns the stative predicate into an eventive one. Under this view, eventive *blossom* is argued to have the following event structure:

(4) [BECOME [x <STATE>]] Rappaport Hovav and Levin (1998, 108)

There are also different kinds of predicates that realize different event structures. Achievements have the uniform structure above, accomplishments can realize either the event structure in (5a) or in (5b) depending on whether they have the extra agentive component or not

(5) a. X ACT$_{\text{MANNER}}$ CAUSE [BECOME [x <STATE>]]]

    b. x CAUSE [BECOME [x <STATE>]] Rappaport Hovav and Levin (1998, 108)).

On the other hand, the "constructional" analyses hold that the argument structure of verbs as well as their so-called 'lexical' aspect is determined in syntax. In addition, interpretation is built from the different structures which are built in the syntax. There are different ways in which a verb can be formed in the constructional analyses. In Distributed Morphology frameworks, words including verbs are built on the basis of acategorial roots and, the event vs. stative distinction between is derived due to the presence (or absence) of functional categories with given semantic import that categorize the root. Concretely, in regard to the eventive vs. stative distinction, the constructional views share the following assumptions (cf. Rothmayr 2009, 27 for detailed discussion):

- Stative predicates are the smallest building blocks of event structure.

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- Stative verbs have a less complex structure than eventive verbs.

- Stative verbs are very similar to copular constructions.

One particularly influential view among the constructionist approach is the one in Ramchand (2008). Based on previous analyses by Hale and Keyser (1993), Ramchand (2008) puts forward a number of assumptions, which are crucial. First, the event nature of a verbal expression is determined by the syntactic structure that it realizes. This syntactic structure can correspond to different subtrees which encode e.g. a process or a stative event. Another crucial assumption in Ramchand's work, which I adopt here as well, is that the nature of theta roles that are assigned to verbs is entirely determined by the position they occupy in the syntactic structure. This is reminiscent of approaches adopting one form of Baker's (1998) UTAH or another. Furthermore, Ramchand argues that the syntactic position that arguments occupy is crucial as it determines the role they play in the argument structure. She identifies five participants i.e. INITIATOR, UNDERGOER, RESULTEE, HOLDER and THEME, which occupy distinct syntactic positions. So, Ramchand (2008, 25) argues that 'the INITIATOR is the direct argument related to the causing subevent (when it exists); the *undergoer* is the direct argument related to the process subevent; and the RESULTEE is the direct argument related to the result state (when it exists).' Given this, the structure of a telic verb comprises several layers: a causing event represented by vP which initiates a process event. The process event itself is realized by vP, which is the complement of vP. The head of the vP can take a resultant phrase as complement that encodes the resultant state. This structure is illustrate below:

(6)

```
                              vP
                         /          \
                   Initiator          v'
                               /            \
                              v              VP
                                        /          \
                                  Undergoer         V'
                                              /          \
                                             V            RP
                                                     /          \
                                                Resultee         R'
                                                             /       \
                                                            R        XP
```
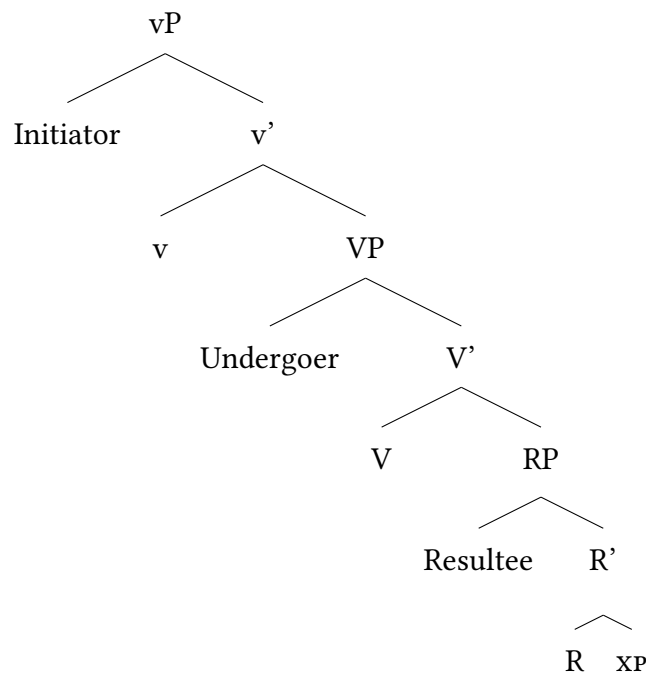
Importantly, Ramchand (2008) also considers the arguments of stative verbs which do not take realize any of the arguments because 'with stative verbs, there is no dynamicity/process/change involved in the predication, but simply a description of a state of affairs.' In cases of stative verbs like in (7), Ramchand argues that the difference between *Katherine* and *nightmare* is a matter of a predication. In particular, she argues that *Katherine* 'is the theme of the predication, i.e. the entity that the state description is predicated of; 'nightmares' is part of the description itself.'

(7)   Katherine fears nightmares. Ramchand (2008, (33))

Ramchand describes this asymmetry as the theme-rheme asymmetry and notes that RHEMES are not necessarily DPs i.e. *nightmares*, as in (7), but they can also be APs or PPs, as in the following examples:
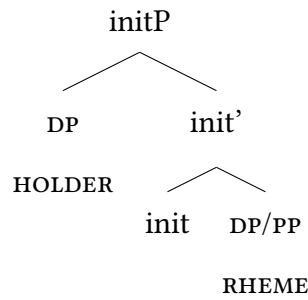
(8)   a. Ariel is naughty.

       b. Ariel looks happy. Ramchand (2008, (35))

(9)   The cat is on the mat. Ramchand (2008, (36))

Given this, she proposes the following structure for stative predicates:

(10)

$$\text{initP}$$

```
              initP
             /    \
           DP      init'
         HOLDER   /    \
                init   DP/PP
                       RHEME
```

Note that init in the structure above is assumed to be the analogue of little v, which is the locus for the assignment of accusative case as well as the licensing of the external argument, as suggested by Burzio's generalization. Under this view, statives are clearly verbal and by having the equivalent of a little v in their first-phase syntax and they can assign accusative case. Lastly, in "constructional" approaches where verbs are always built starting with an acategorial root, stative verbs differ from the eventive ones as to whether the categorizer of the root is an eventive head or a stative head (cf. Arad 1998, 2002, Iordăchioaia et al. 2015). The two possible structures are illustrated below:

(11)

```
                  vP
                /    \
              DP      v'
         Agent/ Causer  /  \
                       v    v_{event}P
                            /     \
                      v_{event}    √P
                                  /  \
                                 √    DP
```

(12)

```
              v_{state}P
             /        \
        stimulus    v_{state}'
                    /       \
              v_{state}      √P
                            /  \
                           √    DP
```
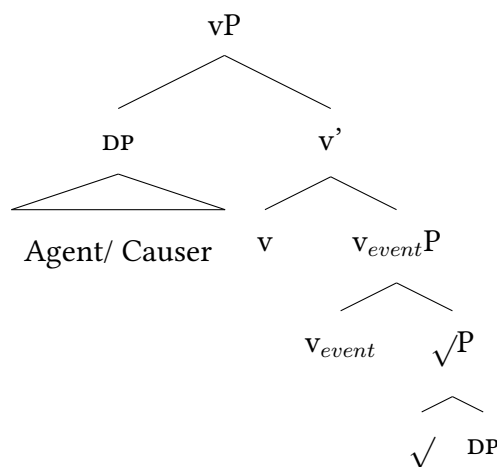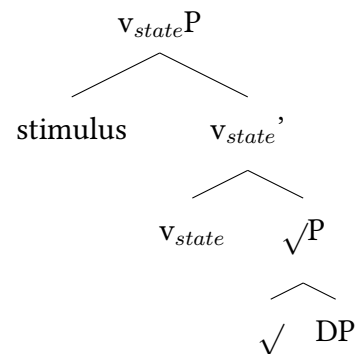
In both structures, roots are assumed to be able to select an internal argument. The crucial difference between stative and eventive predicates in the structures above is that the latter involves a stative v head while the first is more complex and comprises an eventive v head and a head that projects the external argument, an agent or causer. The stative v head is assumed to project an external argument as well, which, however is not a causer or agent.

APPENDIX B

Appendix в: Factivity and Literature Review

B.1   Introduction

In this section, I present:

- the idea that factivity is hard wired in the grammatical structure of *pu*-clauses,

- whereas *oti*-clauses are by default non-factive and when they are interpreted as factive, this is due to a pragmatic inference.

In addition, I review previous analyses of the Greek *oti*- and *pu*-complement clauses. In order to have a good understanding of factivity and how it has been treated in these previous analyses, I present first three influential approaches to factivity.

B.2   Factivity and Familiarity

B.2.1   Kiparsky and Kiparsky 1968

Kiparsky and Kiparsky (1968) discuss a number of clausal embeddings that can follow certain predicates and can have a factive reading. Their proposal is that factivity can be understood in terms of presuppositionality, and that this semantic notion also determines syntactic form. In other words, they argue that there is a basic distinction in the domain of clausal complementation that distinguishes factive from non-factive clauses and that this distinction is a semantic one that is directly reflected in syntactic form and distribution.[1]

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[1]   All examples in this section are from Kiparsky and Kiparsky (1968).

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The discussion starts with two classes of predicates that are identified as factive and non-factive. These predicates can take *that*-clauses as arguments, however, as it is discussed, these predicates need to be distinguished as they differ in many respects.

(1)

FACTIVE	NON-FACTIVE
significant	likely
odd	sure
tragic	possible
exciting	true
relevant	false
matters	seems
counts	appears
makes sense	happens
suffices	chances
amuses	turns out

A distributional difference that is brought to light in Kiparsky and Kiparsky (1968) is that only the predicates that are classified as factive predicates allow *fact* to be followed by a *that*-clause or a gerund. Two such cases with the noun *fact* are illustrated in (B.2.1). The new finding is that two sentences in (B.2.1) can follow factive predicates such as *is significant, bother me* but not non-factive predicates like *is likely, seems to me.*

(2)   The fact that the dog barked during the night

(3)   The fact of the dog's barking during the night

Moreover, only factive predicates like *is tragic, makes sense, suffices* can take as subjects gerundial constructions (cf. 4a, 4b) and adjectival nominalizations in *-ness* (cf. 4c)

(4)   a. His being found guilty

b. John's having died of cancer last week

   c. The whiteness of the whale

Kiparsky and Kiparsky (1968) also note that there are constructions that are allowed only with non-factive predicates. For instance, non-factive predicates can take infinitival complements from which subject raising (cf. 5) can take place. Non-factive predicates also accept expletive *there* as subjects (cf. 6) and, lastly, they can function ECM predicates (8). On the other hand, factive predicates cannot enter so many different structures as shown in (9).

(5)   a. It is likely that he will accomplish even more

      b. He is likely to accomplish even more

(6)   a. It seems that there has been a snowstorm

      b. There seems to have been a snowstorm

(7)   a. He is relevant to accomplish even more

      b. There is tragic to have been a snowstorm

(8)   a. I believe Mary to have been the one who did it

      b. I supposed there to have been a mistake somewhere

(9)   a. *I resent Mary to have been the one who did it

      b. *He comprehends himself to be an expert in pottery

Furthermore, an interesting distributional of factive predicates is that they can combine with subject *that*-clauses that do not have to be extraposed (cf. 10). Non-factive predicates require extraposition, as shown in (11).

(10) a. That there are porcupines in our basement makes sense to me

      b. It makes sense to me that there there are porcupines in our basement

(11) a. That there are porcupines in our basement seems to me

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b. It seems to me that there are porcupines

The most important contribution in Kiparsky and Kiparsky (1968, 147) is the finding that the syntactic differences discussed above are also correlated with a semantic difference. They distinguish two kinds of propositions as shown in (12), and they argue that 'factivity' depends on presupposition and not on assertion.'

(12) a. Propositions the speaker asserts, directly or indirectly, to be true

b. Propositions the speaker presupposed to be true

It is shown that presuppositions are constant are under negation or questioning. Thus, in (13a), negation does not affect the presupposition *that the door is closed.* Also, in (13b), the speaker takes for granted that the money is gone and asks about the reaction of the interlocutor.

(13) a. It is not odd that the door is closed

b. Are you dismayed that our money is gone?

The most crucial assumption in Kiparsky and Kiparsky (1968) is that the factivity is not only a semantic notion. It is a syntactic notion that is reflected in the 'deep syntactic structure' of *that*-embedded clauses. In order to capture this semantic difference, they propose the two structures below for non-factive and factive clauses respectively.

(14)   NP   (15)   NP
                 |
                 S   *fact* S

Under such an analysis, embedded clauses are always nominal formations but they differ as to when they are headed by a noun fact or not. The noun 'fact' can remain silent, therefore, the underlying structure of clausal embeddings is as in (16a) and (16b).

(16) a. I regret the fact that John is ill

b. I regret the fact of John's being ill

Based on these two structures, Kiparsky and Kiparsky (1968) derive the fact that factive predicates do not behave like ECM predicates. They argue that the subject of the ECM clause cannot undergo the subject-raising rule because the factive clause, being an NP, is subject to the Complex Noun Phrase Constraint. This constraint also blocks Neg-raising from clauses after factive predicates.

(17)　a.　It bothers me that he won't lift a funger until it's too late

　　　b.　*It doesn't bother me that he won't lift a finger until it's too late

Interestingly, the fact that there clauses can have two distinct structures can also be seen, as Kiparsky and Kiparsky (1968, 164) discuss, in cases where a predicate can have different inter-pretations depending on whether it combines with a factive or non-factive clause. They discuss *explain* as a representative case. *Explain* can combine with what Kiparsky and Kiparsky call a factive gerund in which case the verb is interpreted as 'give reasons for' (cf. 18a). On the other hand, when this predicate takes a non-factive *that*-clause as its complement, *explain that s* is interpreted as 'say that s to explain x' (cf. 18b).

(18)　a.　I explained Adam's refusing to come to the phone

　　　b.　*I explained that he was watching his favorite TV show

The last part of the discussion in Kiparsky and Kiparsky (1968) focus on emotive predicates. This kind of predicates is treated as a sub-class of factive predicates. This discussion also bears on the fact that the fact that embedded clauses can have two distinct structures. Concretely, emotive predicates, as Kiparsky and Kiparsky (1968) show can combine with presupposed propositions, however, they differ from other predicates in that they can license the subjunctive marker *should* (cf. 19) or other elements such as *at all* (cf. 20).

(19)　a.　It's interesting that you should have said so

　　　b.　*It's well-known that you should have said so

(20)　a.　It's interesting that he came at all

　　　b.　*It's well-known that he came at all

B.2.2 Melvold 1991

Melvold (1991) argues that factive clauses can be analyzed in syntactic and semantic terms as definite noun phrases. The account Melvold proposes attempts to account for a number of specific properties that are unique to factive embedded clauses. First, Melvold (1991) observes that complementizer deletion is allowed only in non-factive clauses (cf. 21). Factive clauses, as she argues, strictly prohibit complementizer deletion (cf. 22).

(21)   a.   Mary thought (that) Bill was anxious to leave.

        b.   Bill believed (that) Jane voted for Reagan.

(22)   a.   Mary perceived *(that) Bill was anxious to leave.

        b.   Bill revealed *(that) Jane voted for Reagan.

Second, factive clausal embeddings only can be preceded by the pronoun *it* or *the fact*. (cf. 23) On the other hand, *that*-clauses after non-factive embedded clauses are not compatible with either (cf. 24).

(23)   a.   John resents *(it)/ *(the fact) that her sister never writes to her.

        b.   John ignored *(it)/ *(the fact) that Bill was in serious danger.

(24)   a.   Mary perceived *(that) Bill was anxious to leave.

        b.   Bill revealed *(that) Jane voted for Reagan.

Third, only factive predicates can be followed by embedded clauses introduced with *wh*-items, non factive predicates cannot. Melvold (1991) argues that these embedded clauses are not free relatives. For instance, she argues that (25a) and (25b) can be paraphrased as (26a) and (26b) respectively.

(25)   a.   John regrets who he fired.

        b.   John detests who Bill married.

(26)   a.   John regrets (the fact) that he hired the person he hired.

b. Bill detests (the fact) that Bill married the person he married.

Finally, Melvold discusses that extraction out of factive clausal embeddings resembles extraction out of *wh*-islands. Specifically, she observes that factive clauses allow extraction of arguments but they block adjunct extraction exactly like *wh*-islands. On the other hand, non-factive clauses do not block extraction of arguments or adjuncts.

(27) a. ?What did Mary wonder whether John bought?

b. ?Who did Fred confess that he fired?

c. Who did Joe believe that Susan invited?

(28) a. *How did Bill wonder whether Anne solved the problem?

b. *How did Bill reveal that Anne solved the problem?

c. How did Bill believe that Anne solved the problem?

In order to account for the properties of factive clauses, Melvold (1991) adopts one crucial assumption from previous literature, specifically, that the theta-grid of verbs also comprises an event position. She argues that in non-factive clauses the event is bound by an existential quantifier, therefore, these clauses '[...] assert that some boject or state of affairs matching the descriptive content of the statement "exists" in the world.' Furthermore, Melvold proposes that the extenstion of these non-factive clauses is a truth value. On the other hand, the event argument of factive clauses is bound by an iota operator which is licensed in Spec CP of the factive clause '[...] making the sentence into a term which identifies a particular "event-object" in the world.' This iota operator is only licensed in factive clauses by the complementizer *that*, which carries a +definite feature. In non-factive clauses, the complementizer does not carry this feature, therefore, Melvold (1991) concludes that English has two accidentally homophonous complementizers, one that carries a + definite feature and turns the embedded clause into a definite event description and an expletive *that* complementizer which does not have semantic import. Under this analysis, the difference factive predicates and non-factive ones in that the first select a +definite complementizer.

Based on this analysis, Melvold (1991) attempts to account for the different properties of factive clauses. First, the factive and non-factive complementizers are distinct elements, it makes sense according to Melvold (1991) that they are subject to distinct licensing requirements, as shown by the fact that they can only the latter can be freely deleted. Moreover, she offers an account of the extraction patterns of English factive and non-factive clauses on a Barriers framework, as in Chomsky (1986a). I refer the reader to Melvold (1991, 104-107) for more detailed discussion. As for the fact that factive predicates can combine with clauses introduced with *wh*-elements which are interpreted as definite event descriptions (cf. 25a and 25b), Melvold (1991) argues that in these cases as well there is a +definite and that the *wh*-item plays the role of the iota operator binding the event position of the predicate and turning the clause into a definite event description.

B.2.3 Hegarty 1992

Hegarty (1992) focuses on extraction patterns from clausal embeddings after different kinds of predicates and tries to count for these patterns in terms of event structure. First, Hegarty (1992) draws evidence from previous literature that it is not only factive predicates which block adjunct extraction and allow extraction of arguments. Thus, like *regret* which is factive predicate, there are also verbs like *admit, deny* or *agree*, which as shown below, block extraction of adjuncts while they allow extraction of arguments.

(29)　a.　What do they admit/ deny / agree that John stole?

　　　　b.　Who do they admit/ deny / agree that John stole?

　　　　c.　*Why do they admit/ deny / agree that John stole?

　　　　d.　*How do they admit/ deny / agree that John stole?

These data were first discussed in Cattell (1978). Cattell (1978) proposes a tripartite distinction of predicates, namely, propositional, response stance and non-stance, depending on whether they allow adjunct extraction or not. The list with Cattell's predicates is shown below.

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	PROPOSITIONAL	RESPONSE STANCE	NON-STANCE
	believe	accept	announce
	think	agree	emphasize
	say	deny	forget
	assume	admit	mention
(30)	suppose	verify	notice
	conclude	confirm	recall
	maintain		regret
	claim		recognize
	assert		know

The first class of predicates would be classified as non-factive in Kiparsky and Kiparsky's typology. The second and third class have more recently been examined with respect to a number of other properties of their clausal complements in Kastner (2015). Kastner (2015) argues that the difference between response stance and non-stance predicates is that 'both classes of verbs presuppose the existence of their complement, but only the former presuppose the truth of the clause embedded in their complement.' This difference becomes more obvious in the following examples from Kastner (2015, 8).

(31)   a. John **said** [that the moon is made of kale]. (No one had claimed that before.)

     b. Bill **denied** [that he stole the cookies]. (# No one claimed that he had stolen them.)

     c. #Bill **remembers** [that the moon is made of kale]. (# No one had told him that before.)

Assuming that the content of the *that*-clause such as *that the moon is made of kale* cannot be considered true by the speaker, (31a) shows that propositional predicates can take clausal complements whose truth is not presupposed. On the other hand, non-stance predicates like *remember* cannot combine with predicates that the speaker does not consider true. Also, the continua-

tion *no one had claimed that before* is not allowed after response stance or non-stance predicates. Kastner (2015) argues that this is due to the fact that embedded clauses after response stance and non-stance predicates are familiar i.e. they have been established in the discourse.

Having clarified the differences in Cattell's list of predicates, let us now turn our attention to the analysis that Hegarty (1992) assumes for each class of predicates. Concretely, in order to account for the fact that response stance and non-stance predicates behave uniformly with respect to adjunct extraction, Hegarty (1992) provides an account in terms of uniform structure. He argues following previous works that in root clauses, there is an event position that is introduced by the verb and 'is discharged by a tensed INFL.' He proposes that in embedded clauses the INFL has the option to not discharge the event position in the VP. The event position is transmitted to the IP where it can be discharged by the special complementizers of the finite clausal embeddings after response stance and non-stance predicates. Under such an analysis, the crucial difference between proposition stance predicates, on the one hand, and response stance or non-stance predicates, on the other, is that the first, in contrast to the latter, have the event position undischarged. Based on this account, Hegarty (1992) proposes an account of the extraction patterns of English embedded clauses on the basis of the event structure he proposes and other ECP related considerations.

B.3 Factivity and Familiarity in Greek clausal embeddings

This section shows that factivity is grammatically encoded in the syntactic structure projected by *pu*-clauses and that in this respect, *pu*-clauses are different from *oti/pos*-clauses whose grammatical structure does not associate with factivity. In order to test whether a proposition is asserted/ non-factive or presupposed/ factive, I use well-established diagnostics from previous literature:

1. **questions and negation.** Presuppositions remain constant under questions and negation and differ in this respect from assertions (Kiparsky and Kiparsky 1968).

2. **hey, wait a minute.** This test shows that asserted cannot be challenged by rejections introduced with *hey, wait a minute* (cf. Von Fintel 2004). On the other hand, presuppositions

can. Consider the following examples.

(32)   a. A. The mathematician who proved Goldbach's Conjecture is a woman.

        b. B. Hey, wait a minute. I had no idea that someone proved Goldbach's Conjecture.

        c. B'. # Hey, wait a minute. I had no idea that that was a woman. Von Fintel 2004, 271

B complains that A presupposed that someone proved the conjecture, when it was not in fact established prior to A's utterance. Hearer B' illegitimately makes a parallel complaint about an asserted, non-presuppositional component of A's statement.

A last more informal diagnostic uses utterances challenging a proposition. Here is how it works with English examples.

(33)   a. John said that they went to Paris, but he was wrong because, in fact, they went to Vienna.

        b. John knew that they went to Paris, # but he was wrong because, in fact, they went to Vienna.

In (33a), the continuation can challenge *that they went to Paris* suggesting that the *that*-clause is asserted since the speaker is not committed to its truth. On the other hand, in (33b) it is shown that the continuation is not acceptable, therefore, it is natural to conclude that the *that*-clause is presupposed in this case.

Turning to the Greek examples, I discuss two predicates, *thimame*-'remember' and *anisihi*-'worry'. These predicates can most closely be translated in English as *remember* and *worry* and the following examples show that they can combine with clauses introduced with *oti/pos* and *pu*. I do not discuss more examples that take both *oti/pos*- and *pu*-clauses as arguments, but there are a few more e.g. *fovate*-'be scared', and they behave exactly like *thimame* and *anisihi*.

(34) a. I Eleana   thimotan   oti/ pos ihame pai s-to   Parisi.

the Eleana.ɴᴏᴍ remembered.3sɢ oti/ pos had.1ᴘʟ gone to-the Paris

'Eleana remembered that we had been to Paris.'

b. I Eleana   thimotan   pu ihame pai s-to   Parisi.

the Eleana.ɴᴏᴍ remembered.3sɢ pu had.1ᴘʟ gone to-the Paris

'Eleana remembered that we had been to Paris.'

(35) a. I Eleana   anisihi   oti/ pos dhen tha plirothun   afton ton mina.

the Eleana.ɴᴏᴍ worry.3sɢ oti/ pos not   will get paid.3ᴘʟ this   the month

'Eleana worries that they will not get paid this month.'

b. I Eleana   anisihi   pu dhen tha plirothun   afton ton mina.

the Eleana.ɴᴏᴍ worry.3sɢ pu not   will get paid.3ᴘʟ this   the month

'Eleana worries that they will not get paid this month.'

These two predicates are interesting because they reveal a crucial difference that arises with the choice of the complementizer (cf. Christidis 1982, Roussou 1994, 2010, Varlokosta 1994 i.a.). This difference can be shown with continuations expressing uncertainty from the part of the speaker as to whether she is committed to the truth of the embedded clause or not:

(36) a. I Eleana   thimotan   oti/ pos ihame pai s-to   Parisi ala kani

the Eleana.ɴᴏᴍ remembered.3sɢ oti/ pos had.1sɢ gone to-the Paris but make.3sɢ

lathos jati   s-tin Vieni ihame pai.

mistake because in-the Vienna had.1ᴘʟ been

'Eleana remembered that we had been to Paris but she is wrong because we had been to Vienna.'

b. I Eleana   thimotan   pu ihame pai s-to   Parisi # ala kani

the Eleana.ɴᴏᴍ remembered.3sɢ pu had.1sɢ gone to-the Paris   but make.3sɢ

lathos jati   s-tin Vieni ihame pai.

mistake because in-the Vienna had.1ᴘʟ been

'Eleana remembered that we had been to Paris but she is wrong because we had been to Vienna.'

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(37) a. I Eleana anisihi oti/ pos dhen tha plirothun afton ton mina ala

the Eleana.NOM worry.3SG oti/ pos not will get paid.3PL this the month but

adhika anisihi jati tha plirothun.

for no reason worry.3SG because will get paid.3PL

'Eleana worries that they will not get paid this month but she worries for no reason because they will get paid.'

b. I Eleana anisihi pu dhen tha plirothun afton ton mina # ala

the Eleana.NOM worry.3SG pu not will get paid.3PL this the month but

adhika anisihi jati tha plirothun.

for no reason worry.3SG because will get paid.3PL

'Eleana worries that they will not get paid this month but she worries for no reason because they will get paid.'

(36a) and (37a) show that only *oti/pos*-clauses are compatible with the continuations the speaker uses to challenge the proposition *we had been to Paris* or *they will get paid this month.* The propositions are challenged by claiming that it was in Vienna that they had been instead or that they will eventually get paid. On the other hand, *pu*-clauses are not compatible with the same continuations (cf. 36b and 37b). I argue the contrast that these continuations would be unexpected if both *oti/pos*- and *pu*-clauses were factive. Instead, this contrast shows that only *pu*-clauses are factive whereas *oti/pos*-clauses are not. Also, applying the *hey, wait a minute* of Von Fintel (2004) yields results, as shown below, which are consistent with the conclusion that *pu*-clauses only are factive.

(38) a. I Eleana thimotan oti/ pos ihame pai s-to Parisi.
the Eleana.NOM remembered.3SG oti/ pos had.1SG gone to-the Paris
'Eleana remembered that we had been to Paris.'

b. # Perimene ena lepto. Dhen iha idhea oti ehete pai s-to Parisi.
wait a minute. not had.1SG idea oti had.2PL gone to-the Paris
'Hey, wait a minute. I had no idea that you had been to Paris.'

(39) a. I Eleana thimotan pu ihame pai s-to Parisi.
the Eleana.NOM remembered.3SG pu had.1SG gone to-the Paris
'Eleana remembered that we had been to Paris.'

b. Perimene ena lepto. Dhen iha idhea oti ehete pai s-to Parisi.
wait a minute. not had.1SG idea oti had.2PL gone to-the Paris
'Hey, wait a minute. I had no idea that you had been to Paris.'

(40) a. I Eleana anisihi oti/ pos dhen tha plirothun afton ton mina.
the Eleana.NOM worry.3SG oti/ pos not will get paid.3PL this the month
'Eleana worries that they will not get paid this month.'

b. # Perimene ena lepto. Dhen iha idha oti dhen tha plirothun afton ton
wait a minute. not had.1SG idea oti not will get paid.3PL this the
mina.
month
'Hey, wait a minute. I had no idea that they are enot getting paid this quarter.'

(41) a. I Eleana anisihi pu dhen tha plirothun afton ton mina.
the Eleana.NOM worry.3SG pu not will get paid.3PL this the month
'Eleana worries that they will not get paid this month.'

b. Perimene ena lepto. Dhen iha idha oti dhen tha plirothun afton ton
wait a minute. not had.1SG idea oti not will get paid.3PL this the
mina.
month
'Hey, wait a minute. I had no idea that they are enot getting paid this quarter.'

Concretely, *oti/pos*-clauses are asserted, hence, they are not possible after *hey, wait a minute*. On the other hand, *pu*-clauses are allowed to follow this continuation, because, as expected, they are presupposed.

With this background in mind, let us now turn out attention to cases in which *oti*-clauses can be shown to be interpreted as factive due to a pragmatic factors. So, a number of recent works explore different classes of predicates and examine whether they trigger factive entailments uniformly or if linguistic or pragmatic factors can affect their behavior. This literature is primarily experimental and shows that factivity might be an inference or an entailment and that several factors might play role in this case that have to do with linguistic or pragmatic context (cf. Djärv et al. 2017, Tonhauser et al. 2018 i.a.). Here I discuss that *pu*-clauses are invariantly presuppositional regardless of pragmatic factors which suggests, like I concluded in the previous section, that factivity is hard wired in their grammatical structure. On the other hand, *oti/pos*-clauses have variant behavior, and pragmatic factors play crucial role, suggesting that their structure does not associate with factivity. Let me first discuss the English facts.

To start with, Karttunen (1971) first observed that some predicates do not behave uniformly as factive. This class of predicates that he called 'semi-factives' includes cognitive predicates like *find out* or *discover*. The contrast between cognitive predicates and other kinds of factive predicates such as emotive predicates like *regret* is illustrated below.

(42) a. If I discover later [$_p$ that the proposal offended them], I will apologize.

     b. If I regret later [$_p$ that the proposal offended them], I will apologize.   Djärv et al.

       (2017, 3)

The difference between the two sentences is that only the latter one which comprises an emotive predicate entails p. Most recent literature that has looked at the behavior of different classes of predicates has concluded that, exactly like cognitive predicates, emotive predicates as well might not trigger a factive entailment. Here I present a summary of the contexts that previous literature of English has argued that emotive and doxastic predicates do not behave as factive. So doxastic predicates have been argued to behave as non-factive when they are embedded under entailment cancelling operators e.g. negation or conditionals, in contexts that inconsistent with the speaker

believing p (cf. Karttunen 1971, Beaver 2010, Abrusán 2016). This is illustrated with examples below.

- **Explicit ignorance contexts**

    (43) I have no idea if Mary is cheating on John. But if he discovers that [$_p$ she is], he will be sad. $\not\leadsto$p   Abrusán (2016)

- **First person conditionals**

    (44) If I realize later that [$_p$ I have not told the truth], I will confess it to everyone. $\not\leadsto$p
          Karttunen (1971)

In these two contexts, the cognitive predicate is embedded under conditionals. Also, 'the speaker's evidence does not support the belief that p' (cf. Djärv 2018). In this case, the two sentences do not entail p. In contrast, if the speaker's evidence does support the belief that p in a different context, as in (45), p is entailed.

(45) **Context: at the office, about two co-workers who are dating:**
      If John discovers that [$_p$ Mary is cheating on him], he'll be sad. $\leadsto$p Djärv (2018, 22)

As for emotive predicates of English, Djärv (2018) argues that they allow cancellation of the p=1 inference if the context is such 'that the speaker does not take the attitude holder to have good evidence to support their belief that p.' In Djärv (2018, 25), this point is illustrated with examples in a given context, as illustrated in (46).

(46) Crazy Bill believes everything he reads! He just read that the sun is going to be eaten by an intergalactic T-Rex, and . . .
      a. #he's now aware that the world is about to end.
      b. he's now sad that the world is about to end. $\not\leadsto$p

Here the speaker does not take the attitude holder, Bill in this case, to have good evidence to support his belief. In this context, if the sentence is formed with an emotive predicate, there is no entailment that p (cf. 46b).

Now, as discussed before, *pu*-clauses can most productively be used with emotive factive predicates and *oti/pos*-clauses can as well in a few cases. So, we can test whether in similar contexts like in (46) where p=1 can be cancelled in English, *pu*-clauses behave are allowed or not. I show in the following examples that in this particular context only *oti/pos*-clauses are allowed, which corroborates the conclusion that *pu*-clauses are robustly factive.

(47) Crazy Bill believes everything he reads! He just read that the Earth is going to be eaten by an intergalactic T-Rex, and . . .

    a.   tora anisihi   oti/ pos tha hathi   i   anthropotita
        now worry.3SG oti/ pos will lose.NACT.3SG the humanity.NOM
        'Now he worries that humanity will get lost.'

    b. # tora anisihi   pu tha hathi   i   anthropotita
        now worry.3SG pu will lose.NACT.3SG the humanity.NOM
        'Now he worries that humanity will get lost.'

(48) Crazy Bill believes everything he reads! He just read that the Earth is going to be eaten by an intergalactic T-Rex, and . . .

    a.   tora fovate   oti/ pos tha hathi   i   anthropotita
        now worry.3SG oti/ pos will lose.NACT.3SG the humanity.NOM
        'Now he worries that humanity will get lost.'

    b. # tora fovate   pu tha hathi   i   anthropotita
        now worry.3SG pu will lose.NACT.3SG the humanity.NOM
        'Now he worries that humanity will get lost.'

These examples show that if the context implies that the speaker is not necessarily committed to the truth of the embedded proposition, *pu*-clauses cannot be used (cf. 47b and 48b). On the other had, *oti/pos*-clauses are felicitous in this case (cf. 47a and 48a)

Regardless of context, it has also been shown that prosodically mediated focus correlates with factive entailments in English (cf. Beaver 2010 i.a.). So, in (49a), where a matrix element is focalized, the sentence entails p whereas in (49b) where the focalized element is in the embedded clause, there is no entailment that p.

(49)   A professor to a student: Beaver (2010, 93)

    a. If the TA DISCOVERS [$_P$that your work is plagiarized], I will be forced to notify the Dean. ⇝p

    b. If the TA discovers [$_P$that your work is PLAGIARIZED], I will be forced to notify the Dean. ⇝̸p

In Greek, the predicates selecting *pu*-clauses or other matrix material can but do not have to be focalized (cf.50a and 50b). In either case, the sentences formed with *pu*-clauses entail p below:

(50)   a.   O Jorghos   HARIKE   [$_P$ pu tha fiji   i   Maria].
        the George.NOM was happy.3SG   pu will leave.3SG the Maria.NOM
        'George was happy that Maria will leave.' ⇝p

    b.   O Jorghos   harike   [$_P$ pu tha fiji   I   MARIA].
        the George.NOM was happy.3SG   pu will leave.3SG the Maria.NOM
        'George was happy that Maria will leave.' ⇝p

On the other hand, *oti/pos*-clauses behave differently and seem to replicate the judgments that were reported for English. As shown in (51), the sentence entails p, only if there is focalized material in the matrix clause e.g. the matrix predicate in (51a). If focus falls in any element in the embedded clause, the sentence does not entail p, as shown in (51b).

(51)   a.   Ean ANAKALIPSI o TA [$_P$ oti/ pos i   dulia   su   ine sketi antigrafi],
        if   discover.3SG the TA   oti/ pos the work.NOM your.GEN is   plagiarized,
        tha anagasto   na enimeroso ton pritani.
        will force.NACT.1SG na notify.1SG the Dean
        'If the TA discovers your work is plagiarized, I will have to notify the Dean.' ⇝p

b.   Ean o   TA anakalipsi [$_P$ oti/ pos i   dulia   su   ine

       if   the TA discover.3SG   oti/ pos the work.NOM your.GEN is

       SKETI ANTIGRAFI], tha anagasto   na enimeroso ton pritani.

       plagiarized,   will force.NACT.1SG na notify.1SG the Dean

       'If the TA discovers your work is plagiarized, I will have to notify the Dean.' ⇸p

The same contrasts can be observed with *iksere.* So in (52a) I show that the sentence does not entail p if it is read with flat intonation. In this case *iksere* is interpreted as 'be under the impression that …'. In (52b), I show that if the *oti/pos*-clause is clitic doubled in which case the matrix predicate most naturally has to be focalized because the doubled DP is interpreted as -[Focus] (cf. Kallulli 2006) the sentence entails p.

(52)   a.   O Janis iksere   [p oti pighate s-ti   Majorka], telika   s-ti   Vieni

          the John know.3SG   oti went.2PL to-the Mallorca, eventually to-the Viena

          pighate?

          went.2SG

          'John was under the impression that you went to Mallorca, but eventually is it in Vienna that you went?' ⇸p

    b.   O Janis to   IKSERE   [oti pighate s-ti   Majorka], # telika   s-ti

          the John 3SG.N.ACC know.3SG   oti went.2PL to-the Mallorca,   eventually to-the

          Vieni pighate?

          Viena went.2SG

          'John knew that you went to Mallorca, but eventually is it in Vienna that you went?' ⇝p

Interestingly, the focus strategy does not work with all predicates. So, if the predicate is a plain attitude one, like *believe,* the sentence does not entail p despite the presence of the doubling clitic. (*pace* Kallulli 2006).

(53) a. O Janis pistepse   [$_p$ oti i   Cher pethane].

the John believed.3SG   oti the Cher passed away.3SG

'John believed that Cher passed away.' ↛p

b. O Janis to   PISTEPSE   [$_p$ oti i   Cher pethane].

the John 3SG.N.ACC believed.3SG   oti the Cher passed away.3SG

'John believed that Cher passed away.' ↛p

To sum up, the discussion in this section shows that regardless of various pragmatic factors, *pu*-clauses are always factive. Consequently, we can conclude that factivity arises from the *pu*-clauses itself, unlike with *oti/pos*-clauses, which are by default non-factive. The latter are subject to the pragmatic factors that are discussed in the English literature in order to become factive.

B.3.1   Christidis 1982

Christidis (1982) was one of the first who looked in depth at the interpretive properties of *oti-/pos-* and *pu*-clauses. Christidis notes that in previous sources like in Triandaphyllidis (1941) the intuition that is reported about *pu*-clauses is that they express something more 'real' and argues that this notion can be formulated more precisely in terms of 'truth presupposition'. Christidis (1982) argues that one possible way to understand the *oti, pos* vs. *pu* alternation might be casted in terms of factivity. According to this view, *pu*-clauses will be selected by factive predicates, and they will be able to surface in all possible factive contexts while, on the other hand, *oti*-clauses will be used in non-factive contexts. At first sight, Christidis notes, this view seems to be correct. Thus, factive predicates like *be happy* in (54a) can only combine with *pu*-clauses excluding *oti-/pos*-clauses. Non-factive predicates like *think* can only combine with *oti-/pos*-clauses (cf. 54b).

(54) a. Harika   pu/ *oti/ [...] .

be happy.1SG pu/ oti
'I am happy that ...'

b. Nomizo   *pu/ oti [...].

think.1SG pu/   oti
'I think that ...'

The fact that *pu*-clauses are presuppositional is also illustrated according to Christidis (1982) in his minal pair in (55). this minimal pair shows that the *oti-/pos*-clauses are compatible with the continuation *however I might be wrong* and that the *pu*-clauses are not. *Pu*-clauses are presuppositional i.e. the speaker is committed to the truth of the *pu*-clause, thus, the continuation *however I might be wrong* is not allowed. On the other hand, *oti-/pos*-clauses can be challenged by such continuations, which suggests that the speaker does not have to be to committed to their truth. All in all, it seems that view according to which factivity is conditioning the *oti/pos* and *pu* alternation is on the right track.

(55) a. Thimame   oti ton   icha   sinadisi s-to   Parisi, ala bori   na kano
          remember.1SG oti 3.SG.ACC had.1SG met   in-the Paris, but might be do.1SG
          lathos.
          wrong

      b. Thimame   pu ton   icha   sinadisi s-to   Parisi, # ala bori   na kano
          remember.1SG pu 3.SG.ACC had.1SG met   in-the Paris,   but might be do.1SG
          lathos.
          wrong
          'I remember that I had met him in Paris but I might be wrong.'

Christidis claims that despite these previous findings, factivity cannot be determining the presence of *oti/pos* and *pu* in embedded clauses. In order to illustrate his point, he presents data with *oti-/pos*-clauses being interpreted as factive. For instance, the *oti-/pos*-clauses after the verb *forget* are factive, as shown in (56a), exactly like *pu*-clauses (56b). This result is unexpected under the view that *pu*-clauses only express factivity in Greek since we could in principle expect to find *pu*-clauses in all factive contexts, contrary to fact.

(56) a. Ksehasa   oti ton   icha   sinadisi s-to   Parisi, # ala bori   na kano
          forgot.1SG oti 3.SG.ACC had.1SG met   in-the Paris,   but might na do.1SG
          lathos.
          wrong
          'I forgot that I had met him in Paris but I might be wrong.'

b.   Ksehasa   pu ton   icha   sinadisi s-to   Parisi, # ala bori   na kano

         forgot.1SG pu 3.SG.ACC had.1SG met   in-the Paris,   but might na do.1SG

         lathos.

         wrong

         'I forgot that I had met him in Paris but I might be wrong.'

Furthermore, Christidis presents the data in (57), which show that *pu*-clauses cannot surface in position where factive expressions such as *the fact that …* can be used. On the other hand, *oti-/pos*-clauses can occupy this position. Again, since this is a factive context, *pu*-clauses should be allowed after the predicate *elava ipopsin* in (57c) if factivity was the only factor determining their presence.

(57)   a.   Elava   ipopsin mu   to jeghonos oti endhiaferete   ja ti   dulja tu.

           took.1SG account me.GEN the fact   oti be interested.3SG for the job   his.GEN

           'I took into account the fact that he is interested in his job.'

     b.   Elava   ipopsin mu   oti endhiaferete   ja ti   dulja tu.

           took.1SG account me.GEN oti be interested.3SG for the job   his.GEN

           'I took into account the fact that he is interested in his job.'

     c.   *Elava   ipopsin mu   pu endhiaferete   ja ti   dulja tu.

           took.1SG account me.GEN pu be interested.3SG for the job   his.GEN

           'I took into account the fact that he is interested in his job.'

Based on this fact, Christidis (1982) concludes that the *oti/pos* vs. *pu* should be explored independently of factivity and he looks at other languages that exhibit similar alternations in order to understand the state of affairs in Greek. He shows data from Serco-Croatian, which introduces embedded clauses with *da* and *što*, and in previous literature it has been argued that *da-* and *što*-clauses in terms of factivity (cf. Bibović 1971).

(58)   a.   Mislim   da će   doći.

           think.1SG. da will.3SG come.INF

           'I think that he will come.'

b.	Žao mi je što je dobio prvu nagradu.

sorry me.DAT be.3SG što had.3SG won   first award

'He was happy that he won the first award.'

He also looks at Japanese clausal embeddings which can be introduced with *no* and *koto* (see example below). The *no-* and *koto*-clauses have been argued to differ in terms of semantic import and the relevant factor that previous literature was discussed was not factivity (cf. Josephs 1976). Christidis (1982) looks at this literature and he argues that the factors that play significant role in the *no/ koto* alternation are similar enough to the factors conditioning the *oti/pos* vs. *pu* alternation in Greek. The discussion of the Japanese data is very relevant but I think it is wiser to proceed with the discussion of the Greek *oti/pos* vs. *pu* alternation, which according to Christidis (1982) is the direct reflex of the *no/ koto* one in Japanese.

(59)	Ziroo-wa Taroo-ga tunbo de aru koto/no-o omoidasita.

Ziroo-TOP Taroo-NOM deaf   be   koto/no-ACC remember-Past

'Taroo remembered that Ziroo was deaf.'

Christidis (1982) argues that the content of *pu*-clauses has to be directly perceived. On the other hand, the content of *oti-/pos*-clauses is always perceived indirectly. He starts the discussion of the Greek data with the verb *ksehno-*'forget' which can combine with *oti-/pos-* and *pu*-clauses, as shown below.

(60)	a.	Ksehasa oti ton iha sinadisi s-to Parisi.

forgot.1SG oti 3.3SG.ACC had.3SG met   in-the Paris

'I forgot that I had met him in Paris.'

b.	Ksehasa pu ton iha sinadisi s-to Parisi.

forgot.1SG pu 3.3SG.ACC had.3SG met   in-the Paris

'I forgot that I had met him in Paris.'

Christidis discusses at a very intuitive level that there is a difference between the two verbs above. In particular, he argues that the verb *ksehno* is cognitive when it combines with *oti-/pos*-clauses

and that when it is followed by a *pu*-clause, it is interpreted as emotive. He adds that in (60a):

'the verb does not only refer to loss of some memory; there is also a statement that this loss of memory should not have or was not natural to happen. The complement clause is a strong mnemonic representation that should be immediately retrievable.' (appr. my translation)

Similarly, he presents (61a) and (61b) as indicative cases illustrating the direct/ indirect contrast. In (61a), the verb is followed by an *oti-/pos*-clause and the content of this clause does not have to be perceived. In other words, the speaker could utter (61a) if she saw that the luggage was missing but she did not see the leaving event. Christidis (1982) argues that *idha* is not interpreted as a perception predicate in this case but as a cognitive e.g. *I understood* or *I was informed. Idha* is interpreted as a perception predicate when it is followed by a *pu*-clause as in (61b). Here, the leaving event has to be directly perceived by the speaker.

(61) a. Idha   oti efighe.
          saw.1SG oti left.3SG
          'I saw that he left.'

      b. Ton   idha   pu efighe.
          3.SG.ACC saw.1SG pu left.3SG
          'I saw him leaving.'

Christidis (1982) also presents the contrast in (62) in order to show how the direct/indirect perception distinction plays a role in the selection of *oti/pos* and *pu*.

(62) a. Thimithika   (istera apo poli   prospathia) oti ton   icha   sinadisi
          remembered.1SG   after   from a lot of effort   oti 3.SG.ACC had.1SG met
          s-to   Parisi.
          in-the Paris
          'I remembered after a lot of effort that I had met him in Paris.'

b. Thimithika   (* istera apo poli   prospathia) pu ton   icha   sinadisi

remembered.1SG   after   from a lot of effort   pu 3.SG.ACC had.1SG met

s-to   Parisi.

in-the Paris

'I remembered after a lot of effort that I had met him in Paris.'

This minimal pair shows according to Christidis (1982) that *oti/pos* is chosen when the recollection is indirect and it requires effort and thinking. On the other hand, the content of *pu*-clauses has to be directly recollected, therefore, the verb before the embedded clause cannot be modified by the PP *istera apo poli prospathia*. Christidis (1982) concludes on the basis of this distinction that the verb in (62a) is stative while in (62b) it is inchoative because:

'the first interpretation denotes acquired knowledge, and the second denotes the process of acquiring knowledge.'   (my translation Christidis 1982, 142)

Lastly, Christidis (1982) presents the minimal pairs in (63) and (64), and argues that this contrast reflects a difference between the state of "acquired internal knowledge" and "the process of acquiring knowledge". Concretely, he argues that the verb *katalaveno* is interpreted as a cognitive one if it is followed by an *oti-/pos*-clause and describes "the process of acquiring a piece of information through an external source". If the verb is followed by a *pu*-clause, Christidis (1982) claims that the verb describes "the process of Ego's becoming aware of the existence of something inside himself". The contexts in (63) and (63) describe according to Christidis (1982) to some incipient process and not some internalized knowledge, thus, they are only compatible with

(63) a. Arhizo   na katalaveno   oti/pos dhen me   sibathi.

start.1SG na understand.1SG oti/pos not   1SG.ACC like.3SG

'I start understanding that he does not like me.'

b. * Arhizo   na katalaveno   pu dhen me   sibathi.

start.1SG na understand.1SG pu not   1SG.ACC like.3SG

'I start understanding that he does not like me.'

(64)   a.   An katalavo   oti/pos dhen me   sibathi.
             if   understand.1SG oti/pos not   1SG.ACC like.3SG
             'If I understand that he does not like me.'

       b.   * An katalavo   pu dhen me   sibathi.
             if   understand.1SG pu not   1SG.ACC like.3SG
             'If I understand that he does not like me.'

Before closing this section, let me note that in a short follow up paper, Christidis (1986) argues that *pu* should be analyzed as a clausal definite determiner bearing a +definite feature while *oti-/pos-* is marked as -definite. This feature was postulated in order was meant to capture the fact that the truth of *pu*-clauses is presupposed. This idea was integrated in some form or another in later works.

B.3.2   Discussion

As noted already, the problem in Christidis (1982) is that he wrongly identified the stativity/ eventivity properties of the matrix predicate with the immediate/direct recollection or indirect distinction. As shown again below, the matrix verb in (65b) is not compatible with any kind of modification, even if it brings about an immediate/ direct recollection reading, which, should in principle be compatible with *pu*-clauses

(65)   a.   Thimame   (me   dhiskolia) oti/ pos milise   s-ti   Maria.
             remember.1SG   with difficulty oti/ pos talked.3SG to-the Maria
             'I remember with difficulty that she talked to Maria.'

       b.   Thimame   (* me   dhiskolia) pu milise   s-ti   Maria.
             remembered.3SG   with difficulty pu talked.3SG to-the Maria
             'I remember with difficulty that she talked to Maria.'

Lastly, the cases in (63) are totally compatible with the idea that *pu* can only combine with stative predicates. Concretely, in this case, *katalaveno*-'understand' describes a change of state because it is combined with *arhizo*-'begin', which initiates a change of state.

B.4 Definite Complementizers

B.4.1 Roussou 1994

Roussou (1994) is the first elaborate formal account of clausal complementation in Greek. In this work, there are a number of new empirical observations that Roussou (1994) puts together in an elegant unified analysis. This analysis also accounts for some of the intuitions in Christidis (1982). To start with, Roussou (1994) primarily focuses on the extraction patterns of the different clausal embeddings in Greek. First, she observes that unlike the factive complements of English, *pu*-factive clauses in Greek, which are also factive block adjunct and argument extraction (66). On the other hand, *oti*-clauses do not block argument or adjunct extraction when they are non-factive, (67), however, when they are selected by a factive predicate, adjunct extraction is blocked, (68).

(66) a. * Ti   metanjose   pu aghorase   o   Petros.
          what regretted.3SG pu bought.3SG the Petros.NOM
          'What did Petros regret that he bought?'

      b. * Jati metanjose   o   Petros   pu aghorase   spiti.
          why regretted.3SG the Petros.NOM pu bought.3SG house
          'Why did Peter regret that he bought a house?'

(67) a.   Ti   pistevis   oti aghorase   o   Petros?
          what believe.3SG oti bought.3SG the Petros.NOM
          'What do you believe that Petros bought?'

      b.   Jati pistevis   oti aghorase   spiti   o   Petros?
          why believe.3SG oti bought.3SG house the Petros.NOM
          'Why do you believe that Petros bought a house?'

(68) a.   Ti   thimase   oti aghorase   o   Petros?
          what remember.3SG oti bought.3SG the Petros.NOM
          'What do you remember that Petros bought?'

b. *Jati thimase   oti aghorase   spiti o Petros?

why remember.3sg oti bought.3sg house the Petros.nom

'Why do you remember that Petros bought a house?'

In order to account for these extraction patterns, Roussou (1994) attempts first to understand the internal structure of *pu-* and *oti-*clauses. In her analysis of *pu-*clauses, one important aspect has to do with the fact that these clauses are factive. In previous analyses of factivity discussed in Roussou (1994, 97), the conclusion is that factivity should be 'be put in the domain of definitness.' She argues that definiteness can also be realized as a definite feature '[...] is not only restricted to D-class elements, but can occur on C as well.' This assumption is adopted from Melvold (1991) which, as we saw, assumes that *that* can carry a +definite feature that can license an operator in Spec cp of factive embedded clauses. Similarly, in Hegarty (1992), familiarity is assumed to be encoded as a feature in C-heads. Roussou builds on these accounts and proposes that *pu* is a C head that carries a +definite feature. Furthermore, she considers a few arguments bearing on the assumption that that *pu* bears a +definite feature. First, she comments on the fact that *pu* can be used in the formation of headed relative clauses (69a), clefts (69b) or exclamatives (69c), and notes that in all these cases the clauses introduced by *pu* are presuppositional without, however, discussing diagnostics showing that this is so.

(69) a. O fititis   pu sinadises

the student pu met.2sg

'The student that you met.'

b. Itan   i siberifora tis   pu dhen anehome

was.3sg the behavior her.gen pu not   tolerate.1sg

'It was her behavior that I do not tolerate.'

c. Ti   orea   pu ine   i Maria

what beautiful pu be.3sg the Maria.nom

'How beautiful that Maria is!'

Roussou (1994) draws the main piece of evidence in support of the assumption that *pu* is +definite from nominalization patterns. The new fact about Greek that Roussou (1994) observes is that *oti-*

clauses can be nominalized while complement *pu*-clauses never can. The element that is used to nominalize an *oti*-clause is a definite determiner, as shown in (70a) and merger of this determiner is obligatory when *oti*-clauses surface in subject positions. *Pu*-clauses resist nominalization with the definite determiner across the board.

(70) a. To oti efighe me stenohorise.
the oti left.3SG me.ACC saddened.3SG
'The fact that you left saddened me.'

b. * To pu efighe me stenohorise.
the pu left.3SG me.ACC saddened.3SG
'The fact that you left saddened me.'

Roussou (1994) presents a formal account of the minimal pair above. First, she adopts assumptions of previous works that the preverbal subject position in Greek is a Topic position, which still counts as a case position. DPs occupying this position are assumed to be base generated in this positions and to be assigned case under co-indexation with *pro* that is in the canonical subject position. Furthermore, Roussou proposes that bare *oti*-clauses are CPs, and that CPs are subject to the Case Resistance Principle proposed of Stowell (1981). This principle holds that:

"case may not be assigned to a category bearing a case assigning feature (cf. Stowell 1981)."

In Stowell (1981), *that* embedded clauses in English cannot be assigned case because they contain case assigning heads. Roussou (1991) argues that the case assigning head in Greek is AGR that assigns nominative case to nominative subjects. In English, *that* clauses have to subject embedded clause evacuate the subject case position leaving a trace behind which in turn can be case assigned. Roussou (1994) argues that *oti*-clauses can remain in the subject position because they allow merger of the definite determiner. This determiner 'is merged to bear case' and in this case Roussou (1991, 91) argues 'that it is the Determiner that is Case-marked so that the CP is not ruled out as ungrammatical.' This determiner is inserted counter-cyclically, and according to Roussou (1994) it resembles *of*-insertion of English in e.g. *proud of Mary*. The preposition is

inserted to assign case while '[..] determiner is inserted to bear Case.' Importantly, since this determiner merges for case reasons, Roussou (1991) concludes that it is an expletive determiner. Roussou (1994, 108) claims that case reasons force merger of the expletive determiners before proper names or generic subjects in Greek (cf. 71). In these sentences, the determiner is assumed to be expletive because its presence does not give rise to definiteness.

(71) a. * (O) Petros   efije.
         the Petros.NOM left.3SG
       'Petros left.'

   b. * (I)   falenes   ine thilastika.
         the whales.NOM are mammals
       'Whales are mammals.'

Now, in order to account for the fact that *pu*-clauses cannot be nominalized, Roussou (1994) argues that IPs and CPs function as predicates, exactly like NPs. Therefore, *pu* is argued to be definite clausal determiner that closes off an IP predicate. Having saturated the IP predicate, *pu*-clauses cannot combine with an additional definite determiner. *Oti*-clauses are different because the predicate is the *oti*-clause itself, thus, merger of an additional determiner is allowed.

B.4.2   Discussion

There are a number of potential issues that arises in Roussou's analysis. Concretely, Roussou (1994) argues that merger of the additional determiner has to take place due to functional reasons, specifically, due to the fact that CPs cannot be case marked. Plain *oti*-clauses were taken to be CPs and the determiner they merge with in subject positions was assumed to be expletive. Being masqueraded as DPs, Roussou (1991, 1994) proposes that nominalized *oti*-clauses are allowed to be subjects. On the other hand, *pu*-clauses which were also analyzed as CPs cannot combine with the determiner because *pu*-CPs are closed predicates and cannot function as complements of determiners which need predicate complements. However, since the determiner that merges with *oti*-clauses is expletive and it can merge counter-cyclically like Roussou (1991) proposes, it should not impose any kind of restrictions on the kind of constituents it can combine with. It

should be able to combine with predicates or constituents that do not constitute predicates or constituents of syntactic categories. Consequently, there should not be any kind of restriction in merging the expletive determiner with *pu*-clauses, like there should not be any in merging with other kinds of constituents that in Stowell's terms cannot receive case such as PPs. Nonetheless, PPs in Greek cannot undergo nominalization.

B.5   Familiar Complementizers

B.5.1   Varlokosta 1994

Varlokosta (1994) discusses different aspects of the behavior of *oti-/pos-* and *pu*-clauses. First, she focuses on whether the relevant factor that is responsible for the *oti/pos* and *pu* alternation is factivity and she also examines which theory of factivity is the right one. She criticizes the view of factivity proposed in Melvold (1991). Varlokosta's criticism is based on previous work of hers which argues that the Greek pronoun *o idhjos* is bound by an operator hosted in Spec CP of embedded clauses (cf. Varlokosta and Hornstein 1993). This operator is in turn bound by a DP in the matrix clause giving rise to what looks like long distance binding in the following sentence:

(72)   O Janis$_i$ pistevi   [CP$_i$ OP [C oti o   Vasilis$_j$ tha voithisi ton idjo$_{i/*j}$.
       the John.NOM believes.3SG   oti the Bill.NOM will help   the same
       'John believes that Bill will help him.'

If there is a *wh*–item in Spec CP, the operator licensing *o idhjos* cannot be merged cannot if this position is filled by another element e.g. a *wh*-item, as in (73), where, as a result, *o idhjos* cannot be licensed.[2]

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[2]   These judgments as well as the conclusions in Varlokosta and Hornstein (1993) have been reconsidered in later literature (see Anagnostopoulou and Everaert 2013).

(73) * O Janis$_i$ dhen kseri   pjos aghapai ton idjo$_{i/*j}$.
      the John.NOM not   know.3SG who love.SG the same
      'John does not know who loves him.'

Varlokosta (1994) shows that *o idhjos* can also be licensed in *pu*-clauses (cf. 74) and argues that this shows that there is no factive operator in Spec CP of these clauses. The presence of the factive operator, like *wh*-items, should block the operator which is responsible for binding of *o idhjos*.

(74) * O Janis$_i$ lipithike   pu i Maria   filise   ton idjo$_{i/*j}$.
      the John.NOM regretted.3SG pu the Maria.NOM kissed.3SG the same
      'John regretted that Maria kissed him.'

Having ruled out the the operator analysis of factive clauses, Varlokosta examines whether familiarity or factivity determines complementitzer selection in Modern Greek. She argues that 'if *pu* was the signal of factivity in MG, the one should expect at least two things: (a) *pu*-clauses should always be presupposed by the speakers, and (b) *oti*-clauses could never imply a truth presupposition.' She presents (75) which supposedly shows that *pu*-clauses are not always factive because it is compatible with the continuation *however it was dark and I might be wrong*. The fact that this continuation is allowed shows according to Varlokosta (1994) that the speaker is not committed to the truth of the *pu*-clause.

(75)   Ton   idha   pu efevje   an ke   itan   skotadhi ke bori   na
        2.3SG.ACC saw.1SG pu was leaving.3SG however was.3SG dark   and might na
        kano   lathos.
        make.1SG mistake
        'I saw him leaving however it was dark and I might be wrong.'

Varlokosta (1994) also shows examples in which *oti*-clauses are factive concluding that factivity cannot be determining *oti* and *pu* selection. Her examples are repeated below. Here, Varlokosta (1994) argues that despite the presence of negation, the sentences do not entail that *John remembers that we were not drinking together every night*.

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(76) O Janis   dhen thimate   oti ta   piname   mazi   kathe vradi.

the john.NOM not   remember.3SG oti 3PL.ACC were drinking.1PL together every night

'John does not remember that we were drinking together every night.'

Varlokosta (1994, 71) proposes that *oti* or *pu* selection is determined by familiatiry. Under this analysis, *oti* is used to introduce some new information in the discourse. On the other hand, *pu* introduces clauses whose content is already established in the discourse 'either as a known fact, or as an occurrent or background issue, in the sense of Hegarty (1992).' In Hegarty (1992), familiarity is encoded as a feature on complementizers. Lastly, in order to account for the extraction properties of *pu*-clauses, Varlokosta (1994) proposes that factive predicates always subcategorize for a DP which comprises 'null element meaning something like 'the following', or 'the fact' or 'this' with the CP element adjoined to it.' The structure she proposes for *pu*-clauses is illustrated below:

(77)   O Janis   [vp lipate   [DP pro pu efighes.

the John.NOM [be sorry.3SG [pu left.2SG

'John feels sorry that you left.'

Based on this analysis and several other consideration from Chomsky's 1986a (Barriers), she gives an account of the extraction patterns of *oti-/pos-* anc *pu*-clauses.

B.5.2   Discussion

To start with, *pu*-clauses are not DPs because they simply do not have the distribution of DPs. For instance, they cannot be subjects, as already noted in Roussou (1994), and, as we have already seen, they cannot surface after Ps. Furthermore, if familiarity determines complementizer selection in Greek and only *pu*-clauses can be familiar, then, *oti*-clauses should never be able to surface after the response stance predicates in Cattell's 1978 typology which combine with clausal complements that are obligatorily interpreted as familiar. This prediction is clearly not borne out, as shown below.

(78) a. O   prothipurghos simfonise oti prepi na alaksi   to sistima. # Kanis   dhen

the prime minister agreed.3sg oti must na change.3sg the system   nobody not

to   iche   ischiristi afto s-to   parelthon.

3.sg.acc had.3sg claimed   that in-the past

'The prime minister agreed that the system needs to change. Nobody had claimed

that in the past'

b. O   prothipurghos epiveveose   oti prepi na alaksi   to sistima. # Kanis

the prime minister comfirmed.3sg oti must na change.3sg the system   nobody

dhen to   iche   ischiristi afto s-to   parelthon.

not   3.sg.acc had.3sg claimed   that in-the past

'The prime minister comfirmed that the system needs to change. Nobody had

claimed that in the past'

Here, it is shown that *oti*-clauses can be interpreted as familiar thus, they are not compatible

with the continuation *nobody had claimed that in the past*. Furthermore, in previous literature,

dps have been argued to be interpreted as familiar, obligatorily, when they are doubled by a

preceding clitic (Warburton 1975, Anagnostopoulou 1994). Below, I show that *oti*-clauses can be

doubled by a clitic in which case they have to be established in the discourse.

(79) a. O Thalis anefere   oti/ pos ine   arostos. Kanis   dhen to   ghnorize

the Thales mentioned.3sg oti/ pos is.3sg sick   nobody not   3.sg.acc knew

afto pio   prin.

that more before

'Thales mentioned that he is sick. Nobody knew that before.'

b. O Thalis to   anefere   oti/ pos ine   arostos. # Kanis   dhen

the Thales 3.sg.n.acc mentioned.3sg oti/ pos is.3sg sick   nobody not

to   ghnorize afto pio   prin.

3.sg.acc knew   that more before

'Thales mentioned that he is sick. Nobody knew that before.'

(79b) shows that an *oti-/pos*-clause can be doubled by a clitic and that they are different from un-doubled *oti*-clauses in that they are obligatorily interpreted as +given. If *oti-/pos*-clause were not given, like the undoubled *oti-/pos*-clause in (79a), it should be compatible with the continuation *it kanis dhen to ghnorize afto pio prin*.[3] Lastly, Varlokosta argues that since the continuation below is accepted after a *pu*-clause, and specifically, a pseudo-relative, as shown below, *pu*-clauses do not have to be presuppositional. However, this conclusion is again dubious. The continuation below is allowed but it is not clear whether it challenges the assertion e.g. *'...but I might be wrong that I saw him leaving'* or the presupposition *'...but I might be wrong that he left'*.

(80) Ton   idha   pu efevje   an ke   itan   skotadhi ke bori   na
      2.3SG.ACC saw.1SG pu was leaving.3SG however was.3SG dark   and might na
      kano   lathos.
      make.1SG mistake
      'I saw him leaving however it was dark and I might be wrong.'

To sum up, the discussion here shows that familiarity cannot be the factor determining comple-mentizer selection in Greek and factivity cannot be either.

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[3]   Note that in previous literature, Kallulli (2006) argues that doubled *oti-/pos*-clauses are interpreted as factive. This conclusion can be shown to be wrong. Concretely, Greek uses the verb *katapino*-'swallow' in its literal sense when it takes a DP complement. It can also be used in ironic speech if it combines with *oti-/pos*-clause, as in (1a). In this case, the *oti-/pos*-clause is necessarily false for the speaker who reports ironically that *John believed such a lie*. Given this, the *oti-/pos*-clause cannot be factive, since the speaker is not committed to the truth of the clause, still, it can be doubled by a clitic, as shown in 1b

(1)   a.   O Jorghos   ehapse   oti i Ji   ine   epiphedi.
           the George.NOM believed.3SG oti the Earth is.3SG flat
           'George believed that the Earth is flat.'
      b.   O Jorghos   to   ehapse   oti i Ji   ine   epiphedi.
           the George.NOM 3.SG.N.ACC believed.3SG oti the Earth is.3SG flat
           'George believed that the Earth is flat.'

B.6 Complementizers with nominal properties

B.6.1 Roussou & Roberts 2001

Roussou and Roberts (2001) present a short note about analysis of *pu*-clauses which puts a number of facts known previous literature together in a single account. The facts that they focus on are (i) that *pu*-clauses are factive, (ii) that they block extraction of any kind and (iii) that they cannot be nominalized by a definite determiner. The account that they propose dispenses with features e.g. the +definite feature on *pu* proposed in Roussou (1994), that predetermine interpretation. Instead, these features are argued to be syntactically represented. The definite feature of Roussou (1994) is syntactically represented as a D-head in Roussou and Roberts (2001) and *pu* is a C-head that undergoes C-to-D movement. Given this, Roussou and Roberts (2001) argue that *pu*-clauses block any type of extraction exactly like definite DPs in Greek. Also, they are interpreted aas presuppositional due to the presence of the strong definite determiner and lastly, since the D head is occupied by *pu* itself, these clauses cannot be further nominalized.

B.6.2 Discussion

This account is indeed more elegant than previous accounts in the sense that the factive interpretation of *pu*-clauses arises in a transparent manner. Nevertheless, like the analysis of *pu*-clauses as DPs in Varlokosta (1994), the account of Roussou and Roberts (2001) does not explain why *pu*-clauses do not distribute like DPs.

B.6.3 Roussou 2018

Following previous work by Manzini and Savoia (2011b), Roussou (2018) proposes that complementizers are nouns that take CP complements, as illustrated in the configuration below.

(81)
$$
\begin{array}{c}
\text{NP} \\
\overset{\frown}{} \\
\text{N} \quad \text{CP}
\end{array}
$$

She argues that this configuration '[...] allows us to retain the 'traditional' C position in the left

periphery of the clause as a scope position of the verb. [...] Second, it does not exclude the possibility that some clause introducers may be part of the left periphery of the clause, merging either in c-positions (thus predicate-related) or in nominal positions within the left periphery, as is the case with the 'subjunctive' particles of the Balkan languages. [...] Lastly, Roussou argues that 'being nominal as a function of their complementizer, are expected to be subject to the conditions that regulate the distribution of NPs (to a greater or lesser extent).' Now, given that clauses are NPs Roussou claims that 'the obvious conclusion to draw is that complement clauses are or can be case-marked'. In addition, Roussou assumes following Christidis (1982) that the *oti/pos* vs. *pu* alternation is conditioned by direct vs. indirect proximity. She presents the minimal pair in (82) and argues that it shows that '[..] the selection of *pu* gives rise to direct perception (immediate recollection of an event in this case).' She claims that '[...] 'with difficulty' implies that there is some effort in remembering and therefore is not compatible with immediate recollection.'

(82) a. Thimame   (me   dhiskolia) oti/ pos milise   s-ti   Maria.
          remember.1SG   with difficulty oti/ pos talked.3SG to-the Maria
          'I remember with difficulty that she talked to Maria.'

      b. Thimame   (* me   dhiskolia) pu milise   s-ti   Maria.
          remembered.3SG   with difficulty pu talked.3SG to-the Maria
          'I remember with difficulty that she talked to Maria.'

Roussou also discusses that *pu* and *oti/ pos* are used in different syntactic contexts e.g. in relative clauses or in interrogative clauses and proposoes it is possible to dispense with accidental homophony if these items are nominal elements that can bind individual variables or propositional variables. The new claim in Roussou (2018) is that *pu*-clauses are oblique arguments. Her claim is primarily based on the fact that *pu*-clauses can alternate with oblique arguments after subject experiencer predicates:

(83) a. O Janis   stenohorjete pu efighe   o   Petros.
          the John.NOM be upset.3SG pu left.3SG the Petros.NOM
          'John is upset that Petros left.'

b. O Janis   stenohorjete me/ ja   to oti efighe o Petros.

the John.NOM be upset.3SG with/ about the oti left.3SG the Petros.NOM

'John is upset with/ about the fact that Petros left.'

c. O Janis   stenohorjete me/ ja   kati.

the John.NOM be upset.3SG with/ about something

'John is upset with/ about something.'

Stenohoriete behaves as a subject experiencer predicate and selects oblique arguments introduced with prepositions, *me* or *ja*. These prepositions can be followed by a DP, as shown in (83c), or a nominalized *oti*-clause, as in (83b). *Pu*-clauses alternate with oblique arguments, as illustrated in (83a), and this is the first fact that Roussou (2018) discusses to support the assumption that *pu*-clauses are obliques. The second distributional fact is that *pu*-clauses cannot surface in the preverbal position (84c), in contrast to plain DPs or nominalized *oti*-clauses (cf. 84a and 84b).

(84) a. O Petros   stenohori ton Jani.

the Peter.NOM upset.3SG the John.NOM

'John is upset that Petros left.'

b. To oti efije   o Petros   (ton)   stenohori ton Jani.

the oti left.3SG the Peter.NOM   3.SG.M.ACC upset.3SG the John.ACC

'That Peter left is upsetting John.'

c. *Pu efije   o Petros   (ton)   stenohori ton Jani.

pu left.3SG the Peter.NOM   3.SG.M.ACC upset.3SG the John.ACC

'That Peter left is upsetting John.'

The *pu*-clauses in a subject position in (84c) and Roussou (2018) argues that this sentence is ruled out because oblique arguments are excluded from subject positions. Furthermore, she claims that '[…] the lack of nominalization with *pu* follows from its function as an oblique argument.' Lastly, she argues that *pu*-clauses block argument or adjunct extraction, as we have seen before, exactly like oblique arguments. The fact that oblique arguments block argument extraction is illustrated in the minimal pairs below.

(85) a. Anisihisa   ti fili   tis Marias.
worried.1SG the friend.ACC the Maria.GEN
'I worried Maria's friend.'

b. Pjanu   ti fili   anisihises?
whose.GEN the friend.ACC worried.2SG
'Whose friend did you worry?'

c. Anisihisa ja   ti fili   tis Marias.
worried.1SG about the friend.ACC the Maria.GEN
'I worried about Maria's friend.'

d. *Pjanu anisihises   ja ti   fili?
whose worried.2SG for the friend.ACC the Maria.GEN
'Whose friend did you worry about?'

B.6.4 Discussion

Here, I focus on the claim that *pu*-clauses are oblique arguments because they alternate with PPs. As I show, this claim is not true. *Pu-* as well as *oti*-clauses can function as oblique or non-oblique arguments depending on the selecting predicate. Thus, after predicates selecting DPs, *pu-* and *oti*-clauses can undergo clitic doubling with an agreeing <u>accusative</u> clitic exactly like bare accusative DP arguments. On the other hand, after predicates selecting only PPs, *pu-* and *oti*-clauses cannot undergo Clitic Doubling, which suggests in this case that they are oblique, that is, like PPs, which cannot associate with a doubling clitic in Greek. This suggests that there is no direct connection in the Greek complementation system between obliqueness and *pu*-clauses as, first, *pu*-clauses can function as bare accusative DP argument, second, *oti*-clauses can function like the *pu*-ones as oblique or non-oblique depending on the embedding predicate.

To start with, there are a number of predicates that select PPs as arguments, but can only combine with *oti-/pos*-clauses, as I show below:

(86) a. Kateliksa   se kati.

        concluded.1SG in something

        'I concluded in something.'

    b. Kateliksa   oti/ pos eprepe na iha   pari pio sovara   afto to thema.

        concluded.1SG oti pos must   na had.1SG taken more seriously this the issue.ACC

        'I concluded that I must have taken this issue more seriously.'

    c. *Kateliksa   pu eprepe na iha   pari pio sovara   afto to thema.

        concluded.1SG pu must   na had.1SG taken more seriously this the issue.ACC

        'I concluded that I must have taken this issue more seriously.'

(87) a. Epimeno se kati.

        insist.1SG in something

        'I insist on something.'

    b. Epimeno oti/ pos o   Mihalis   dhen aftoktonise.

        insist.1SG oti/ pos the Mhalis.NOM not   committed suicide.3SG

        'I insist that Mihalis did not commit suicide.'

    c. *Epimeno pu o   Mihalis   dhen aftoktonise.

        insist.1SG pu the Mhalis.NOM not   committed suicide.3SG

        'I insist that Mihalis did not commit suicide.'

(88) a. Simfono se kati   me   ton Jorgho.

        agree.1SG in something with the George.ACC

        'I agree in something with George.'

    b. Simfono   oti/ pos prepei na prohorisume se sighonefsi ton dhio eterion

        agree.1SG oti/ pos must   na proceed.1PL in merge   the two companies.GEN

        'I agree that we should proceed with merge of the two companies.'

    c. *Simfono   pu prepei na prohorisume se sighonefsi ton dhio eterion

        agree.AGREE pu must   na proceed.1PL in merge   the two companies.GEN

        'I agree that we should proceed with merge of the two companies.'

The fact that the *oti*-clauses are oblique in this case follows from a new observation, namely, that they resist Clitic Doubling in this particular case (89). In this respect, they behave like PPs, that is, obliques, which in Greek cannot associate with a doubling clitic (cf. 90).

(89)   a.   * To   kateliksa   oti eprepe na   iha pari   pio   sovara afto   to
              3SG.N.ACC concluded.1SG oti pos   must na had.1SG taken more   seriously this
              thema.
              the   issue.ACC
              'approx. *I concluded it that I must have taken this issue more seriously.'

       b.   * To   epimeno oti o   Mihalis   dhen aftoktonise.
              3SG.N.ACC insist.1SG oti the Mhalis.NOM not   committed suicide.3SG
              'approx. *I insist it that Mihalis did not commit suicide.'

       c.   * To   simfono   oti prepei na prohorisume se sighonefsi ton dhio
              3SG.N.ACC agree.AGREE oti must   na proceed.1PL   in merge   the two
              eterion
              companies.GEN
              'approx. *I agree it that we should proceed with merge of the two companies.'

(90)   a.   * To   kateliksa   (se aftin tin apofasi).
              3SG.N.ACC concluded.1SG   in this the conclusion
              'approx. *I concluded in this decision.'

       b.   * To   epimeno (se aftin tin apofasi)
              3SG.N.ACC insist.1SG   in this the decision
              'approx. *I insist in this decision.'

On the other hand, if the predicates that select embedded *oti-/pos*-clauses can combine with bare DP arguments, the *oti-/pos*-clauses can associate with a doubling clitic.

(91)   a.   * Dhen to   pistevo.
              not   3SG.N.ACC believe.1SG
              'I do not believe it.'

b. * Dhen to   pistevo oti ekana   lathos

   not   3SG.N.ACC believe oti made1SG mistake

   'I do not believe it that I made a mistake.'

(92) a. * Dhen to   ihe   ksehasi.

          not   3SG.N.ACC had.3SG forgotten

          'He had not forgotten.'

      b. * Dhen to   ihe ksehasi oti   tha   tis   sinaduse argotera

          not   3SG.N.ACC had forgotten otiwould 3PL.F.ACC meet later

          'She had not forgotten that she would meet them later.'

To sum up, the behavior of *oti*-clauses in regard to Clitic Doubling suggests that depending on the embedding predicate, they may function as as oblique or non-oblique arguments. This new fact already poses a serious challenge to Roussou's claim according to which *pu*-clauses correspond to oblique arguments. Roussou's claim us further challenged in light of the following facts showing that exactly like *oti*-clauses, *pu*-clauses can function as oblique or non-oblique depending on the predicate. *stenohorieme*-'be sad' and *anisiho*-'worry' only select PPs and with *pu*-clauses:

(93) a. Stenohorieme ja kati.

          be.sad.1SG   for something

          'I am sad for something.'

      b. Stenorjeme pu efighe i   Maria.

          be.sad.1SG   pu left.3SG the Maria

          'I am sad that Maria left.'

(94) a. Anisiho   ja kati.

          worry.1SG for something

          'I am sad for something.'

      b. Anisisho   pu efighe i   Maria.

          worry.1SG pu left.3SG the Maria

          'I am sad that Maria left.'

In this case, *pu*-clauses behave like PPs, that is, like oblique arguments and cannot be doubled by a clitic.

(95) a. * To   stenorjeme pu efighe   i   Maria
              33SG.ACC.N be.sad.1SG   pu left.3SG the Maria
              'I am sad that Maria left.'

      b. * To   anisisho   pu efighe i   Maria.
              33SG.ACC.N worry.1SG pu left.3SG the Maria
              'I am sad that Maria left.'

On the other hand, if the predicate embedding a *pu*-clause selects DP objects, the *pu*-clause can be doubled by a clitic:

(96) a. Thimame   tin Eleana.
          remember.1SG the Eleana.ACC
          'I remember Eleana.'

      b. Thimame   pu ihame   pai   s-to   Parisi.
          remember.1SG pu had.1PL been to-the Paris
          'I remember that we had been to Paris.'

      c. To   thimame   pu ihame   pai   s-to   Parisi.
          33SG.ACC.N remember.1SG pu had.1PL been to-the Paris
          'I remember that we had been to Paris.'

These facts suggests that there is nothing particular about *pu*-clauses and obliqueness. This kind of clauses can be oblique or non-oblique depending on the embedding predicate as is also the case with *oti*-clauses.

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