The Minimalist Syntax of Control in Greek

by

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A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
(Linguistics)
in The University of Michigan
2010

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To Dimitris and Sophia

ACKNOWLEDGMENTS

First of all, I would like to thank my advisors Professors Samuel Epstein and Acrisio Pires for their continuous support during my Ph.D. studies. They have both contributed immensely to my training and research work, each with their own special way and expertise in theoretical linguistics.

Sam has been a great advisor, teacher and mentor: through his pioneering research work in theorerical syntax and his stimulating course lectures, he has shaped my own thinking about syntax and linguistics and has taught me not to 'stay on the surface' of ideas or argumentations but 'go deeper' and explore the bigger implications they raise for the study of human language faculty. He has always been encouraging and enthousiastic about my work and has helped me develop any vague ideas that I had.

Acrisio has also contributed to my training and research: with his vast knowledge and his own research work on the grammar of Control, Acrisio has deepened my undertstanding of the relevant issues and stimulated the formulation of my ideas and proposals. His detailed comments and reviews on my research papers have resulted in important revisions and have improved the quality of everything I have written all these years.

I feel very fortunate and honored to have had both Sam and Acrisio for my advisors: they both influenced my career as a student in many ways: they stimulated my critical thinking, they showed interest in what I had to say and encouraged me to pursue my

goals in the field of theoretical linguistics. Despite their busy schedule, they have always been available to offer help or advise whenever I needed it and no matter how late I was in asking for it, ensuring that I will be successful in what I am doing.

I would like also to thank the rest of the members of my dissertation committee, Professors Marilyn Shatz, T. Daniel Seely and Kazuko Hiramatsu. Each of them with their informed comments in their own area of expertise has helped me write a much better dissertation.

I am indebted to Prof. Marilyn Shatz for introducing me to the field of language acquisition. I gained a much better understanding of the issues that are relevant to child language development through our discussions and her expertise in developmental psychology. Marilyn contributed significantly to this dissertation by providing me with valuable feedback on the experimental study and with her insightful comments about the theoretical implications of my research work. Thanks to her support and her interest in my ideas, I was able to expand my research and make connections between syntactic theory and psycholinguistics.

My warmest thanks also go to Prof. Daniel Seely. I took my first steps in theoretical syntax by attending his lectures during my MA studies at Eastern Michigan University and I owe him the fact that I decided to major in this field and pursue a Ph.D. Even after I graduated from EMU, Daniel kept being involved in my academic career: he was always eager to follow the progress of my research, proofread my papers, email me his own research work and make me think how they relate to the various aspects of my work. I feel very fortunate and I am really grateful that Daniel kept supervising me all these years.

I also want to thank Prof. Kazuko Hiramatsu for accepting to be a member of my dissertation committee and for helping me with the experimental study of this dissertation. She has been a great addition to my committee; she was always eager to understand the Greek data and provide me with helpful comments and feedback on the design and the materials of the present study. I have learned a lot from her and our discussions on experimental linguistics.

I wish to thank also the following faculty members of the Linguistics Department, Professors Pam Beddor, Elaine McNulty, San Duanmu and Sarah Thomason, and our Student Services Assistant Sylvia Suttor, for helping me thoughout the years with various aspects of my life as a graduate student (e.g. teaching training, applying for fellowships, finding financial support). I could not have done it without their support and guidance.

Parts of my dissertation research have been presented at different conferences in the USA and in Greece. I wish to thank the following linguists for their feedback, comments and questions: Artemis Alexiadou, Anastasia Giannakidou, Norbert Hornstein, Sabine Iatridou, Brian Joseph, George Kotzoglou, Jason Merchant, Irene Philippaki-Warburton, Anna Roussou, Vassilios Spyropoulos, and Arhonto Terzi.

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LIST OF ABBREVIATIONS

A & A	Alexiadou & Anagnostopoulou
Acc	Accusative
Act	Active
AGR	Agreement
C-subjunctive	Controlled subjunctive
Cl	Clitic
CMG	Control in Modern Greek (Varlokosta 1993)
DP	Determiner Phrase
DS	Deep Structure
EC	Exhaustive Control
EPP	Extended Projection Principle
F-subjunctive	Free subjunctive
Fem	Feminine
FUT	Future
GB	Government & Binding
Gen	Genitive
GTC	Goodluck, Terzi & Chocano Diaz
I	Inflectional Head
IMP	Imperfective
IND	Indicative
IP	Inflectional Phrase
LF	Logical Form
Masc	Masculine
Mer	Mereology
NEG	Negation

NOC	Non-Obligatory Control
Nom	Nominative
NON-FIN	Non-finite
NP	Noun Phrase
OC	Obligatory Control
P & P	Polinsky & Potsdam
PART	Participle
Pass	Passive
PC	Partial Control
PERF	Perfective
PF	Phonetic Form
Pl	Plural
Pres	Present tense
R	Reference
Sg	Singular
Spec	Specifier
SS	Surface Structure
SUBJ	Subjunctive marker
T	Trace
T	tense
TP	tense Phrase
WCO	Weak Cross Over
Θ	Theta role
1	1st person
2	2nd person
3	3rd person

ABSTRACT

This dissertation investigates aspects of the syntax and semantic interpretation of sentential subordination in Modern Greek, specifically analyzing and explaining the syntactic and semantic differences between Control and Non-Control clauses. This dissertation is concerned with a formal analysis of Control in subjunctives and in two other domains, namely *V-ondas* adjuncts and indicative *και*-complements, which have received less attention in the literature. The main goal is to provide a unifying theoretical account for the phenomena explored, offering an explanatory analysis of the major syntactic domains where Control arises in Greek.

I show specifically that Control in Greek arises in domains which, although distinct with respect to morphological agreement (the domains of complements being morphologically finite whereas the domain of *V-ondas* adjuncts is non-finite), share an underlying grammatical property, i.e. they all lack (semantic) tense. Additionally, I show that the empty subject of these domains that are defective with respect to semantic tense displays the standard properties of Obligatory Control. Therefore, I argue against previous approaches that argue that the empty subject would be the null pronominal element pro.

Instead, I take the tense deficiency of Control domains to indicate that case valuation is not available within them and I argue that Control in Greek is best analyzed as an instance of A-movement of the DP-subject from an embedded clause to a higher one for case valuation, in the spirit of the movement theory of Control proposed by O' Neil (1997)

and Hornstein (1999 *et seq.*). Building upon this approach, I demonstrate that all the interpretive properties of the controlled empty subject, including the Backward Control pattern that is attested in Greek (in both subjunctive and indicative) complements, can be deduced without generating PRO in the lower subject position or adopting construction-specific principles, but rather by assuming only independently necessary lexical features and an independently motivated set of postulates and restrictions regarding syntactic operations. Conversely, I propose that the subclasses of Greek subordination domains that exhibit Non-Control properties show evidence of presence of semantic tense. Therefore the nominative case of a DP can be valued, resulting in licensing of a lexical subject or non-control pro.

The empirical results from Greek that are reported in this dissertation and my proposed minimalist analysis offer some important insights regarding the typology of Control and raise strong theoretical implications. First, in the present analysis the (un)availability of Case valuation is linked to semantic tense and not to Agreement, i.e. to phi-features (cf. Chomsky 1995 *et seq.*), a hypothesis that raises implications for the correlation of Case and semantic tense crosslinguistically. Second, the present account implies that Mood or the categorical status of a domain (being a CP or a phase as in Chomsky 2001) is not the determining factor for (dis)-allowing movement but rather the transparency of a domain to movement depends on its featural composition with respect to the [+/-] T feature on the I and C heads. More generally, and most importantly, by providing extensive evidence for the argument that semantic tense is a determining factor for the licensing of Control (see Varlokosta 1993/1994, cf. Landau 2004), this dissertation

informs syntactic theory about what properties of human language are crucial for the grammar of Control and suggests that semantic features are more deeply integrated into the syntactic component of the grammar than previously thought.

Finally, this dissertation relates syntactic theory and experimental psycholinguistics by testing in a Picture Verification experiment with adult Greek speakers the proposed theoretical distinctions with respect to tense and Control in subjunctives. Unlike arguments presented in Goodluck, Terzi and Chocano Diaz (2001) suggesting that Greek adults show a general preference for coreference in Non-Control subjunctives, the experimental findings reported here show that when provided with an appropriate discourse context, adults have no restriction in assigning a disjoint interpretation in Non-Control subjunctives.

CHAPTER 1

Introduction

In this dissertation, I investigate the syntax of sentential complementation and subordination in Modern Greek. I focus specifically on the distinctions of Control and Non-Control phenomena that are attested in different syntactic domains of Modern Greek, a language that lacks the grammatical category of infinitive and exhibits Control in finite clauses and thus, it presents challenges for theories that have been formulated in the Generative linguistics tradition (both within Government and Binding, and current Minimalism) regarding the grammar of Control.

Control has standardly been taken to refer to "a relation of referential dependency between an unexpressed subject (the **controlled** element) and an expressed or unexpressed antecedent (the **controller**). The referential properties of the controlled element … are determined by those of the controller" (Bresnan, 1982, p.372). This relation is illustrated in example (1) from English where the non-overt argument of the infinitive *to leave* (i.e. the unexpressed subject of the embedded verb) is referentially dependent upon the (expressed) main clause subject (i.e. *John*).

(1)   John dared [to leave].

In example (1), the identification of the 'darer' determines/controls the identification of the 'leaver' and *John* is understood as being both the 'darer' and the 'leaver'.

Among other languages, Modern Greek is a language that lacks the grammatical category of infinitive[1] and exhibits Control in finite clauses,[2] typically in subjunctive complement clauses, as the example in (2) illustrates (the complement is in brackets):

(2)　　o　yanis　　　tolmise　　　　[na　figi]
　　　　the　John.NOM　dare.3SG.PAST　subj　**leave.3SG**
　　　　'John dared to leave'

Unlike English, Control structures in Greek are associated with inflected verbal forms as shown in (2) where the verb *figi* 'to leave' has **3rd person, singular, non-past tense** agreement features.[3] Interestingly enough, the interpretation of the Control relation observed in the English example in (1) is also attested in (2): *John* is interpreted obligatorily as being both the 'darer' and the 'leaver', and an overt subject inside the embedded clause is not allowed, as shown in (3), exactly as in the English counterpart:

(3)　　*o　yanis　　　tolmise　　　[na　figi　　　**i　maria**]
　　　　the　John.NOM　dare.3SG.PAST　subj　leave.3SG　**the　Mary.NOM**
　　　　'*John dared Mary to leave'

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[1]　See e.g. Joseph (1983), Joseph & Philippaki-Warburton (1987), Holton et al. (1997).
[2]　Control in finite environments is also attested in other Balkan languages (Albanian, Romanian, Bulgarian, Serbo-Croatian) and in Hebrew (see Landau 2004 and references therein).
[3]　The verb form of the subjunctive clause is the non-imperative perfective non-past verbal form, described in the literature as the 'verbal dependent form' given that it cannot stand as a free morpheme but it must occur with particles, among others with the particle να 'na' that introduces subjunctive complements (the Greek verbal paradigm is discussed in more detail in Chapter 3). In the glosses of the Greek examples, I will specify only the person feature on the embedded verb (e.g. 3sg, 2sg) without marking it as non-past for ease of exposition. I will specify it as 'Past' when the embedded verb is (overtly) marked for morphological past tense.

Furthermore, in addition to subjunctive complements, I will argue that Control is also attested in a subclass of Greek indicative complements of aspectual, knowledge and implicative verbs (among others), introduced with the particle και 'ke', as illustrated in examples (4) and (5):[4]

(4)　o　yanis　　kseri　　　　　[**ke**　horevi　　　　kala]
　　　the　John.NOM　know.3SG.PRES　COMP　**dance.3SG.PRES**　well
　　　'John knows (how) to dance well'

(5)　o　yanis　　arhise　　　　[**ke**　kapnize]
　　　the　John.NOM　begin.3SG.PAST　COMP　**smoke.3SG.PAST**
　　　'John began to smoke'

As can be seen, morphologically both subjunctive and indicative complements involve a finite verb, which is, by assumption, dependent upon a finite clause inflectional head (a finite IP).

In the Generative grammar framework, both in Government and Binding (GB) Theory (Chomsky 1981, 1986) and in Minimalism (e.g. Chomsky and Lasnik, 1993; Martin, 1996, 2001; and Landau, 2000, 2004), the relation of Control has been analyzed as a referential dependency established between a lexical DP (DP-subject or DP-object) and a special empty category, namely PRO, that is licensed in the subject position of infinitival complements.

Furthermore, most approaches to Control, both in the GB and the more recent Minimalist framework (Chomsky and Lasnik 1993; Martin 1996, 2001; Boskovic 1997; Hornstein 1999, 2003; Manzini and Roussou 2000; Pires 2001, 2006) have crucially tied

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[4]　The same argument is also developed by Ingria (2005) and Spyropoulos (2007).

Control to specific properties of the Inflectional head of infinitive complements such as *to leave*. The empirical facts presented above regarding Control in non-infinitival clauses have raised a longstanding debate in theoretical linguistics, regarding how exactly Control is derived in non-infinitival domains such as Greek subjunctive complements.

Notice, finally, that Control is also evidenced in Greek in adverbial adjuncts consisting of the imperfective present tense verbal stem and the suffix *–ondas*, which I will refer to as *V-ondas* forms, illustrated in (6):

(6)   o   yanis   pige   sto   sholio   [**trehondas**]
       the John.NOM   go.3SG.PAST to.the school   [**run.NON-FIN**]
       'John went to school running'

The *V-ondas* form is **the only non-inflected** verbal form in the grammar of Greek; it has no overt morphological marking for tense and Agreement features; as can be seen in examples (6) and (7), the verb remains morphologically invariant regardless of the person and number specifications of the subject in the matrix clause:

(7)   ta   pedia   pigane   sto   sholio   [**trehondas**]
       the   children.PL go.3PL.PAST to.the school   [**run.NON-FIN**]
       'The children went to school running'

Although Control in Greek subjunctive complements has been extensively investigated, Control into adjuncts has received less attention. Given that *V-ondas* adjuncts involve a non-inflected form, Control in this environment is not taken to be 'challenging' to account for, given the strong association of Control with non-finiteness. Therefore, these cases have been contrasted with other Control domains (i.e. subjunctives and indicatives) typically

treated as finite in Greek, which have received distinct formal analyses. In theory, however, a unifying account of Control phenomena in all these domains would be preferable.

The main goal of this dissertation is to explore Control in the three syntactic domains exemplified above and to offer a uniform analytical account for their control properties, in fact an account that does not require separate mechanisms, or the proposal of special theoretical devices exclusively to account for the properties of Control, such as the maintenance of an independent empty category PRO. Most of the theories that have been advanced regarding the grammar of Control have focused either on the properties of English-type infinitives or subjunctive complements cross-linguistically. The investigation of the properties of all the domains above that exhibit Control in Greek, a language with rich overt agreement morphology, lacking infinitives but licensing Control in finite and other non-finite clausal domains, will inform syntactic theory regarding what exact grammatical properties of human language allow Control relations to be established.

In this dissertation, I will build upon insights from other researchers (Varlokosta 1993/1994, Landau 2004) and also provide further evidence for the hypothesis that semantic tense plays a crucial role for the licensing of Control.[5] I will argue that Control in Greek arises in what I call 'defective domains', domains which, although distinct with respect to morphological agreement (the domains of complements being morphologically finite whereas the domain of *V-ondas* adjuncts is non-finite), share an underlying grammatical property, i.e. they lack (semantic) tense (cf. Pires 2006 for an alternative

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[5] I briefly note here that semantic tense refers to the temporal interpretation that an event receives (i.e. whether it will be interpreted in the past, present or future) and it defines the temporal domain/boundaries of this event. The notion of semantic tense and its difference from morphological tense are discussed in more detail in Chapter 4.

approach to Control in defective domains). I will further take the tense deficiency of these domains (i.e. their Infl being specified [-T]) to indicate that case valuation is not available in these domains and I will argue that Control in Greek can be construed as an instance of A-movement of the DP-subject from the embedded clause to a higher one for case valuation, in the spirit of the movement theory of Control developed by O' Neil (1997) and Hornstein (1999 *et seq.*). Conversely, I will propose that the subclasses of these domains that exhibit Non-Control properties show evidence for presence of semantic tense (i.e. their Infl is specified [+T]) and therefore the nominative case of a DP can be valued/assigned inside the embedded domain, resulting in licensing of a lexical DP-subject or pro, given the pro-drop property of Modern Greek.

Unlike previous approaches to Control in Greek, such as Varlokosta's or Landau's, the analysis that I propose for Control dispenses with the category PRO and it is coupled within recent advances of the Minimalist framework which seeks to maximize explanation through deduction, simplification of theories and, where possible, elimination of unnecessary theory internal elements and principles, by postulating the smallest set of premises and independently needed syntactic operations (see Chomsky 1995, 2000, *et seq*; Epstein et al. 1998; Epstein and Hornstein 1999; Epstein and Seely 2002, 2006).

This dissertation is organized as follows: In Chapter 2, I provide a brief discussion of the analytical treatment of Control in GB and the theoretical developments advanced within the Minimalist Program that led to a reconsideration of the theory of Control and its strong association with the category PRO. In Chapter 3, I discuss the distribution and properties of complement clauses in Greek focusing on the empirical domain of

subjunctive complements. Applying the standardly assumed diagnostics of Control that are used in the literature, I show that we can identify two classes with respect to Control, i.e. Control subjunctives and Non-Control subjunctives, as other researchers have argued in previous analyses, and that we can also identify specific categories of predicates that select each class and therefore Control is linked to some extent to the lexico-semantic properties of the selecting predicates.

In Chapter 4, I review in detail three of the main analyses that have been proposed for Control in Greek subjunctives, Iatridou's (1988/1993), Varlokosta's (1993/1994) and Landau's (2004), which have crucially linked the licensing of Control to the tense properties of subjunctive complements. There, I argue that although Varlokosta's and Landau's argument that Control is licensed in subjunctives that lack semantic tense is truly influential and informative (and I adopt in my analysis), the specific assumptions and mechanisms they deployed in order to derive the distribution of PRO in Control subjunctives face both empirical and theoretical challenges.

Adopting the hypothesis proposed by Varlokosta and Landau that semantic tense plays a crucial role in the licensing of Control in finite domains, I develop my proposed analysis for Control in Greek subjunctives in Chapter 5. Unlike Varlokosta and Landau, I propose a three-way distinction of subjunctives relative to tense properties: i) temporally independent subjunctives; ii) temporally dependent subjunctives; and iii) temporally anaphoric/untensed subjunctives. Similarly to Varlokosta, I propose a case theoretic account for the licensing of Control or Non-Control in Greek: I specifically argue that temporally independent subjunctives, by virtue of having semantic tense, can value

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nominative case of a lexical DP and thus an overt lexical DP subject or pro can be licensed in this domain, yielding the NOC properties they exhibit. Alternatively, I argue that temporally anaphoric subjunctives, lacking completely semantic tense, cannot value the case of a lexical DP and thus this DP has to move to a higher clause for case valuation, along the lines of the movement approach to Control (O' Neil 1997, Hornstein 1999 *et seq.*). Finally, I show that temporally dependent subjunctives show 'mixed properties' with respect to Control, with some exhibiting Object Control while others Non-Control, and I discuss a possible analysis, proposing that this class of subjunctives may be transparent to movement due to lexical/semantic restrictions imposed by the selecting predicates.

In Chapter 6, I present experimental results from a study that I conducted with native adult Greek speakers in order to test the theoretical distinctions that I proposed with respect to tense and Control in Greek. Unlike the argument presented in a previous study by Goodluck, Terzi and Chocano Diaz (2001) that Greek adults show a preference for coreference in Non-Control subjunctives, the data from the present study show that when provided with an appropriate discourse context, adults have no restriction in assigning a Non-Control interpretation in both temporally dependent and independent subjunctives.

Then I turn to discuss some exceptional cases of Control in Greek subjunctives in Chapter 7. I first consider, in Section 7.1, the ambiguous behavior of aspectual predicates showing both Control and Raising properties, and I show how their distinct patterns can be accounted for under the movement analysis of Control that I assume. In Section 7.2, I discuss the phenomenon of Backward Control which is attested in Greek Control subjunctives, building on arguments developed by Alexiadou et al. (2010). Finally, in

Section 7.3, I consider to what extent an Optimality Theory account of linearization of chains at PF, proposed by Spyropoulos and Revithiadou (2009), can be extended to Control configurations and derive pronounciation of the higher vs the lower copy of the DP-subject, yielding the standard Forward Control pattern or Backward Control respectively.

Next, I move to the investigation of Control phenomena in the other two domains of the Greek grammar in Chapters 8 and 9, and I extend the movement analysis of Control that I proposed for subjunctives. In Chapter 8, Section 8.1 specifically, I examine the syntax of a subclass of indicative clauses introduced by the element και 'ke'. In Section 8.2, I show that in contrast to the view advanced by some researchers that this domain involves a pro subject, the empty subject of this class of complements displays the standard Obligatory Control properties attested in subjunctives and thus a pro analysis cannot capture the empirical facts. Finally, examining their tense properties, I propose that this class of complements has the same deficiency that renders subjunctives embedded under the same predicates transparent to movement, that is, they lack semantic tense, and I argue that the movement analysis can be naturally extended in this domain as well without further assumptions or separate mechanisms.

In Chapter 9, I examine the syntactic properties of *V-ondas* adjuncts and I identify two subclasses, i.e. manner and temporal ones, which, as I show in Sections 9.1 and 9.2, are distinct relative to their structure and interpretation. In Section 9.3, I demonstrate that the domain of manner *V-ondas* exhibits Obligatory Control properties and that is also a defective domain with respect to semantic tense, namely this domain lacks semantic tense, and therefore is transparent to movement, similarly to subjunctive and και 'ke'

complements. Based on this fact, I argue that Control in manner adjuncts can be construed as an instance of sideward movement, as in Nunes (1995, 2001), whereas the presence of semantic tense in temporal adjuncts allows the licensing of overt lexical subjects or pro, despite the absence of overt morphological agreement on the *V-ondas* form, resulting in Non-Control interpretation.

Having completed the description and analysis of Control in Greek, in Chapter 10, I consider the special case of Partial Control attested in English infinitives and I explore a minimalist analysis in terms of movement, in an attempt to show that Partial Control can be derived without maintaining the category PRO in the grammar, in contrast to arguments advanced by Landau (2007). Finally, in Chapter 11, I present the conclusions.

CHAPTER 2

Control from GB to Minimalism

2.1 Government and Binding (GB) Approach to Control

In GB, Control has been analyzed as requiring a whole separate grammar module, the so called *Control Module,* the basic components of which are i) a special empty category PRO ii) a set of mechanisms for determining the distribution of PRO and ii) a set of mechanisms for associating PRO and its antecedent (i.e. the controller). The hypothesis that Control complements involve a null nominal subject, specifically an empty category called PRO, was entailed by the Theta Criterion. Consider the Control example in (8):

(8)   John tried to win the game.

In (8), the DP *John* is interpreted as having two theta roles: the theta role of the 'trier' and that of the 'winner'. Control examples thus appear to violate the Theta Criterion (Chomsky 1981), which required a one-to-one relationship between theta-roles and arguments.[6] The licensing of PRO in the subject theta-position of the embedded verb, as shown in (9), was postulated in order to satisfy the Theta Criterion as well as the requirement that all theta

positions should be filled with lexical material at Deep Structure, a level of syntactic representation assumed to involve insertion of all lexical information (i.e. theta roles, argument relations, subcategorization) in GB.

(9)   John$_i$ tried [PRO$_i$ to win the game].

Once it is inserted in the embedded infinitival clause, PRO bears a separate thematic role assigned by the embedded predicate; the DP *John* is assigned a thematic role by the main verb. The controlled interpretation (i.e. coreference) is established through a special Control rule obligatorily co-indexating PRO and the matrix DP subject *John*.

In GB, PRO was treated as a special category with respect to its interpretation and its distribution. On the basis of its interpretation, PRO has been analyzed as the only category identified as a pronominal anaphor (Chomsky, 1981; Chomsky & Lasnik, 1991). This involved the analysis of PRO as being [+pronominal] and [+anaphoric], based on the fact that PRO behaves both as an anaphor and as a pronoun.[7] This dual behavior of PRO can be seen arguably in examples (10) and (11):

(10)   John$_i$ tried [PRO$_i$ to win the game].

(11)   [PRO$_i$ To win the game] would be difficult.

In (10) PRO behaves like an anaphor in that it is dependent on another DP for its interpretation (PRO is interpreted obligatorily as *John*). In (11), however, PRO behaves

6   The Theta Criterion stated that i) each argument must be assigned one and only one theta role and ii) each theta role must be assigned to one and only one argument. The assumption that the Theta Criterion applies at Deep Structure followed from another principle, namely the Projection Principle, according to which lexical information must be represented syntactically at all levels.
7   Other researchers have analyzed PRO as a pure anaphor (see Bouchard, 1984; Koster, 1984; and Lebeaux, 1984).

like a pronoun in that it does not have a specific referent: it can be interpreted as 'you', 'they' or can be interpreted as an arbitrary universal quantifier pronoun (Epstein 1984).

PRO's special status as an empty category was evidenced not only by its interpretation but also by its distribution: PRO was argued to occur only in the subject position of non-finite clauses, i.e. the specifier of non-finite TP.[8] As the following examples illustrate, PRO cannot occur i) as the object of a transitive verb ((12) a, b) nor ii) as the subject of a finite clause (13):

(12) a. *John talked to PRO.

      b. *John preferred for Bill to meet PRO.

(13)   *John hoped that PRO wins the game.

In order to account for these properties, it was argued that PRO occurs only in ungoverned positions.[9] In GB, this generalization was deduced by appealing to Binding theory and

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[8] I will assume here a non-split IP approach and I will refer henceforth to the Agreement/tense projection as TP throughout, to represent the Inflectional Head of the clause. When I review other approaches to Control, I may refer to IP to be consistent with the authors' specific assumptions. In any case, IP and TP are treated identically and they both refer to the Inflectional Head of the clause.

[9] According to the GB definition of Government (given below, adapted from Hornstein, Nunes and Grohmann 2005), the position occupied by PRO in examples (12) and (13) is governed; in ((12)a,b) PRO is governed by V – [$_{VP}$ V PRO], in (13) PRO is governed by the Inflectional head – [$_{TP}$ PRO [$_{T'}$ T VP]].

> *Government*
> α governs β iff
> i) α m-commands β, and
> ii) there is no barrier γ that dominates β but does not dominate α.
> *Barrier*
> α is a barrier iff
> i) α is a maximal projection, and
> ii) α is not a complement
> *M-command*
> α m-commands β iff
> i) α does not dominate β;
> ii) β does not dominate α;
> iii) every maximal projection dominating α also dominates β;
> iv) α does not equal β

For a more detailed analysis of Government see Chomsky (1986).

PRO's featural make up. PRO's featural composition [+anaphoric, +pronominal] rendered it subject to both *Principle A* (An anaphor must be bound in its governing category) and *Principle B* (A pronoun must be free in its governing category) of the Binding theory. The solution that was provided in order to satisfy this contradictory requirement (i.e. PRO must be both bound and free within its governing category) imposed by Binding theory was the proposal that PRO must be ungoverned (referred to as *PRO Theorem* (Chomsky 1981)). If PRO is not governed, then it will not have a governing category, thus it satisfies the binding requirements. Assuming further that the [Specifier, TP] position of infinitives is ungoverned, the distribution of PRO was taken to be explained.[10]

This set of assumptions resulted in distinguishing Control from Raising. Consider the Raising example in (14):

(14)   John seemed to win the game.

The semantic interpretation of (14) is theta-theoretically quite different from the Control example in (8): in (14) *John* is the underlying thematic subject of the verb 'win'. The main predicate *seem*, unlike the predicate 'try' in (8), does not assign an external theta role (it has only a propositional theta role assigned to its complement, i.e. "it seemed that John will win the game". Since the subject position of *seem* is non-thematic, the DP *John* cannot occupy this position at Deep Structure. *John* is base generated in the embedded subject position, as illustrated in (15), satisfying the Theta Criterion.

(15)   seemed [$_{TP}$ John to win the game].   (Deep Structure)

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[10] Chomsky (1995) discusses arguments developed in Chomsky and Lasnik (1993) for cases in which PRO would be possible in governed positions.

Subsequently, *John* moves from its theta position to the main clause for different reasons depending on the theory (i.e. Case, EPP). Movement of *John* leaves behind an NP-trace, an empty category, which transmits its theta role to its antecedent *John*. Thus, the relation between the matrix and the embedded subject in Raising is a by-product of movement as shown in (16), which contrasts with Control where the relation between the DP *John* and the embedded subject is mediated not by movement but through the binding of PRO as determined by the Control Rule, as shown in (17):

(16) $John_i$ seemed [t_i to win the game].

(17) $John_i$ tried [PRO_i to win the game].

To summarize, in GB, Control has been distinguished from Raising and has been crucially tied to the existence of PRO, an empty category which exhibited unique properties in its interpretation and distribution.

2.2 Control in Minimalism

With the advent of Minimalism, which seeks the elimination of principles and filters of GB (e.g. the Case filter) and unnecessary, theory internal elements, including levels of representation (Deep Structure (DS) and Surface Structure (SS)), 'traces' and empty categories, the GB approach to PRO was questioned on both conceptual and empirical grounds (Chomsky and Lasnik 1993; O' Neil 1995; Hornstein 1999, 2000; Manzini and Roussou 2000; but see also a recent criticism by Culicover and Jackendoff 2001, 2005, 2006).

Several aspects of the PRO/Control module have been scrutinized and considered problematic from a minimalist perspective. To mention a few:

(18)   i)   The GB approach to Control relied crucially on Deep Structure, a theory internal level (Chomsky 1993) and should be avoided, if possible.
        ii) The PRO Theorem which regulated the distribution of PRO relied on the concept of government, not an acceptable minimalist primitive.
        iii) The GB approach to Control required construal rules, i.e. the Control Rule, which are not independently motivated.

Given these theoretical implications as well as empirical challenges, Chomsky and Lasnik (1993) proposed an alternative case theoretic account for the distribution of PRO embedded within minimalist assumptions. They argued specifically that PRO bears its own (idiosyncratic) case, referred to as 'Null Case', which needs to be checked. In order to derive the distribution of PRO, so that PRO is licensed only in non-finite domains, Chomsky and Lasnik argued that the null case of PRO can be checked only by the T head of non-finite control clauses.

However, this new status of PRO (carrying a special case not carried by any other DP) has also been questioned (see e.g. Martin 1996, 2001; Boskovic 1997). Given that the primary goal of Minimalism is to maximize explanation through simplification of theories and deduce as much as possible from ineliminable lexical features, independently needed structure building operations and the conceptually necessary interfaces PF (Phonetic Form) and LF (Logical Form) (Chomsky 1995), the set of assumptions that PRO requires have been considered suspicious by several researchers, most notably, O'Neil (1995, 1997), Hornstein (1999, 2000, 2001, 2003), Manzini and Roussou (2000) and Boeckx and

Hornstein (2003, 2004). These authors have argued in favor of the elimination of PRO from the grammar and have adopted a reductionist view, according to which Control is derived from independently needed operations of the computational system.

Manzini and Roussou (2000) specifically have proposed that Control can be construed as an instance of the operation *Attract*. Assuming that theta roles are aspectual features on predicates, Manzini and Roussou argue that DPs merge in the positions where they surface (<u>not</u> into their thematic positions), i.e. their Case position, and from there they connect to their theta-roles by *Attracting* "an aspectual feature of the predicate" that exists in their domain. This is schematically illustrated in (19):

(19) $[_{TP}$ John$_D$ $[_{VP}$ $\boldsymbol{\theta_1}$ tried $[_{TP}$ to $[_{VP}$ $\boldsymbol{\theta_2}$ win the game]]]]
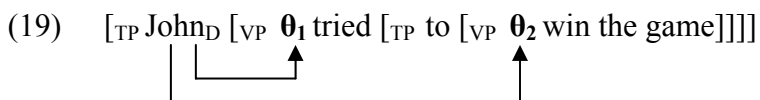
Under this approach, Control is analyzed as a special case in which an argument DP *Attracts* more than one theta feature of predicates.

Alternatively for O'Neil (1995, 1997) and Hornstein (1999, *et seq.*), Control is subsumed under movement and is construed as raising to a theta-position. In this system, theta-roles are features on verbs. A DP is assigned a theta-role by merging or moving to a theta-position and checking the theta-feature of the verb. On this view, a DP merges at the thematic position and can receive multiple theta-roles during the course of a derivation as shown in (20):

(20) $[_{TP}$ John $[_{VP}$ ~~John~~ tried $[_{TP}$ to $[_{VP}$ ~~John~~ win the game]]]]^{11}

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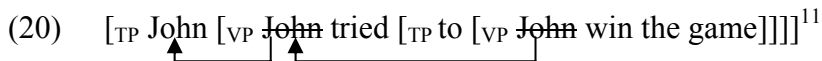
[11] DPs that are marked by strikethrough are the copies of the moved DP that are not pronounced.

In this approach, PRO is "simply a residue of movement -simply the product of copy-and-deletion operation that relates two theta-positions" (Hornstein, 1999, p. 78), i.e. PRO is the lower copy of the DP *John* (the copy in the thematic position) which is not pronounced. A theoretical consequence of this reductionist approach is that Control falls in with Raising in their syntactic analysis, in that they both involve movement. Consider in (21) and (22) the derivations of Raising and Control under this approach:

(21)   [$_{TP}$ John [$_{VP}$ seemed [$_{TP}$ to [$_{VP}$ ~~John~~ win the game]]]]   (Raising)

(22)   [$_{TP}$ John [$_{VP}$ **~~John~~** tried [$_{TP}$ to [$_{VP}$ ~~John~~ win the game]]]]   (Control)

The only difference between (21) and (22) is that in the latter, the DP *John* acquires a second theta role by virtue of moving to a theta position (the matrix predicate *try*) whereas in the Raising example, the DP *John* bears only one theta role (the theta role assigned by the embedded predicate *win*).

While not everybody agrees[12] that Control and Raising can be collapsed given that they exhibit distinct properties,[13] this reductionist view of Control is legitimate theoretically

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[12]   One major proponent of maintaining PRO in Minimalism is Landau. Landau (1999, 2003, 2004) argues against the construal of Control as Raising and holds that Control is a property of the empty category PRO. I will discuss the details of his approach to Control in Chapter 4.

[13]   Control and Raising contrast in the following ways:
   I. Expletives are licensed in the subject position of raising but not of control structures:
       (1) a. **There** seemed to be a man at the party.
           b. ***There** hoped to be a man at the party.
   II. Idioms are allowed in the subject position of raising but not of control verbs:
       (2) a. The shit seemed to hit the fan.
           b. *The shit hoped to hit the fan.
   III. Passivization of the embedded predicate does not affect the meaning in raising but it does in control structures:
       (3) a. The doctor seemed to examine John.
           b. John seemed to be examined by the doctor.   (synonymous with (3a))
       (4) a. The doctor hoped to examine John.
           b. John hoped to be examined by the doctor.   (not synonymous with (4a))

since it dispenses with PRO, the Control Module and the (arguably) unnecessary

stipulations of the GB approach.

This contrastive behavior of Control and Raising is attributed to the distinct thematic structures of predicates; that is, control predicates assign a thematic role to the controller whereas raising predicates assign no thematic role to the corresponding argument.

CHAPTER 3

Sentential Complementation & Control in Greek

In this chapter, I provide a description of basic morpho-syntactic properties of the Modern Greek clause, focusing specifically on verbal morphology, sentential complementation and mood selection. I also present the empirical domain of subjunctive complements and discuss the types of Control that they exhibit. As will become clear from the presentation in this chapter, issues including tense, morphological and syntactic agreement, as well as the semantic distinctions/properties of predicates and mood selection are crucial to any syntactic and semantic analysis of the domains that exhibit the Control relation in Greek.

3.1 Verbal Morphology

Greek is a pro-drop language with 'rich' verb agreement morphology. Inflection on the verb form marks person, number, tense, aspect and voice as illustrated in example (23) below:

(23)   o   yanis   agoras-e   ena   aftokinito
       the   John.NOM   buy.**3SG**.**PAST**.**PERF**.**ACT**   a   car.ACC
       'John bought a car'

Among these grammatical categories morphologically marked on the verb form, person and number are 'so fused together' that it is impossible to separate the person and number

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morphemes. For example, in (23) above, the morpheme –e marks 3rd person, singular. Furthermore, Agr(eement) (i.e. person and number marking) appears to be fused with tense in many Greek verbal forms as shown in ((24)a,b) where the final vowel marks person, number and tense, which has led researchers to assume that Agr and tense are fused into one category Infl (as in Chomsky 1995, Bobaljik and Thrainsson 1998) and do not constitute separate functional projections as they do in Pollock's (1989) approach (see Philippaki-Warburton, 1998).

(24)   a.   pez- o
            play.**1SG.PRES**
            'I am playing

       b.   epez-a
            play.1SG.PAST
            'I was playing'

Another morphological characteristic of verb forms in Greek is that the grammatical category of Mood is not marked on the verbal inflection. Verbal morphology in Greek (illustrated below in (25) with the verb *pezo* 'play' in all persons) makes a distinction only between Imperative and non-Imperative ((25)a, b, c) but none between Indicative and Subjunctive.

(25)   a.   Imperative
            Imperfective: pez-e (2sg), pez-ete (2pl)
            Perfective: pek-s-e (2sg), pek-s-(e)te (2pl)

       b.   Non-Imperative, - Past
            Imperfective 'be playing': pez-o, pez-is, pez-i, pez-ume, pez-ete, pez-un
            Perfective 'play': pek-s-o, pek-s-is, pek-s-i, pek-s-ume, pek-s-ete, pek-s-un

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c. Non-imperative, +Past
  Imperfective 'was playing': epez-a, epez-es, epez-e, pez-ame, pez-ate, (e)pez-an
  Perfective 'played': epek-s-a, epek-s-es, epek-s-e, pek-s-ame, pek-s-ate, (e)pek-s-an

The non-imperative perfective non-past verbal form in ((25)b) is described in the literature as the 'verbal dependent form' given that it cannot stand as a free morpheme but it must occur with specific particles, i.e. with the future particle *tha,* or *na* (treated as the subjunctive marker, as we will see below), the optative *as* or the conditional particle *an*. The non-imperative verbal forms in ((25)b and c) are characterized by traditional grammars and theoretical works as the indicative paradigm since there are no other distinctions in the verbal form in terms of Mood.

3.2 Sentential Complementation

Complementation in Greek always involves finite clauses (e.g. (26)-(28)), since the modern language has lost the grammatical category of Infinitive. In this, Greek is like other Balkan languages not exhibiting non-finite complementation such as infinitival and gerundive complements, found in English and in Romance languages.

(26) i maria nomizi [oti efige o yanis]
the Mary.NOM think.3SG.PRES that leave.3SG.PAST the John.NOM
'Mary thinks that John left'

(27) i maria lipate [pu efige o yanis]
the Mary.NOM be-sad.3SG.PRES that leave.3SG.PAST the John.NOM
'Mary regrets that John left'

(28) i maria elpizi [na efige o yanis)]

the Mary.NOM hope.1SG.PRES subj leave.3SG.PAST the John.NOM

'Maria hopes that John left'

In addition to this property, unlike in Romance languages where mood is expressed morphologically on the verb, in Greek the category of Mood (Indicative and Subjunctive) is expressed through uninflected particles which appear external to the verb form[14] (e.g. *oti /pu* 'that' and *na*) as can be seen in ((26)-(28)) above (the same pattern is also attested in other Balkan languages, such as Bulgarian, Albanian and Rumanian – see Rivero, 1994; Terzi, 1992; Roussou, 2000)).

Although the complements in ((26)-(28)) are not differentiated from each other in terms of tense/agreement morphology, they have distinct properties in that:

i) The complements in (26) and (27) are introduced by the particles *oti* and *pu* which have been treated as indicative complementizers.[15] The complement clause in (28) is introduced with the particle *na* which has been analyzed as a mood marker[16] rather than a complementizer (cf. Agouraki, 1991; Tsoulas, 1993), expressing subjunctive mood. As a mood marker, the element *na* is assumed to be located outside of the Inflectional domain, heading a Mood functional projection above TP (Philippaki-Warburton and Veloudis, 1984; Veloudis and Philippaki-Warburton, 1983; Philippaki-Warburton, 1994; Rivero

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[14] In contrast to Ancient/Classical Greek which had a rich verbal paradigm expressing Mood; in Ancient Greek, Indicative and Subjunctive were represented on inflectional verbal suffixes.

[15] The particle *pu* has been analyzed as a factive complementizer because it introduces complements of factive verbs, e.g. *lipame* 'regret', *xerome* 'be glad' (Christides, 1981; Varlokosta, 1994; Roussou, 1994, 2000).

[16] I will assume the analysis of *na* as a mood marker and I will mark *na* as *subj* (i.e. subjunctive marker) in the gloss of the Greek examples, distinct from other complementizers (i.e. C elements) like *oti* 'that', *pu* 'that' or *ke* 'and'.

1994) and thus is structurally distinct from the complementizer *oti*, as illustrated in (29) and
(30):

(29)   Indicative   [_{CP} C oti [_{MOODP} M ∅ [_{NEGP} NEG [_{TP} T [_{vP} V]]]]]

(30)   Subjunctive   [_{CP} C [_{MOODP} M na [_{NEGP} NEG [_{TP} T [_{vP} V]]]]]

ii) A second property that distinguishes the two types of complements is the choice
of negative morpheme: *oti/pu*-clauses select the negative morpheme *den*, whereas *na*-
clauses select the negative morpheme *min*, as the examples in (31) and (32) indicate,
respectively:

(31)   i   maria   nomizi   [oti **den (*min)** efige   o   yanis]
        the   Mary.NOM   think.3SG.PRES that **neg neg**   leave.3SG.PAST the John.NOM
        'Mary thinks that John didn't leave'

(32)   i   maria   elpizi   [na   **min (*den)** efige   o   yanis]
        the   Mary.NOM   hope.1SG.PRES subj **neg neg**   leave.3SG.PAST the John.NOM
        'Maria hopes that John didn't leave'

iii) Another important difference between *oti/pu* and *na* complements is that they
are selected by distinct classes of predicates. Verbs of saying, thinking, and believing, or
factive verbs, listed below in (33), select *oti/pu*-complements and correspond to English
that-clauses:

(33)   Predicates selecting Indicative
        a. <u>assertive verbs</u>
            leo 'say', *isxirizome* 'to claim', *dhilono* 'state'
        b. <u>epistemic verbs</u>
            pistevo 'believe', *nomizo* 'think'

c. factive verbs

   gnorizo 'know', *herome* 'be glad', *metaniono* 'regret'

d. semifactive verbs

   thimame 'remember', *anakalipto* 'discover'

e. fiction verbs

   fandazome 'imagine', *onirevome* 'dream'

Oti/pu-complements are thus associated with Indicative mood, whose function is to describe situations and make an assertion as to the truth of the situation described: in other words, the event described can be judged as either true or false by the speaker.

On the other hand, verbs of wishing, wanting, ordering, planning, requesting, and similar ones, given below in (34), select a complement clause introduced with *na*, i.e. a Subjunctive clause, which though finite corresponds semantically to English infinitival *to*-complements:[17]

(34)   Predicates selecting Subjunctive

   a. volitional/desiderative verbs

      thelo 'want', *epithimo* 'desire', *elpizo* 'hope'

   b. modal verbs

      impersonal *prepi* 'must', *bori* 'may', *ine dinato/pithano* 'it is possible'

   c. directive verbs

      diatazo 'order', *simvulevo* 'advise', *protino* 'suggest'

   d. knowledge verbs

      ksero 'know how', *matheno* 'learn'

   e. permissive verbs

      epitrepo 'allow', *apagorevo* 'forbid'

(35)   f.   <u>perception verbs</u>

vlepo 'see', *akuo* 'hear'

g.   <u>aspectual verbs</u>

arhizo 'begin', *sinexizo* 'continue'

h.   <u>commissive/implicative verbs</u>

anagazo 'force', *kataferno* 'manage'

Na-complements present situations as wished for, desired, ordered, or requested and thus are associated with Subjunctive mood, whose function is not descriptive but modal, in the sense that the speaker expresses a wish, a request, or a hope about an event and does not make a claim about the truth value of the sentence.[18]

Although, as it has been shown above, different predicates select different types of complements in Greek, it is common for the same predicate to be able to select both an *oti* and a *na* complement clause. It is in these cases where the difference between the semantic function of Indicative and Subjunctive can be clearly seen. Consider the following examples in (36) and (37), where the matrix predicates *pistevo* 'believe' and *ksero* 'know' take both an *oti* (expressing Indicative -(36)a, (37)a) and *na* (expressing Subjunctive - (36)b, (37)b) complement:

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[17] See Joseph (1983) and Terzi (1992) for arguments that subjunctive clauses are the counterparts of infinitives in the Balkan languages.

[18] Giannakidou (1998, 2000, 2007) accounts for the selectional properties of the predicates listed in (33) and (34) regarding mood choice, by appealing to the notion of (non)veridicality (instead of the more traditional realis/irrealis distinction). According to this account, a predicate is considered 'veridical' if it allows at least one truth inference to be construed in some individual's epistemic world. This propositional attitude of predicates is tied to mood selection. Thus, for Giannakidou (2000), "If an intensional verb allows such an inference, then it will be veridical and select the indicative; if not, it will be nonveridical and select the subjunctive" (p.234). There are, however, as Giannakidou points out, classes of predicates, specifically aspectuals, perception and implicatives, that are veridical (i.e. if an individual starts an (e)vent, then this event is true, likewise if an individual sees an event, e.g. Mary doing e, then e is true) but nonetheless select a *na*-(subjunctive) complement, as shown in (34). Given this discrepancy, Giannakidou does not treat the *na*-complements of these predicates as 'true subjunctives'.

(36) a. i   maria   pistevi   [oti   efige   o   yanis]
          the   Mary.NOM   believe.3SG.PRES   that   leave.3SG.PAST   the John.NOM
          'Mary believes that John left'

     b. i   maria   pistevi   [na   efige   o   yanis]
          the   Mary.NOM   believe.3SG.PRES   subj   leave.3SG.PAST   the John.NOM
          'Mary wants to believe (hopes) that John left'

(37) a. i   maria   kseri   [oti   kolimbai   o   yanis]
          the   Mary.NOM   know.3SG.PRES   that   swim.3SG   the John.NOM
          'Mary knows that John is swimming'

     b. i   maria   kseri   [na   kolimbai]
          the   Mary.NOM   know.3SG.PRES   subj   swim.3SG
          'Mary knows (how) to swim'

In these examples, the interpretation of the main predicates in ((36)a-b) and in ((37)a-b) is
not semantically identical. In ((36)a), the matrix predicate *pistevi* is equivalent to "Mary is
sure that, Mary believes it to be true that" whereas in ((36)b), *pistevi* is interpreted as
"Mary expects/Mary hopes/Mary wants to believe" that the action expressed by the
embedded clause took place. Consider further ((37)a) where the verb *ksero* 'know' takes an
oti complement and it is interpreted as an epistemic verb but in ((37)b), where it selects a
na-complement, it has the meaning of "know how to do something." Examples such as
these illustrate clearly that it is the selected embedded mood, indicative in ((36)a, (37)a)
and subjunctive in ((36)b, (37)b) that affects the semantic interpretation of the main
predicates and determines the modality of the embedded clause.

Finally, returning to the differences between *oti/pu-* and *na*-clauses, it is worth pointing out that subjunctive *na*-clauses are also found in main[19] (38) and adjunct clauses (39):

(38) [na figi   o   yanis)]
      subj leave.3SG the John.NOM
      'Let/may John leave'

(39) tha ertho   [prin na   figi   o   yanis]
      fut come.1SG before subj leave.3SG the John.NOM
      'I will come before John leaves'

In this dissertation, I will focus on the syntactic and semantic properties of subjunctive complements which among other syntactic domains of Greek exhibit the relation of Control and behave in this respect similar to English infinitives, yet the verb, unlike English, bears person, number and tense features.

3.3 Control in Greek subjunctives

Subjunctive complements are one domain where the relation of Control is attested in Greek. Let us consider (40) in which the complement clause is in brackets:

(40) o   yanis   kseri   [na   horevi]
      the John.NOM know.3SG.PRES subj dance.3SG
      'John knows (how) to dance'

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[19] In main clauses, subjunctive can also be expressed with the optative particle *as* illustrated in (i) below:
   (i)   as   erthi   o   yanis
           subj   come.3SG   the John.NOM
           'John may come'
   This type of subjunctive expresses requests, wishes or desires.

The interpretation of the null subject in the complement clause in (40) depends on the matrix subject: it is interpreted obligatorily as *John.* Thus, in effect, the NP *John* bears two theta roles: it bears both the 'knower' and the 'dancer' theta roles. Even if the complement in Greek has a finite verb form (with overt agreement morphology for person, number and tense) rather than an infinitive, Obligatory Control is nonetheless attested, as illustrated in (41) and (42), where the null subject of the embedded clause cannot have an independent/external reference other than the referent of the matrix subject:[20]

(41) o   yanis$_i$ kseri   [na   horevi   ec$_{i/*j}$][21]
      the John.NOM know.3SG.PRES subj   dance.3SG
      'John knows (how) to dance' '*John knows (how) he/she to dance'

(42) ksero   [na   horevo   /*horevi]
      know.1SG.PRES subj   dance.1SG   dance.3SG
      'I know (how) to dance' NOT '*I know (how) he/she to dance'[22]

Furthermore, notice that the null subject cannot alternate with an overt lexical DP-subject as shown in (43):

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[20] By external reference, we mean that the referent of the empty subject is not a lexical DP that is present in the sentence structure but instead it is an individual (a specific/definite individual) present in the discourse context. In other words, by external reference, we do not mean arbitrary reference as in the English example 'John knows how to perform surgery on oneself'.

[21] I will use the notation [ec] to refer to the empty/null subject of embedded domains, and indices to represent the semantic interpretation that the null subject receives. These are just notational devices for ease of exposition and they do not have any theoretical status.

[22] Note that the empty subject of the subjunctive complement in (42) cannot receive an arbitrary interpretation (i.e. one/someone). In Greek, arbitrary reference is obtained by the use of the indefinite pronoun *kanis* 'one' or the 2nd person singular verb form, as indicated below in the examples (i) and (ii) respectively:

   (i) ine   efkolo   na   kolimbai   **kanis**
        be.3SG.PRES   easy   subj   swim.3SG   **one**
        'It is easy (for one) to swim'

(43) *o yanis kseri [na horevi i maria]

the John.NOM know.3SG.PRES subj dance.3SG the Mary.NOM

'*John knows (how) Mary to dance'

Not all subjunctive complements, however, exhibit these Control properties. In (44), a lexical DP is allowed ((44)a) and in the absence of it, the null subject can be interpreted as distinct from the subject of the matrix clause ((44)b), even if it has the same agreement features with the matrix subject which could act as a potential controller.

(44) a. o yanis elpizi [na erthi **i maria]**

the John.NOM hope.3SG.PRES subj come.3SG the Mary.NOM

'John hopes that Mary will come'

b. o yanis$_i$ elpizi [na erthi **ec$_{i/j}$**]

the John.NOM hope.3SG.PRES subj come.3SG

'John hopes that he (himself) will come'**OR**

'John hopes that he/she (e.g. Nick or Mary) will come'

Based on this behavior, subjunctive complements have been traditionally distinguished as of two types: those that display Obligatory Control (40) and those that show Non-Obligatory Control properties (44) (Terzi, 1992; Varlokosta, 1993, 1994; Iatridou, 1993; Landau, 2004). This distinction has be drawn based on the empirical fact that the two types of subjunctive clauses show the standardly-assumed differences between OC vs NOC formulated by Williams (1980), and assumed by many authors (e.g. Bouchard, 1984; Koster, 1984; Varlokosta, 1993 for Greek; and Hornstein 1999).

(ii) ine efkolo na **kolimbas**
be.3SG.PRES easy subj **swim.2SG**
'It is easy (for one) to swim'

The following paradigm illustrates that the null subject of OC subjunctives must have a local c-commanding antecedent ((45)a); cannot support split antecedents ((45)b); allows only a sloppy reading under ellipsis[23] ((45)c), and permits only the *de se* interpretation[24] ((45)d):

(45)   a. [o filos   tis marias$_i$]$_j$ kseri   [na horevi ec$_{j/*i}$]
           the friend.NOM the Mary.GEN know.3SG.PRES subj dance.3SG
           'Maria's friend knows (how) to dance'

      b. *o yanis$_i$ nomizi   oti i   Maria$_j$ kseri
         the John.NOM think.3SG.PRES that the Mary.NOM know.3SG.PRES
         [na   voithisun ec$_{i+j}$ o enas ton allo]
         subj   help.3PL   each   other
         'John thinks that Mary knows (how) to help each other'

      c. o   yanis   kseri   na   horevi,
         the John.NOM   know.3SG.PRES subj dance.3SG
         to   idhio ke i   maria
         the same and the   Mary.NOM
         'John knows (how) to dance and Mary knows (how) (Mary) to dance' NOT
         'Mary knows (how) John to dance'

---

23 This diagnostic for control involves the interpretation of the null subject in elliptical constructions such as "I want to leave and Bill does too." Constructions like these seem to be ambiguous between two readings referred to as *sloppy* and *strict* readings. *Sloppy* refers to the interpretation in which the empty subject in the elliptic conjunct "I want to leave and Bill does ~~want to leave~~ too" is coreferential with the matrix subject of the second conjunct and we obtain the reading "Bill wants Bill to leave". *Strict* refers to the interpretation in which the empty subject in the elliptic conjunct would refer to matrix subject of the first conjunct, i.e. "Bill wants me to leave".

24 In traditional terms, *de se* and non-*de se* readings refer to the distinction between a person's belief about a particular individual (*de se* reading) and his belief in what is said, the truth of a proposition (*non de se* reading). So, "The unfortunate expects to get the medal" can be seen as expressing either the Unfortunate's belief that himself –a specific individual– will get the medal, or the Unfortunate's belief about the propositional content of the sentence, i.e. that the medal will be received.

d. o atichis kseri na ektimisi to metalio

the Unfortunate.NOM know.3SG.PRES subj appreciate.3SG the medal.ACC

'The unfortunate knows (how) to appreciate the medal'[25]

In contrast, the null subject of NOC subjunctives (i.e. exhibiting no Control) does not require a c-commanding antecedent ((46)a), allows split antecedents ((46)b), permits both sloppy and strict readings ((46)c), and *de se* and non-*de se* interpretations ((46)d).

(46) a. [o filos tis marias$_i$]$_j$ elpizi [na horevi ec$_{i/j}$]

the friend.NOM the Mary.GEN hope.3SG subj dance.3SG

'Maria's friend hopes to dance or Maria's friend hopes that Maria will dance'

b. o yanis$_i$ nomizi oti i maria$_j$

the John-NOM think.3SG.PRES that the Mary.NOM

elpizi [na voithisun ec$_{i+j}$ o enas ton allo]

hope.3SG.PRES subj help.3PL each other

'John thinks that Mary hopes to help each other'

c. o yanis elpizi na horevi,

the John.NOM hope.3SG.PRES subj dance.3SG

to idhio ke i maria

the same and the Mary.NOM

'John hopes to dance and so does Mary'

= Mary hopes that Mary dances OR Mary hopes that John dances'

d. o atichis elpizi na kerdisi to metalio

the Unfortunate.NOM hope.3SG.PRES subj win.3SG the medal.ACC

'The unfortunate hopes to win the medal'

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[25] Following Higgibotham (1989), the situation here is one where a war hero is referred to with the epithet "the Unfortunate".

= the unfortunate hopes for himself to win the medal OR the unfortunate hopes that somebody else, other than himself, will win the medal'

The two types of subjunctive complements and their Control properties exemplified in (45) and (46) are summarized in Table 3.1.

TABLE 3.1: DIAGNOSTICS OF CONTROL & DIFFERENCES BETWEEN OC VS NOC SUBJUNCTIVES

The empty subject of subjunctive complement:	OC subjunctives	NOC subjunctives
Allows independent reference	No	Yes
Must have a c-commanding antecedent	Yes	No
Allows split antecedents	No	Yes
Permits both sloppy and strict readings	No	Yes
Allows *de se* & non-*de se* readings	No	Yes

The OC vs NOC behavior of subjunctive complements generally depends on the semantics of the matrix predicate: OC subjunctives are selected by the following classes of predicates:

(47)   Predicates selecting OC subjunctive complements
   a.   knowledge verbs
        ksero 'know', *matheno* 'learn'
   b.   aspectual verbs
        arhizo 'begin', *stamato* 'stop', *sinexizo* 'continue'
   c.   modal (dynamic/ability) verbs
        boro 'can/be able to'
   d.   permissive verbs
        epitrepo 'allow', *apagorevo* 'forbid', *empodhizo* 'prevent', *protrepo*

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'encourage', *entharino* 'encourage', exhibiting object control, i.e. the embedded null subject is controlled by the matrix DP-object.

    e. <u>perception verbs</u>

        vlepo 'see', *akuo* 'hear'

    f. <u>mental perception verbs</u>

        thimame 'remember', *ksehnao* 'forget'

    g. <u>psych verbs</u>

        fovame 'fear to', *apilo* 'threat'

    h. <u>verbs such as</u>

        dokimazo 'try/attempt', *tolmo* 'dare', *distazo* 'hesitate', *skopevo* 'intend', *prothimopiume* 'be willing to', *prospatho* 'try', *kataferno* 'manage'.

NOC subjunctives are selected by predicates with future-referring interpretation:

(48)   Predicates selecting NOC subjunctive complements

    a. <u>desirative verbs</u>

        elpizo 'hope', *exhome* 'wish', *thelo* 'want', *protimo* 'prefer', *perimeno* 'expect'

    b. <u>epistemic verbs</u>

        prepi 'must', *mpori* 'may', *pistevo* 'believe'

Notice that the classes of predicates that select OC subjunctives in Greek also show OC properties in English, for instance aspectual[26] (49) and modal verbs (50) (Landau 2000) or the class of object Control verbs (51), and thus some crosslinguistic generalizations can be drawn regarding the lexical/semantic properties of the selecting predicates and the Control behavior of their complement.

(49)   John began to dance.

(50)   John has to dance at the party.

(51)   John encouraged Mary to dance.

However, note that there are some language-specific exceptions: in particular, the class of predicates that selects Non-Control subjunctives in Greek, i.e. desideratives, selects a Control complement clause in English (52) and (53), showing that the semantics of the selecting predicate is not the only factor that triggers Control in the embedded clause across languages:

(52)   John hopes to dance at the party.

(53)   John wants to dance at the party.

Another factor that has been argued to play a crucial role in the licensing of Control is the temporal properties of complement clauses. A number of researchers (Iatridou, 1988, 1993; Varlokosta 1993; Krapova 2001; Landau 2000, 2004) have proposed that the relation of Control is attested in subjunctive complements that lack temporal properties and their T head is specified [–tense]. The idea that there exist strong correlations between syntactic domains that display Control and their tense properties is not recent nor is it tied to subjunctive complements. Stowell (1982) observed that Control infinitives carry 'irrealis' tense with respect to the tense of the matrix clause (receiving a future interpretation) as illustrated in (54) – where the event of 'remembering' is prior to the event time of 'bringing

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[26] Aspectuals have been treated as ambiguous between Control and Raising predicates (Perlmutter 1970, Alexiadou and Anagnostopoulou (2001) for Greek). I will discuss in more detail the syntactic properties of Greek aspectual verbs and how they relate to the proposed analysis in Chapter 7.

the beer'–, whereas Raising infinitives depend on the matrix clause tense for their temporal specification, the event time of the infinitive in (55) is identical with that of the matrix:

(54)   John remembered to bring the beer.

(55)   John believed Mary to be the best.

This idea has been further developed by Martin (1996) who proposed that the [+/–tense] specification of Control and Raising infinitivals correlates with their case licensing properties: more precisely, Martin argued that the [+tense, –Finite] property of the T head of Control infinitives checks null case (and PRO is licensed as the subject of Control infinitives) whereas the [–tense, –Finite] property of the T head of Raising infinitives does not check case (and hence PRO cannot be licensed).[27]

Nevertheless, in contrast to Martin's arguments, Pires (2001, 2006, 2007) provided evidence from English gerunds showing that the correlation of presence of tense (i.e. [+tense]) with Control and Null Case/PRO, as proposed by Martin, does not hold. As illustrated in (56), the gerund clauses are temporally specified as [–tense][28], evidenced by their inability to sustain a temporal adverbial distinct from the matrix one, but yet they do receive a controlled interpretation (or, in the spirit of Martin, PRO is licensed):

(56)   a. * Bill$_i$ tried **today** [ec$_i$ talking to his boss **tomorrow**].
        b. * Philip$_i$ avoided **last night** [ec$_i$ driving on the freeway **this morning**].

                                    (Pires 2007:175)

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[27] See Landau (2000), Hornstein (2003) and Pires (2001, 2006) for a review of Martin's (1996) Null Case/tense approach to Control.

[28] This observation goes back to Stowell (1982) who proposed that gerunds are generally specified as [–tense].

The ungrammaticality of the examples in (56) shows that the event time of the gerund clause must be identical with the event time of the matrix and thus their T head is not specified [+tense], an empirical fact that goes against Martin's proposal that Null Case/PRO is licensed only in [+ tense] specified domains. In light of this evidence, Pires (2001, 2006 and 2007) treats this class of gerunds as TP defective and derives their Control properties applying the movement approach to Control (in the spirit of O' Neil 1995, Hornstein 1999).[29]

With respect to Greek subjunctive complements, the exact opposite correlation between tense and Control (proposed by Martin) has been argued to hold. More precisely, it has been shown in the literature that subjunctive complements with a controlled empty subject, like the example in (41) above, do not show evidence of tense distinct from the tense of the matrix clause as illustrated in (57), whereas subjunctive complements with a non-controlled empty subject, as in example (44), do carry their own tense which can be independent from that of the main clause as illustrated in (58):

(57) o   yanis   kseri   na   horevi   (**horeve** /**horepse**)
      the John.NOM know.3SG.PRES subj dance.**3SG**   dance.**3SG**.**PAST**.**IMP/PERF**
      'John knows (how) to dance/*danced'

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[29] In addition to the examples presented in (56) above, Pires also shows that in clausal gerunds, both an overt and a null subject can be licensed, as indicated in (i), and yet in both cases the clausal gerund is associated with a [+tense] interpretation evidenced by the possibility of conflicting temporal adverbs.
      (i)   a. Sue favored (**yesterday**) [Anna moving to Chicago (**today**)].
              b. Sue favored (**last week**) [moving to Chicago (**today**)]. (Pires 2007:175)
This again shows that the [+tense] specification cannot be the property that obligatorily assigns Null Case and hence PRO, since an account along these lines predicts PRO's complementary distribution with overt DPs which is not borne out in the domain of clausal gerunds.

(58) elpizo na **irthe** o yanis
hope.1SG.PRES subj come.**3SG.PAST** the John.NOM
'I hope that John came'

This hypothesis has been central and influential for the different analyses that have been offered for Control in subjunctives, in fact for analyses that are embedded both in GB and current Minimalism. Before I review the specifics of these previous proposals in Chapter 4, in the following section I briefly discuss the challenges that subjunctive complements raise for the theory of Control and summarize the different approaches that researchers have adopted.

3.4 Finite Control: What are the issues?

In both the GB approach and the movement approach discussed in Chapter 2, Control is crucially tied to the concept of non-finiteness: PRO is licensed in the specifier of non-finite T^0 (in the GB approach); while in the movement approach to Control the (overt) DP subject is moving out of a non-finite domain (the infinitival domain) to a higher finite clause to check its case and check the theta role of the matrix predicate.

The term *finite* has been used in the theory to refer to a morphological and a syntactic property. *Finiteness* as a morphological notion refers to the overt manifestation of tense and Agreement marking; thus tensed clauses (i.e. *John kicked the ball*) are distinguished from infinitives as having an Inflectional head that is fully specified for tense and Agreement (T^0 is [+tense,+Agr]) referred to as *finite.* Infinitives (i.e. *to kick the ball*) typically lack overt tense and agreement marking and are assumed to have an Inflectional

Head that is specified as (T^0 [–tense, –Agr]), referred to as *non-finite* (with the possibility of [+tense] in certain non-finite domains, as shown above).

As a syntactic notion, *finite* has been used to refer to the ability of an Inflectional head to assign nominative case: a finite T (specified for tense and Agreement) can assign nominative case to the subject of the clause whereas a non-finite T cannot. In this way, in a finite clause (as in *He kicked the ball*) the DP subject can check its nominative case whereas in a non-finite one the subject cannot check its case (as in **Mary tried John/he to kick the ball*).

The strong correlation of Control with non-finiteness nevertheless does not hold cross-linguistically. Control in finite clauses – hence referred to as *finite control* – is attested in a number of languages; for instance Balkan languages, Greek, Persian, Hebrew (see e.g. Iatridou, 1988; Terzi, 1992; Varlokosta, 1993; Philippaki-Warburton, 1987; Spyropoulos, 2007; Kapetangianni and Seely, 2007 among others for Greek; Terzi, 1992; Dobrovie-Sorin, 2001 for Albanian; Farkas, 1985 for Romanian; Krapova and Petkov, 1999 for Bulgarian; Landau, 2004 for Hebrew). The empirical facts that have been documented regarding finite Control such as Control inflected infinitives, Control subjunctives in the Balkan family, have raised the issue of how exactly Control is derived in finite domains. If Control is a property of PRO, how is PRO licensed in finite domains? If Control is not a property of PRO, what other mechanisms can be implemented to derive finite control?

Different proposals (pre-, early- and recent Minimalist analyses) have been advanced providing different solutions to this issue. There are three different approaches that can be summarized as follows:

i) Some researchers accept the view that Control strongly correlates with non-finiteness: they assume specifically that Obligatorily Control subjunctives, although morphologically finite, are non-finite with respect to their tense properties, i.e. they are not specified for tense. Thus, they involve a non-finite T and PRO can be licensed as in English infinitives (Iatridou, 1993; Varlokosta, 1993, 1994; Terzi 1992, 1997).[30]

ii) Others assume that Control in Greek subjunctives cannot be derived by licensing PRO given that Control is attested in subjunctive and indicative complements that are both morphologically finite. According to this view, Control is not a property of PRO. Control arises under specific syntactic but also semantic and pragmatic requirements with any syntactic category, non-overt and overt, such as the null pronominal *pro*, overt pronouns and DPs. (Philippaki- Warburton, 1987; Philippaki-Warburton and Catsimali, 1999; Spyropoulos and Philippaki-Warburton, 2001; Spyropoulos 2007).

iii) And finally, a third approach maintains the view that Control is strongly associated with the empty category PRO and that subjunctive is finite. This

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[30] Unlike Iatridou and Varlokosta, Terzi does not appeal to tense defectiveness but to the subjunctive marker *na* itself which she takes to be responsible for licensing Null Case on PRO (following Chomsky and Lasnik's 1993 Null Case approach to PRO). However, her approach is similar to Iatridou and Varlokosta's in that she assumes that the null subject of OC subjunctives is PRO.

approach attempts to derive Control by appealing to the referential properties of both PRO and the properties of the subjunctive C and T heads (Landau (2004).

A major goal of this dissertation is to show that finite control in Greek can be accounted for by assuming a minimalist/reductionist view, one that dispenses with PRO and the stipulations it requires, specifically the movement approach to Control along the lines of O' Neil (1997) and Hornstein (1999, 2000, 2003). Therefore, the analysis that I will propose avoids the problems associated with the distribution of PRO and as such circumvents the debate concerning whether the empty subject of Control subjunctives (and in effect of all other clausal domains that exhibit Control in Greek) is PRO vs pro. As will be shown, under the approach that I will defend in this dissertation, finite Control can be derived by appealing to independent properties of clausal domains resulting from the lexical properties of different categories of the selecting predicates, following minimalist assumptions that syntactic operations are driven only by features of different lexical items.

CHAPTER 4

Previous Approaches to Control in Greek Subjunctives

In this chapter, I review in detail three main analyses that have been advanced for Control in Greek and I explore their explanatory value. First, I discuss the proposal by Iatridou (1988/1993) who was the first to note that there are interesting correlations between the morphological tense properties and the Control properties of subjunctive complements. Second, I present Varlokosta's 1993/1994 account who argued that it is semantic tense and not morphological tense that is crucial for the licensing of the Control relation in Greek. Lastly I review Landau's recent theory of Control in the Balkan languages, in which he appeals both to semantic tense and morphological agreement in order to derive the Control properties of different clause types crosslinguistically. There are a number of other influential analyses (e.g. Terzi, 1992; Philippaki-Warburton and Catsimali, 1999; Spyropoulos, 2007; Roussou, 2009) that I will not review in this chapter. I will address aspects of each of these analyses where relevant in Chapter 5, where I present the analysis that I will propose for Control.

4.1 Control and tense (Iatridou's 1988/1993 analysis)

We have seen in the previous chapter that subjunctive complements split into two types with respect to their Control properties: subjunctives which show Obligatory Control (i.e.

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their empty subject is controlled by either a DP subject or a DP object), and those which show Non-Control properties. It has been noticed by a number of researchers that the key factor for the licensing of the Control relation is the temporal properties of subjunctive complements. Iatridou (1988, 1993) was first to observe that Control subjunctives can only appear in the present tense (59), whereas Non-Control ones can appear in past tense (60), thus arguing that morphological tense is the crucial factor for Control.

(59)   vlepo   ton kosta   na   tiganizi/**tiganize**   psaria
        see.1SG.PRES the Kostas.ACC subj fry.3SG/*fry.3SG.**PAST** fish
        'I see Kostas fries fish'

(60)   elpizo   o   kostas   na   tiganizi /**tiganise**   psaria
        hope.1SG.PRES the Kostas.NOM subj fry.3SG /fry.3SG.**PAST** fish
        'I hope that Kostas fries/fried fish' (examples modeled after Iatridou 1993)

More specifically, Iatridou proposed that the I^0 of Non-Control subjunctives has the feature specification [+T] indicated by the overt past tense morphology and that nominative case is assigned licensing an overt lexical subject or pro. In contrast, the I^0 of Control subjunctives is specified as [–T], evidenced by the lack of overt morphological past tense; thus it cannot assign nominative case and consequently PRO is licensed, yielding the Control properties attested in this class of subjunctives.

Varlokosta (1993, 1994) noticed, however, that not all subjunctive complements that do not allow past tense morphology show Control properties, contrary to what is predicted by Iatridou's account. Therefore, the lack of morphological tense does not entirely correlate with lack of nominative case assignment in the embedded clause. In particular, Varlokosta pointed out that subjunctive complements of the predicate *thelo*

'want' cannot appear in past tense (61), but nevertheless they exhibit Non-Obligatory Control properties, as shown in (62), in that an overt lexical DP-subject can be licensed, contra Iatridou who predicts that nominative case cannot be licensed by the embedded [-T] I^0.

(61)   *o yanis   theli   na **efige**
       the John.NOM want.3SG.PRES subj leave.**3SG.PAST**
       'John wants to have left'

(62)   o yanis   theli   na figi   /*efige   **i   maria**
       the John.NOM want.3SG.PRES subj leave.3SG /*leave.3SG.**PAST** **the Mary**.NOM
       'John wants Mary to leave'

In addition to the licensing of an overt lexical subject, the empty subject of this type of subjunctive (i.e. subjunctive clauses not allowing past tense in their I^0) shows other standard properties of Non-Obligatory Control, allowing, for instance, split antecedents (63), strict and sloppy interpretations under ellipsis (64) and non-de se reading (65) (examples are from Varlokosta 1993):

(63)   o yanis   theli   na **sinandisun** o enas ton allo
       the John.NOM want.3SG.PRES subj **meet.3PL**   each   other
       'John wants to meet each other'

(64)   o yanis   theli   na figi,
       the John.NOM   want.3SG.PRES subj leave.3SG
       to idio   ki   o   vassilis
       the same and   the   Bill.NOM
       'John wants to leave and so does Bill'
       = Bill wants to leave **OR** Bill wants for John to leave'

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(65) o   atichis   theli   na   kerdisi   to   metalio
      the Unfortunate.NOM want.3SG.PRES subj win.3SG   the   medal.ACC
      'The Unfortunate wants to win the medal'
      = The unfortunate wants for himself to win the medal **OR** the unfortunate wants
      that somebody else, other than himself, will win the medal'

Thus, although Iatridou's proposal that Control subjunctives do not allow past tense is correct, the conjecture that Non-Control subjunctives always allow past tense is false. The subjunctive complement in (61) cannot appear in past tense and yet shows Non-Control properties. Based on this evidence, Varlokosta (1993, 1994) proposed that nominative case assignment is not contingent upon the presence/lack of morphological tense but upon semantic tense. In the following section, I review Varlokosta's analysis of Control in detail, as it has been influential for most accounts that have been formulated not only for Greek but also for Control in the Balkan languages, including the account that I will defend in this dissertation.

4.2 The Relevance of Semantic Tense (Varlokosta's 1993 Analysis)

Varlokosta (1993) develops a GB analysis of Greek subjunctives. Recall that subjunctive clauses come in two varieties: those that display OC properties and those that show NOC, although they are identical relative to the overt agreement morphology of the verb within the complement clause. For Varlokosta, the properties of these two types reduce to hypothesized differences between Obligatorily Controlled (OC) PRO, on the one hand, vs. pro, on the other. She first adopts the contention that PRO is anaphoric (Bouchard 1984) and that it therefore displays OC properties. Like other pure anaphors, then, PRO must

have an antecedent; its antecedent must c-command it; it does not allow split antecedents, and it permits only sloppy and *de se* interpretations. Alternatively, since pro is pronominal, it displays NOC properties (thus, it may have independent reference, it may take split antecedents, and it allows both sloppy and strict readings, *de se* and non-*de se* interpretations). Given this, the challenge is to guarantee that PRO is the subject of OC, while the subject position of the NOC subjunctives, if empty, is necessarily pro.

Varlokosta attempts to derive this distribution from independent properties of the different subjunctive clauses, combined with the hypothesized differences between PRO and pro. To this end, she observes that NOC subjunctives, as in (66), "form an independent domain aspectually" denoting distinct, independent events relative to the event denoted by the main clause.

(66)   elpizo   [na   erthi]
       hope.1SG.PRES   subj   come.3SG
       'I hope that he/she comes'

The idea is that (66) expresses both a "hoping" event and a separate future/unrealized "coming" event and the time reference of these two events can be independent from one another. That is, NOC subjunctive complements can establish a temporal reference independent from the matrix clause, expressing either an anterior (67), or a simultaneous or posterior event (68) relative to time reference of the matrix clause.

(67)   elpizo   na   **irthe**   o   yanis
       hope.1SG.PRES   subj come.**3SG.PAST** the John.NOM
       'I hope that John came'   *Anterior event*

(68) elpizo   na **erthi**   o   yanis
hope.1SG.PRES subj come.**3SG** the   John.NOM
'I hope that John comes'   *Simultaneous event*
'I hope that John will come'   *Posterior event*

According to Varlokosta, the presence of multiple events and the temporal independence of this type of subjunctive, referred to as temporally *Independent* subjunctives, is evidenced by the fact that they allow tense morphology on the verb form – both past (67) and non-past (68) and they can support different matrix and embedded temporal adverbials as shown in (69):

(69) **tora** elpizo   na   erthi   o   yanis   **avrio**
now hope.1SG.PRES subj come.3SG the   John.NOM   **tomorrow**
'Now I hope that John will come tomorrow'

Furthemore, unlike Iatridou who argued that the I head of subjunctives is specified [+T] when there is morphological tense specification, Varlokosta observed that the absence of morphological tense distinctions in the embedded I^0 does not necessarily result in absence of tense distinctions in the embedded domain. This observation builds on the idea that there is a crucial distinction between *semantic* and *morphological* tense: *semantic* tense defines the tense domain of an event and specifies whether the event will be interpreted in the present, past or future whereas *morphological* tense refers to the overt morphological marking of tense on some constituent of the clause (e.g. on the verb). Under this approach, *morphological* tense does not always correspond to *semantic* tense: that is a clausal domain may carry independent temporal reference even though there is no overt morphological tense distinction on a constituent of this domain. This is illustrated in the following

examples. Varlokosta noticed that although subjunctive complements of the predicate *thelo* 'want' (which recall from above show NOC properties) do not allow past tense morphology, they do denote two distinct events. In (70), there are two different events, an event of "wanting" and an event of "leaving".

(70) o yanis theli na figi /(*efige) **i maria**
the John.NOM want.3SG.PRES subj leave.3SG /*leave.3SG.**PAST** **the Mary**.NOM
'John wants Mary to leave'

The argument for multiple events is supported by the fact that the embedded verb can appear in present perfect (71) and/or can be modified by an independent temporal adverbial (72) (examples are from Varlokosta 1993):

(71) o yanis theli na **ehi figi**
the John.NOM want.3SG.PRES subj **leave**.**3SG.PRES PERF**
'John wants to have left'

(72) o yanis ithele na figi **tora/avrio**
the John.NOM want.3SG.PAST subj leave.3SG **now/tomorrow**
'John wanted to leave now/tomorrow'

The adverbials 'now' or 'tomorrow' in (72) force the embedded predicate/event to be interpreted as <u>not</u> contemporaneous with the matrix one: the matrix event is in the past whereas the embedded one is in the present. Thus, according to Varlokosta, the crucial property that signals that an embedded domain carries its own tense/carries tense specification is not *morphological* tense, but *semantic* tense. Under this assumption, subjunctive complements of both predicates *elpizo* 'hope' and *thelo* 'want' carry their own tense (denote two distinct events) and hence give evidence of semantic tense. The

impossibility of past tense morphology inside the complement clause of the predicate *thelo* 'want' is taken by Varlokosta to signal that this type of subjunctive (i.e. subjunctives that do not allow past tense) receives an interpretation via reference to the tense of the matrix clause and, as a result, they have a fixed temporal reference: they are interpreted as simultaneous with the matrix tense (Varlokosta 1993/1994). This temporal dependency can be seen in (73) and (74) where the interpretation of the embedded event depends on the time specification of the matrix clause: in (73) the embedded event is interpreted in the present, whereas in (74), it is interpreted in the past.

(73) **tora** o yanis   **theli**   na   figi
     now the John.NOM **want.3SG.PRES** subj leave.3SG
     'Now John wants to leave'

(74) **xtes**   o   yanis   **ithele**   na   figi
     yesterday the John.NOM **want.3SG.PAST** subj   leave.3SG
     'Yesterday John wanted to leave'

However, although this type of subjunctive complement is dependent on the matrix clause tense for its temporal interpretation, they do not lack tense specification altogether (Varlokosta 1993, 1994) since, as we have seen in (71) and (72), give evidence of multiple events and thus of semantic tense (shown by the possibility of present perfect and the use of distinct temporal adverbials).

Finally, for Varlokosta, OC subjunctives, as in (75), are claimed <u>not</u> to denote an event independent of the main clause:

(75)   o   yanis$_i$ kseri   [na   kolimbai ec$_{i\,/*j}$]

the John.NOM know.3SG.PRES subj swim.3SG

'John knows (how) to swim'

As Varlokosta explains, in (75) there is just one event, a "know-how-to-swim" event. Subjunctives that intuitively do not denote an event separate from the event of the main clause do not support different tenses, ((76)a and b), nor different matrix and embedded adverbials ((76)c):

(76)   a. *o yanis$_i$ kseri   [na **kolimbise**   ec$_{i\,/*j}$**]**

       the John.NOM know.3SG.PRES subj **swim**.**3SG**.**PAST**

       '*John knows (how) to swam'

    b. *o yanis   kseri   [na **ehi kolimbisi** ec$_{i/*j}$]

       the John.NOM know.3SG.PRES subj **swim**.**3SG**.**PRES PERF**

       '*John knows (how) to have swam'

    c. ***tora**, o   yanis   kseri   [na   kolimbai **avrio**]

       now the John.NOM know.3SG.PRES   subj swim.3SG tomorrow

       '***Now**, John knows (how) to swim **tomorrow**'

Thus, this class of subjunctives shows no temporal properties at all, in that they are interpreted anaphorically to the matrix event time: the temporal specification of the embedded event is identical to the matrix event time, either in the present (77) or in the past (78), and thus there is only one semantic tense domain:

(77)   o   yanis   **kseri**   na   kolimbai

the John.NOM **know**.**3SG**.**PRES** subj swim.3SG

'John knows (how) to swim'

(78)   o   yanis   **iksere**   na   kolimbai
        the   John.NOM   **know**.**3SG**.**PAST**   subj   swim.3SG
        'John knew (how) to swim'

The observed restrictions on morphological tense and temporal adverbials are taken to
indicate that this type of subjunctive complement, referred to as *anaphoric/untensed*, lacks
tense specification altogether and are 'completely' dependent on the matrix tense domain
for their temporal reference. The three types of subjunctive complements that have been
exemplified above, based on Varlokosta's analysis, and their properties with respect to
tense are summarized in Table 4.1:

TABLE 4.1: TYPES OF SUBJUNCTIVE CLAUSES AND THEIR TEMPORAL PROPERTIES

Type of subjunctive	Distinct temporal adverbial	Past tense	Present Perfect tense
Independent e.g. (66)	√	√	√
Dependent e.g. (70)	√	—	√
Anaphoric/Untensed e.g.(75)	—	—	—

The next step in Varlokosta's analysis is to tie these independent properties of the different
subjunctive complements to "tense sequencing," in the sense of Hornstein (1990).[31] She
argues specifically that if the subjunctive clause denotes an event distinct from the event of
the main clause, then tense sequencing is triggered. tense sequencing, in turn, requires V to
C movement (in this way the embedded V can get close enough to the matrix V to be
governed by, and hence properly "dependent" on it).

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[31] The basic idea is simply that the tense properties of the embedded clause are dependent on the matrix.

This enables V moved to the position of C to govern and assign case to the subject (shown in (79)):

(79) o   yanis   elpizi   [CP [C na   figi$_v$ [TP pro/DP [T t$_v$ [VP t$_v$
      the John.NOM   hope.3SG.PRES   subj leave.3SG
      'John hopes to leave'

Next, Varlokosta hypothesizes that it is precisely this V-to-C raising (not tense or agreement) that "licenses Nominative Case". The final step of the argument is to adopt the view that pro must be Case marked (Rizzi 1986, contra Epstein 1984), but PRO cannot be Case marked (Bouchard 1984). Since nominative case can be licensed then a lexical DP or pro is licensed and independent subjunctives show NOC properties (see (79)). In anaphoric subjunctives, however, tense sequencing does not apply, since the main and the embedded clause form one single event in Varlokosta's approach therefore there is no V movement to C (shown in (80)):

(80) o   yanis   kseri   [CP [C [TP PRO$_{i/*j}$ [T na   kolimbai$_v$ [VP t$_v$
      the John.NOM   know.3SG.PRES   subj swim.3SG
      'John knows (how) to swim'

As a result, the embedded subject position (Specifier of TP) is ungoverned, thus PRO can be licensed and OC arises.

To sum up, Varlokosta accounts for OC vs. NOC subjunctives by forcing PRO to occur as the subject of the former, while the subject of the latter, if empty, is pro. This distribution is tied, ultimately, to event structure and to V-to-C. Table 4.2 reviews the full argument.

TABLE 4.2: VARLOKOSTA'S (1993) ANALYSIS

If two independent events → tense sequencing	If only one event → No tense sequencing
If tense Sequencing → Verb movement to C^0	If no tense sequencing → No verb movement to C^0
If verb movement to C^0 → Nom case is licensed	If no verb movement to C^0 → Nom case is not licensed
If Nom case is licensed → pro → NOC	If Nom case is not licensed → PRO → OC

Thus, Varlokosta (1993, 1994) refined Iatridou's proposal regarding the role that tense plays in nominative case assignment and therefore in the licensing of Control, by drawing a distinction between morphological and semantic tense. In particular, she showed that the determining factor for Case assignment is the presence/lack of _semantic tense_ and NOT of _morphological_ tense: even though _morphological_ tense is not present in some subjunctive complements, for instance complements of the verb _thelo_ 'want', _semantic_ tense is, since this type of complement allows temporal adverbs distinct from the matrix clause, thus allowing nominative case assignment. In this way, complements of the verb _elpizo_ 'hope' (which allow morphological past tense) and _thelo_ 'want' (which do not allow morphological past tense) are grouped together with respect to both their temporal properties (they both show evidence for presence of semantic tense) and to their Control properties, exhibiting Non-Control, since pro can be licensed in their complement subjunctive clause. On the other hand, complements of OC predicates, like _ksero_ 'know how', lack _morphological_ tense, as was suggested by Iatridou, and they also lack _semantic tense_ and consequently an embedded overt subject cannot be licensed due to lack of nominative case assignment.

The specific distinctions that Varlokosta observed relative to tense and Control (i.e. the association of Control with the lack of semantic tense) have been truly influential and have been adopted in subsequent work regarding finite Control (e.g. Landau, 2004; Spyropoulos, 2007). However, the specific analysis that she proposed in order to derive the Control properties of subjunctives is not unproblematic.

In Kapetangianni (2003) and subsequent work (Kapetangianni and Seely 2007), I presented previously unnoted problems with Varlokosta's analysis, problems which persist under the adoption of current Minimalist assumptions regarding the methodology and architecture of Universal Grammar. I discuss these problematic aspects below.

4.2.1 V raising to C "licenses" Nominative Case: is an operation assigning a feature?

The most problematic aspect of Varlokosta's analysis is the claim that V movement to C licenses Case. In particular, we have argued that V raising to C, which according to Varlokosta results in nominative case assignment, cannot be implemented in a natural way given minimalist assumptions regarding Case assignment/checking (Chomsky's 1995 version of the Minimalist Program). Case checking is *relational*: X (a Case bearer) assigns/checks the Case of Y (the Case "receiver"). And, from GB to Minimalism, the Case bearer is a *lexical* element with formal features (Case and/or Agreement features). Varlokosta, however, seems to claim that it is the <u>movement itself</u> that licenses, and therefore, checks nominative case. But an operation is not a licit member of a Case checking relation since an operation cannot bear features (hence does not have Case, nor

agreement features, to check against the Case checkee).[32] If it is the *operation* of V raising

to C[33] that "licenses" nominative case, and if other Case checking is done through, say, the

government or Spec-head relation, then what we have are two disparate Case checking

mechanisms. But, optimally a single Case checking mechanism is preferred.

4.2.2 PRO vs. pro distinction: stipulated distinctions?

Varlokosta adopts the idea that the anaphor PRO[34] must be Caseless, while the pronominal

pro must be Case marked. The problem, as Landau (2002) notes, is that this stipulates the

distribution of the empty elements. "It's an anaphor and *thus* cannot be Case marked;" and

"it's a pronoun and *thus* must be Case marked" don't follow from independent properties.

The difference cannot be deduced from their phonetic makeup – they are both null; and, in

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[32] Varlokosta's analysis is quite unclear about the implementation of the "licensing" of nominative case under V‑to‑C movement. The problem we mention above might be avoided if the set of features that constitute the complex "V inside C" (i.e. the result, rather than the process, of V-to-C movement) could somehow check nominative case. Just how this is to be accomplished is a mystery, however, given that V is standardly associated with accusative, not nominative case.

[33] Another issue that arises is how V-to-C applies in negative subjunctive complements. Negation, which is assumed to head its own functional projection, NegP, situated below CP or MoodP and above TP (as shown in (30), repeated here in (i) below, (adapted from Philippaki-Warburton 1994), would block V-movement.

   (i)   [CP C [MOODP M **na** [NEGP NEG [TP T [VP V]]]]]
   The verb would have to move past another head, i.e. Neg^0, (in effect the verb would also have to move past the particle *na* which is also considered to be a Head, i.e. the head of MoodP) on its way to C and this would violate the HMC (Head Movement Constraint).

[34] As was mentioned earlier, Varlokosta (1993) adopts the idea of Bouchard (1984) that PRO is a pure anaphor, not the pronominal anaphor of Chomsky (1981). Note that the PRO of classic GB is arguably LF uninterpretable. If, as is standardly assumed, [+anaphoric] entails "semantically dependent" and [+pronominal] entails "able to be semantically independent," then an element that is specified positively for both of these features (precisely what the classic PRO is claimed to be) is simultaneously dependent and capable of being independent, and this combination, as Kapetangianni and Seely (2007) contend, is not LF interpretable; likewise, a [+high], [+low] phonetic feature is PF uninterpretable. See Burzio (1991) on the need to have a semantic definition of anaphors/pronominals.

fact, it is not deduced in Varlokosta's analysis from their formal makeup; i.e. from the semantic features of PRO (an anaphor) vs pro (a pronominal).[35]

Furthermore, as Hornstein (2001) notes, it is a stipulation that anaphoric PRO has OC properties. It is not clear, for example, why PRO (and other overt anaphors) must have a c-commanding antecedent, why it only allows the sloppy reading under ellipsis, and so on. Again, the difference is not deduced; rather, it is (re)stated.[36]

The PRO vs. pro distinction is crucial to Varlokosta's analysis. And, critically, PRO vs. pro's distribution is tied to Case. But the explanatory value is attenuated given the stipulations required: PRO cannot be case marked, pro must be; and only PRO has OC properties. Of course, it could be that these mechanisms for determining the distribution of PRO are axiomatic. However, a theory from which these properties are deduced would be preferred; and such a theory, I will argue, is available.

4.2.3 Event/Temporal independence does not always correlate with NOC

A final challenge for Varlokosta's analysis concerns the purported correlation between event/temporal independence and NOC. Recall that according to Varlokosta, a subjunctive complement will display NOC if and only if that complement clause denotes an event

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[35] A similar criticism has been leveled against the "Null Case checking" analysis of Chomsky and Lasnik (1993). Hornstein (2001), for instance, states that the analysis (namely that PRO, and only PRO, must check Null Case) has a number of problems:
"The most glaring is that it essentially stipulates the distribution of PRO. First it is designed to fit only one expression — PRO. Lexical expressions don't bear null case nor do other phonetically null expressions such as wh-t or NP-t. Second, only non-finite Ts can check/assign it. In effect, the case properties of PRO and non-finite T are constructed to exactly fit the observed facts. …This comes close to restating the observations; PROs appear in Spec IPs of non-finite clauses." (Hornstein , 2001, p. 34)

independent of the main clause event. If the subjunctive clause denotes an independent event, then, within that complement clause, there is V (to T) to C raising, which licenses nominative case (in the Specifier of TP of the subjunctive clause), which, in turn, allows an overt DP or else pro (in the Specifier of that lower TP). Since, in Varlokosta, event structure is linked to temporal structure such that there is an independent event in a subjunctive, if and only if that clause constitutes a (matrix) independent temporal domain, it follows that a subjunctive will show NOC, if and only if it is temporally independent. This analysis is predicated on a direct correlation between Event/Temporal (in)dependence and Control:

(81)   a. event/temporal independence iff NOC
       b. event/temporal dependence iff OC

However, as I have argued in previous work (Kapetangianni, 2003; Kapetangianni and Seely, 2007), there seems to be evidence that event/temporal independence does *not* always correlate with NOC. Consider (82):

(82)   o yanis   entharini   ti   maria   na   erthi
       the John.NOM   encourage.3SG.PRES   the Mary.ACC   subj come.3SG
       sta   genethlia   tu
       to.the   birthday.ACC   his
       'John encourages Mary to come to his birthday party'

---

[36]   Seely (1988) attempts to deduce the OC properties of overt anaphors. The idea is that an anaphor must check its inherently unspecified phi and referential features with another element (its "antecedent"); and the anaphor moves to get "close enough" to its antecedent for checking. Interestingly, the properties of OC then follow from the movement itself.

Here, we have multiple events. Multiple events are evidenced by the fact that the subjunctive complement can be modified by a temporal adverbial distinct from the matrix clause, illustrated in (83):

(83) **hthes**   o   yanis   entharine   ti Maria   na   erthi

    yesterday the John.NOM   encourage.3SG.PAST the Mary.ACC subj come.3SG

    avrio   sta   genethlia   tu

    tomorrow to.the birthday.ACC his

    '**Yesterday**, John encouraged Mary to come to his birthday party **tomorrow**'

Under Varlokosta's analysis, then, it is predicted that the complement of (83) should display NOC properties. This prediction, however, is false; in fact, we get Obligatory Control. Thus, the subjunctive clause does not allow an overt subject as shown in ((84)a). The empty subject of the subjunctive cannot establish an external reference ((84) b), and it must have a c-commanding antecedent, ((84) c).[37]

(84) a. *o   yanis   entharine   ti maria   na   erthi

        the   John.NOM   encourage.3SG.PAST the Mary.ACC subj come.3SG

        o   vassilis   sta   genethlia   tu

        the Bill.NOM to.the birthday.ACC   his

        '*John encouraged Mary Bill to come to his birthday party'

---

[37] As for the sloppy vs. strict reading, note that (i)

  (i) o yanis   entharini   ti   maria   na   erthi

      the John.NOM   encourage.3SG.PRES the Mary.ACC subj come.3SG

      sta   genethlia, to idhio ke o   vassilis

      to.the birthday the same and the Bill.NOM

      'John encourages Mary to come to the birthday party, and Bill does too'

can only mean: 'John encourages Mary for Mary to come, and Bill encourages Mary for Mary to come'. It is unclear in such cases (i.e. where the matrix verb takes a thematic object plus a clausal complement) just what the strict reading would be. What is clear is that the example above cannot mean anything like 'John encourages Mary for Mary to come and Bill encourages Mary for John to come.'

As for the *de se* reading, note that this cannot really be tested, at least not with object control cases, since the thematic object (i.e. the referent of the "controller" of the lower subject) has no belief state attributed to it.

b. *o yanis entharine ti maria$_i$ na erthi ec$_j$

    the John.NOM encourage.3SG.PAST the Mary.ACC subj come.3SG

    sta genethlia tu

    to.the birthday.ACC his

    '*John encouraged Mary that someone else will come to his birthday party'

c. *o yanis entharine [to filo tis marias$_i$]$_j$

    the John.NOM encourage.3SG.PAST the friend.ACC the Mary.GEN

    na erthi ec$_{j/*i}$ sta genethlia tu

    subj come.3SG to.the birthday.ACC his

    '*John encouraged Mary$_i$'s friend ec$_i$ to come to his birthday party'

In (83), the subjunctive complement is temporally matrix-independent (at least given the standardly used "adverbial test"), but it is Obligatory Control properties that we find. Note that other predicates that pattern in this way, i.e. that take a thematic object and a subjunctive clause, and show Obligatory Control properties, include *epitrepo* 'allow', *afino* 'let', *ipochreono* 'oblige', *diatazo* 'order', *vazo* 'put', *simvulevo* 'advise'.

Given that this class of subjunctives exhibit mixed Control properties, including complements of predicates like *thelo* 'want', which show Non-Control, and the object Control predicates exemplified above, I will argue that this class should not be treated as independent with respect to their temporal properties, contrary to subjunctive complements of predicates like *elpizo* 'hope', *efxome* 'wish' which satisfy both the distinct morphological tense and the distinct adverbial 'tests' and exhibit Non-Control.

I will assume that subjunctive complements that satisfy only the distinct adverbial test are dependent to the matrix clause for their temporal interpretation, i.e. they don't have fully independent semantic tense (and thus I will refer to this class of subjunctives as

temporally dependent subjunctives (see also Spyropoulos 2007)) and will be analyzed as a distinct class with respect to their Control properties, exhibiting either Non-Control or Object Control properties. Based on this distinction, I will argue, following and refining Polinsky and Potsdam's (2006) proposals, that they can be transparent to A-movement, due to lexical restrictions that the selecting predicates impose on the syntax, accounting in this way for why some clauses of this class show Non-Control and some others show Obligatory Control properties.

Before I present the specifics of the analysis that I will defend, I review another influential account that is based on the temporal distinctions drawn by Varlokosta but which is employing mechanisms of the recent Minimalist Program, specifically the account that has been advanced by Landau (2004) in a crosslinguistic typology of OC and NOC in both infinitival complements and Balkan subjunctive complements.

4.3 A Scale of Finiteness Landau (2004)

Similarly to Varlokosta, Landau (2004) attempts to derive the Control properties of subjunctive complements by positing PRO as the empty subject of Control subjunctives (and in effect of Control infinitives) and pro as the subject of Non-Control subjunctives, thus maintaining the contention that the Control relation is a property of the empty category PRO.

However, unlike Varlokosta, Landau (2004, 2006) assumes that PRO is case marked, drawing evidence from case concord phenomena attested in languages that exhibit overt case and agreement morphology on adjectival predicates and modifiers in OC infinitival domains (e.g. in Icelandic (Sigurðsson 1991) and Russian (Moore and Perlmutter

(2000)) and in Greek OC subjunctives. The relevant examples from Icelandic and Greek are presented below: as Landau notes, in (85), PRO, similarly to a lexical DP-subject, induces case concord with a floating quantifier and in (86) with an emphatic reflexive, showing that PRO bears a case distinct from the case of the controller and resulting in case-mismatching between the controller and the embedded modifiers:

(85) Strákarnir   vonast til [að PRO   vanta ekki alla   í   skólann]
      the.boys.**NOM** hope   for   PRO.**ACC** to.lack not all.**ACC** in the.school
      The boys hope not to be all absent from school'
      (*Icelandic*: Sigurðsson 1991, ex. 8b)

(86) anagasan   tin eleni   [PRO   na   milisi   afti i idhja]
      force.3PL.PAST the Helen.**ACC** PRO.**NOM** subj speak.3SG   she herself.**NOM**
      'They forced Helen to speak herself'
      (*Greek*: Philippaki-Warburton and Catsimali 1999, ex. 29)

Landau takes these case concord data to suggest that PRO can receive any case that a lexical DP does and therefore he concludes that any case-theoretic account of the distribution of PRO, both the GB approach that takes PRO to be caseless (Bouchard, 1984; Koster, 1984) and the Minimalist approach that takes PRO to bear Null Case (Chomsky and Lasnik, 1993; Martin 2001), fails to account for the observed empirical facts.

In effect, Landau's approach to the distribution of PRO in Control domains is not tied to PRO's case requirements but to the referential properties of the C and Infl heads of complement clauses which are in turn tied to their temporal properties. In particular, in the "Calculus of Control" that he proposes, both semantic tense and morphological agreement interact and determine the referential properties of C and Infl in embedded clauses and in

turn the distribution of their null subjects. However, as in previous accounts (Varlokosta, 1993/1994; Krapova and Petkov, 1999), in Landau's approach semantic tense plays a significant role in the licensing of PRO in Balkan subjunctives.

Following Varlokosta (1993/1994), and Krapova and Petkov (1999), Landau assumes that Balkan subjunctive complements are of two types: either i) <u>Control</u> subjunctives (C-subjunctives in his terms) displaying OC or <u>Free</u> subjunctives (F-subjunctives) displaying Non-Control. He also adopts the generalizations that the same researchers have formulated regarding tense and Control on the one hand, and licensing of null subject in Balkan subjunctives on the other, which are stated below in (87):

(87)   *Finite Control in the Balkan Languages*
        a. F-subjunctives carry dependent tense; C-subjunctives carry anaphoric tense (i.e. they are untensed).
        b. pro is licensed in tensed subjunctives, PRO in untensed subjunctives

                                                                    (Landau 2004: 833)

A note of clarification is needed here: Although Landau assumes that Free-subjunctives are tensed (i.e. Free-subjunctives give evidence of semantic tense using the same diagnostic tests as in Varlokosta), he is using the term "dependent tense" in his classification, instead of "independent tense" used by other researchers. Landau writes with respect to "dependent tense" in F-subjunctives:

> The possibility of conflicting temporal modifiers indicates that an F-subjunctive defines its own tense domain, separate from the matrix tense domain. By contrast, C-subjunctives fall within the matrix tense domain, hence cannot introduce temporal modifiers incompatible with the matrix tense. Equivalently, we may say that F-subjunctives contain a tense operator whereas C-subjunctives do not. Notice that the subjunctive tense operator is *distinct* from the matrix tense operator, although *constrained* by it. Thus, we

affirm the familiar observation that subjunctive tense is a dependent tense, unlike the indicative, which is completely independent. The important point about the Balkan subjunctives is that only a subset of them (the F-type) is characterized by dependent tense, whereas the rest (the C-type) have anaphoric (or "empty") tense.   (Landau 2004, pg. 831)

Importantly then, for Landau, only indicative complements are considered temporally "independent" because, as he argues, their tense is free, i.e. is not selected by the matrix predicate and thus is not fixed by it. The tense of subjunctive complements, however, is selected by the matrix verb and consequently is always restricted by it. This tense (in)dependence of the embedded clause on the matrix predicate, as we will see below, is argued by Landau to be captured by the presence/absence of a [T] feature on the C head of the complement clause.

In summary, according to Landau, F-subjunctives (corresponding to NOC subjunctives) have dependent tense, in the sense that they have an "irrealis" interpretation, and C-subjunctives (i.e. Control subjunctives) have anaphoric tense, meaning that their tense is identical to the matrix tense. This distinction together with the morphological properties of embedded clauses is highly crucial to the account that Landau advances for the distribution of PRO vs pro/lexical subjects crosslinguistically and ultimately for Control.

More specifically, Landau appeals to both [T] and [Agr] features of Infl and C heads of complement clauses in order to capture their Control properties. In his system, the feature [T] represents semantic tense and not morphological tense, and it is expressed in the syntax by the feature [T] on I^0 and C^0. The feature [Agr] represents agreement morphology (i.e. phi-features). The specification of these features as [+/–] describes the properties of the I^0 and C^0 head of different clause types crosslinguistically illustrated in Table 4.3.

TABLE 4.3: FEATURE SPECIFICATION OF COMPLEMENT CLAUSES (LANDAU 2004)

Clausal Heads	OC (EC)[38] Infinitives	PC Infinitives	C-Subjunctives	F-Subjunctives	Indicatives
I^0	[-T, -Agr]	[+T, -Agr]	[-T, +Agr]	[+T, + Agr]	[+T, +Agr]
C^0	[-T]	[+T, +Agr]	[-T]	[+T, +Agr]	$\varnothing$

Let us examine in detail the featural composition of embedded clauses that Landau proposes. First notice, that [T] is specified on C^0 only when the tense of the complement clause is selected, and thus restricted by the matrix predicate, as in the case of Balkan subjunctives and English infinitives. Complement clauses whose tense is free/independent, i.e. Indicatives, carry no [T] feature on C^0. Notice further that complement clauses that have anaphoric tense (i.e. their tense is identical to the matrix tense, e.g. English infinitives and Control-subjunctives) carry a [–T] on I^0 and C^0 whereas complements that give evidence of semantic tense (independent or dependent), as is the case of F-subjunctives and Indicatives, carry a [+T] on I^0. Their difference being that C^0 of Indicatives has no [T] specification given that no tense dependency is imposed by the matrix verb.

With respect to [Agr], the feature specification of Agr on I^0 is determined on purely morphological grounds: if there is overt agreement morphology, then Agr is [+Agr], which is the case of indicatives and subjunctives. When there is no agreement morphology, as is the case of the I^0 of infinitives, then Agr is specified [–Agr]. As far as Agr on C^0, Landau

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[38] Landau (2000) distinguishes two types of Control infinitives in English: those that display *Exhaustive Control* properties in that the reference of PRO is identical to the reference of the controller (corresponding to the class referred to as OC in the literature) and those that display *Partial Control* properties in that the reference of PRO includes but is not identical to the reference of the controller shown in (i):
(i) John₁ wanted [PRO₁₊ to meet at 6].   (Landau 2000, ex. 4a, pg. 28)

(2004) assumes that [–T] or lack of T on C^0 entails lack of Agr whereas [+T] on C^0 entails [+Agr] on C^0.

Another featural distinction that Landau (2004) draws concerns the different types of DPs. Following Reinhart and Reuland (1993), he assumes that DPs that can have an independent reference, i.e. lexical DPs and pro, are specified with an interpretable feature [+R], whereas anaphoric DPs, in the case of Control, controlled PRO, are specified [–R]. Based on this featural specification as well as the T and Agr features on I/C exemplified above, Landau formulates what he calls the *R-assignment Rule,* namely the condition that derives the relation among clause type features and DP-features and thus licenses the distribution of PRO/pro.

In simple terms, the *R-assignment Rule* states that "whenever I or C are specified for [+T, +Agr], then they automatically come to bear [+R]" (p.842). In all other possible featural combinations of I and C, the specification is [–R]. Therefore, according to Landau, pro or a lexical DP, being inherently specified [+R], is licensed only in clausal domains with a [+T, +Agr] specification on I^0 and C^0 which are thus assigned a [+R] feature given the R-assignment rule. In turn, PRO being inherently specified [–R], is licensed only in clausal domains which are associated with [–R], that is in domains whose featural constitution is [–T, +Agr], [+T, –Agr], or [–T, –Agr].

It is important to point out here that, although the distinction that Landau draws with respect to the referential properties of DPs and the interpretable [R] feature are conceptually justified, his system for deriving the distribution of DPs faces several

The two classes of English infinitives, their similarities and differences as well as their Control properties,

problems. Let me first note that the *R-assignment* rule appears to violate the Inclusiveness Condition[39] (Chomsky 1993, 1995), since it creates a feature, namely the uninterpretable feature [R] on I^0 and C^0: I^0 and C^0 are not inherently specified in the lexicon for the feature [R] but they come to acquire that feature during the syntactic derivation because of their specific featural composition of +/− [T]/[Agr].

Second, the *R-assignment* rule, as Landau (2004, 2006) acknowledges is rather stipulative, in that it does not follow from any fundamental properties or principles of UG, but instead it is specifically designed to account for the distribution of PRO/pro in domains of Control and does not have any applications in other domains of the grammar. Landau notes specifically that "It is important to realize that *any* theory of control appeals to some stipulation, and frequently to several ones, in order to come to terms with the fundamental fact that some clauses license OC while others do not". Even this statement, however, does not provide any therapeutic solution to the stipulative nature of the *R-assignment* rule. Ultimately, a general mechanism that derives the distribution of null subjects without appealing to unnecessary stipulations is definitely preferable.

Let us turn now to the mechanism that Landau is implementing in order to map the features of clausal heads with the features of DPs and derive the Control or Non-Control properties of clausal domains. According to Landau (2000, 2004), Control is construed as an instance of the operation *Agree* of Chomsky (1998). More specifically, Obligatory Control (in Landau's terms Exhaustive Control) is derived as an instance of the *Agree* relation between a matrix head (T in subject control constructions, v in object control) and

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and the theoretical analysis that Landau proposes will be discussed in more detail in Chapter 10.

the empty category PRO. Let us examine the derivations for different types of embedded clauses in detail. Consider first indicative complements in (88).

(88)   Indicative (Non-Control)

    a.   i   maria   nomizi   [**oti** efige   pro/ o   yanis]

        the   Mary.NOM think.3SG.PRES **that** leave.3SG.PAST   the John.NOM

        'Mary thinks that he/she/John left'

    b.

$$[_{CP}\ DP\ \ldots T\ldots\ [_{CP}\ C^0\ [_{IP}\ [_{I'}\ I^0_{[+T,\ +Agr,\ +R]}\ [_{VP}\ DP/pro_{[+R]}\ \ldots]]]]]$$

             Agree   Agree$_{[+Agr,\ +R]}$

    c.   * $[_{CP}\ DP\ \ldots T\ldots\ [_{CP}\ C^0\ [_{IP}\ [_{I'}\ I^0_{[+T,\ +Agr,\ +R]}\ [_{VP}\ PRO_{[-R]}\ \ldots]]]]]$

             Agree   *Agree$_{[+Agr,\ ?R]}$

Recall that indicative complement clauses have independent tense, thus their C^0 lacks [T, Agr] features. Lacking those features, C^0 does not receive an [R] feature (i.e. the R-assignment rule does not apply in Indicative C^0). The I^0 of indicative clauses, however, comes to bear [+R] since it is specified [+T, +Agr] and enters an *Agree* relation with a [+R] DP, i.e. a lexical DP or pro ((88)b). The uninterpretable feature [+R] on I^0 is checked by the [+R] feature of a lexical DP or pro, which being specified as [+Referential] does not need to establish a relation with a matrix head, in other words it does not need an antecedent. *Agree*, however, cannot be established in ((88)c), since there is a mismatch between the [+R] of embedded I^0 and the [−R] feature of PRO, therefore PRO cannot be licensed as a subject in indicative complement clauses and hence OC is excluded in indicatives.

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[39] The Inclusiveness Condition states that 'No new features are introduced by the C_{HL}' thus barring

However, the Control relation is in effect attested in a class of Indicative complements of Greek, contrary to the predictions that Landau's system makes. More precisely, indicative complements of aspectual predicates like *arhizo* 'start', *sinexizo* 'continue', as well as knowledge verbs like *ksero* 'know how', introduced by the particle *και* 'ke', exhibit Control properties similar to subjunctive complements of the same class of predicates. This can be seen in (89) and (90) where the null subject of the complement clause is controlled by the matrix DP subject (examples from Spyropoulos 2007):

(89) o   yanis$_i$ arhise   [**ke**   estelne   ec$_{i/*j}$ luludia
      the John.NOM   start.3SG.PAST **comp** send.3SG.PAST   flower.PL.ACC
      sti   maria]
      to.the Mary
      'John started sending flowers to Mary'

(90) o   yanis$_i$ kseri   [**ke**   horevi   ec$_{i/*j}$ kala
      the John.NOM   know.3SG.PRES **comp** dance.3SG.PRES   well
      to   tsamiko
      the tsamiko
      'John knows (how) to dance well the tsamiko'

As will be shown in Chapter 8, these indicative complements exhibit the standard diagnostic properties of Obligatory Control (Williams 1980) attested in infinitival and subjunctive clauses and thus provide counter evidence for the typology of Control proposed by Landau (2004).

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effectively the introduction of novel elements/materials during the course of a derivation.

Let us now examine how Landau accounts for the Control properties of subjunctive complements. The derivation for Control subjunctives assumed by Landau is illustrated in (91):

(91)   C-subjunctive (Obligatory Control)

a. o   yanis$_i$ kseri   [na   horevi   ec$_{i/*j}$]
    the John.NOM   know.3SG.PRES   subj   dance.3SG
    'John knows (how) to dance'

b. $[_{CP}$ DP ...T... $[_{CP}$ C$^0_{[-T]}$ $[_{IP}$ PRO$_{[-R]}$ $[_{I'}$ I$^0_{[-T, +Agr, -R]}$ $[_{VP}$ t$_{PRO[-R]}$ ...$]]]]]$

          Agree   Agree$_{[+Agr]}$ Agree$_{[-T]}$ Agree$_{[+Agr, -R]}$

c. * $[_{CP}$ DP ...T... $[_{CP}$ C$^0_{[-T]}$ $[_{IP}$ $[_{I'}$ I$^0_{[-T, +Agr, -R]}$ $[_{VP}$ DP/pro$_{[+R]}$ ...$]]]]]$

          Agree   Agree$_{[-T]}$ *Agree$_{[+Agr, ?R]}$
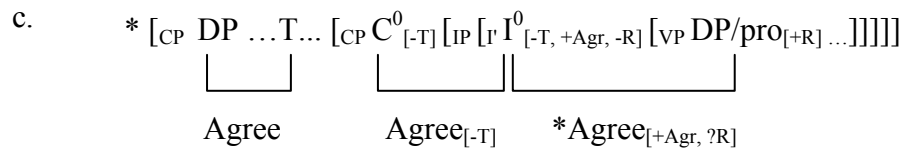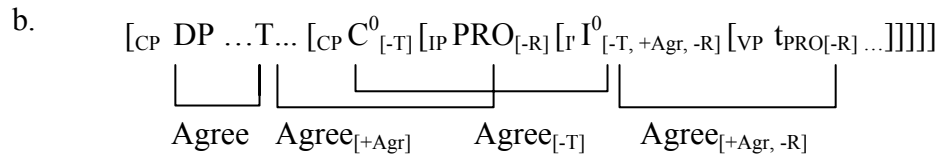
Control subjunctive complements, lacking semantic tense, are specified [–T] on I^0 and C^0 and [+Agr] on I^0. Thus, I^0 of this type of subjunctive being specified negatively for [T], receives [–R], whereas C^0 receives no [R] feature given that it lacks [Agr]. In ((91)b), PRO checks the [–R] on I^0 and I^0 checks [–T] on C^0. As required by its [–R] specification, PRO must *Agree* with a matrix DP antecedent. According to Landau, this dependency is achieved in the following way: the matrix T enters an *Agree* relation with the matrix DP subject and another *Agree* with PRO. Notice that a lexical DP or pro can not be licensed in C-subjunctives as shown in ((91)c) given that lexical DPs or pro carry a [+R] feature and thus they could not check the [–R] on the embedded I^0 and the derivation would crash.

Consequently, an overt lexical DP subject is excluded in Control subjunctive complements, contrary to empirical facts from a number of languages which exhibit the Backward Control pattern, where the controller in the higher (the matrix) clause is non-overt and the controllee in the embedded clause is overt, as shown in (92) from Greek:[40]

(92) $ec_{i/*j}$ kseri   [na horevi   **o**   **yanis$_i$**]
              know.3SG.PRES subj dance.3SG **the   John.NOM**
      'John knows (how) to dance'

As can be seen, an overt DP is licensed in the subjunctive complement clause above despite the supposed [–R] specification of I^0 which will require, according to Landau, a [–R] specified subject.

In addition to the empirical challenges that Landau's theory faces, there are also three important observations to be noted here with regard to the derivation of Control subjunctives, repeated in (93):

(93) $[_{CP}$ DP …T... $[_{CP}$ C$^0_{[-T]}$ $[_{IP}$ PRO$_{[-R]}$ $[_{I'}$ I$^0_{[-T, +Agr, -R]}$ $[_{VP}$ t$_{PRO[-R]}$ …]]]]]$

              Agree Agree$_{[+Agr]}$ Agree$_{[-T]}$ Agree$_{[+Agr, -R]}$

First, notice that the matrix T enters two *Agree* relations: it establishes *Agree* first with the matrix DP, i.e. the controller, and then with the null subject PRO. Although the features of matrix T have been checked by the matrix DP, yet matrix T enters *Agree* with PRO. Regarding this issue, Landau explains that "Assuming that checked features persist to the end of the phase, the controller DP does not 'use up' the features of that functional head

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[40] Backward Control has been documented in several languages: Japanese (Kuroda, 1965, 1978; Harada, 1973), Brazilian Portuguese (Farrell 1995), Korean (Monahan 2003, 2004), in several Nakh-Dagestanian

(i.e. matrix T) which can enter another checking relation before they are erased" (p. 843). Nevertheless, Landau does not address the issue of activeness of the goal T. Even if we assume that the features of T are not erased before the end of the phase, notice that matrix T is not an active probe anymore since its features have been checked.

Furthermore, another question arises regarding the [R] specification of the matrix T head that enters *Agree* with PRO. Following Landau's *R-assignment* rule, the T head of the matrix clause must receive a [+R] feature since, being the head of a finite clause, it is specified [+T, +Agr]. How can PRO which is specified [−R] enter *Agree* with T which is specified [+R]? Mismatch of the [R] value between T and PRO would cause the derivation to crash as is the case in the derivation of Indicative complements that we have seen in ((88)c).

One could argue that the operation *Agree* that was established between the matrix DP and T, erases the [+R] feature from T and thus T is unspecified for [R] when it enters *Agree* with PRO which is [−R]. However, this argument could not save the derivation in (93) since, as Landau assumes, checked features 'persist to the end of their phase': *Agree* between T and PRO takes place before the matrix CP is merged, i.e. before the end of the phase, and the [+R] feature of T, although checked, is not erased at the point where T *Agrees* with PRO.

Third, notice that in the derivation in (93) PRO moves from its thematic position to the Specifier of the embedded IP. Landau does not explain what motivates this movement: presumably, PRO moves to the Specifier of the subjunctive IP in order to be accessible to a

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languages, in Northwest Caucasian, in Malagasy (see Polinsky and Potsdam 2006 and references therein).

higher probe since PRO's feature specification [–R] requires it to establish a relation with an antecedent. If PRO had stayed in its thematic position, it could not have entered *Agree* with the matrix T. It seems then that Landau's system requires a look-ahead device since, at this point of the derivation, where PRO moves to Spec,IP, the matrix I has not yet merged, (assuming that the structure building operation proceeds bottom-up), and thus a probe antecedent is not yet present in the syntactic derivation.

Lastly, another implication regarding the derivation in (93) concerns the number of *Agree* operations that are taking place. Landau assumes that Control subjunctives are CPs and that their C head carries an uninterpretable [–T] feature that is being checked off against the [–T] feature of the I head via *Agree*. However, as I will show in detail in the next chapter, there is empirical evidence that Control subjunctives do not project a CP (see also Varlokosta 1993) and hence they are bare IPs. If there is no C^0 in the derivation in (93), then *Agree* between C^0 and I^0 could not take place. The [–T] feature of I^0 need not be checked since, as Landau assumes, it is interpretable.

Finally, let us examine the derivation of Non-Control subjunctives exemplified in (94):

(94)   Non-Control (Free) subjunctives

   a. o   yanis$_i$ elpizi   [na   erthi   ec$_j$/ i   maria]
      the John.NOM hope.3SG.PRES subj   come.3SG ec$_j$/ the Mary.NOM
      'John hopes that he/she/Maria will come'

b. Non-Control

$$[_{CP} \text{ DP} \ldots \text{T} \ldots [_{CP} C^0_{[+T, +Agr, +R]} [_{IP} [_{I'} I^0_{[+T, +Agr, +R]} [_{VP} \text{DP/pro}_{[+R]} \ldots]]]]]$$

Agree   Agree$_{[+T, +Agr, +R]}$ Agree$_{[+Agr, +R]}$
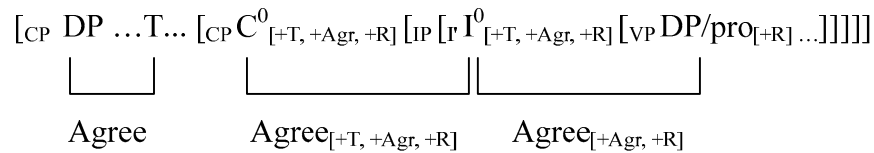
Recall that according to Landau, Non-Control subjunctives have dependent tense (i.e. they can establish a temporal reference distinct from the matrix tense but restricted by it) and thus they are specified [+T] on I^0 and C^0. Both I^0 and C^0 receive a [+R] specification given that their featural composition is [+T, +Agr] and consequently a [+R] subject (lexical DP or pro) is licensed in the embedded IP, yielding Non-Control properties.

Interestingly enough, Landau's calculus allows PRO to be licensed too in the derivation in ((94)b) yielding the coreference interpretation that is possible in Greek Non-Control subjunctives, exemplified in (95), where the null subject of the complement clause is interpreted as coreferent with the matrix DP subject.

(95)   o   yanis$_i$ elpizi   [na   erthi   ec$_i$]
        the John.NOM hope.3SG.PRES subj   come.3SG
        'John hopes that he (himself) will come'

There have been two kinds of accounts in the literature regarding the data in (95): i) some researchers (Varlokosta 1993, Spyropoulos 2007) maintain the view that PRO is never licensed in Non-Control subjunctives, the null subject being pro can establish any reference, including being coreferent with the matrix subject and ii) others (Terzi, 1992; Landau, 2004) argue that when coreference is involved, PRO is licensed and we are dealing with a Control structure but when free reference is involved then the null subject is pro. According to the latter view then, data like ((94)a) are ambiguous between a pro-structure

or a PRO structure, corresponding to the two syntactic representations shown in ((96)a) and ((96)b) respectively:

(96) a. o   yanis   elpizi   [$_{CP}$ [$_{IP}$ **pro**   na figi]]
      b. o   yanis   elpizi   [$_{CP}$ [$_{IP}$ **PRO** na figi]]

Landau specifically argues that the option of licensing PRO in Non-Control subjunctives is available "because the two occurrences of uninterpretable [+R] – on I^0 and C^0 – cancel out by checking each other off…This I^0 - C^0 'conspiracy' clears the way for PRO to be licensed" (pg. 845). This is shown in the derivation below in (97):

(97)   Coreference in Non-Control subjunctives from Landau (2004)

$$[_{CP} \text{ DP } \ldots \text{T} \ldots [_{CP} C^0_{[+T, +Agr, +R]} [_{IP} PRO_{[-R]} \text{ } [_{I'} I^0_{[+T, +Agr, +R]} [_{VP} t_{PRO[-R]} \ldots]]]]]$$

Agree$_{[+Agr, -R]}$ Agree$_{[+Agr]}$ Agree$_{[+T, +Agr, +R]}$ Agree$_{[+Agr]}$
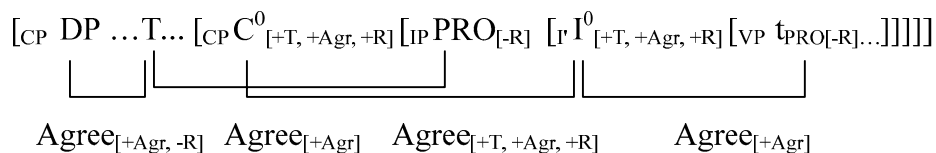
It is not clear, however, how and why the elimination of the [+R] feature on I^0 and C^0 contributes to the licensing of PRO. According to Landau, PRO enters *Agree* with matrix T in this derivation, as is the case in Control subjunctives, thus the [+R] on I^0 and C^0 is not relevant. What is crucial and striking here is that PRO *Agrees* with a head that is counterspecified for the feature [R], matrix T is specified [+R], PRO is specified [–R], consequently the derivation in (97) faces the same problem with the derivation of Control subjunctives that was pointed out above.

In conclusion, although Landau's proposal that both semantic tense and morphological agreement play a crucial role in the grammar of Control cross linguistically is highly informative and raises many implications for the typology of Control, the specific

mechanisms that he implemented in order to derive the OC/NOC properties of clausal domains faces both empirical and serious theoretical challenges. As I have pointed out, Landau's system excludes OC in indicative complements which is borne out in Greek, given that, in his system, PRO cannot be licensed in indicatives due to the specific featural make up that Landau assumes for their C and T heads. Furthermore, Landau's theory excludes an overt lexical DP subject inside the anaphoric subjunctive complements (which is observed in the Backward Control pattern) and thus falls short in explaining this special case of Control.[41] Finally, as was shown in this section, the system that Landau puts forward regarding the licensing of PRO requires a great deal of theoretical assumptions and additional mechanisms (e.g. application of a special rule, i.e. the *R-Assignment* rule; insertion/creation of the feature [R] on I^0 and C^0 during the course of the derivation violating the Inclusiveness condition; a look-ahead mechanism) that complicate the grammar and lessen the explanatory value of his analysis.

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[41] See also Pires (2006) for discussion of other empirical problems that Landau's theory faces.

CHAPTER 5

The proposed analysis – Control in Subjunctives

In this chapter, I present the analysis of Control that I am proposing for subjunctive complements and which I will extend to Indicative complements and *V-ondas* adjuncts in the following chapters.

5.1 Preliminary Notes

As was stated in the introduction, one major goal of this dissertation is to provide a unifying account of Greek Control phenomena: specifically, one that is compatible with recent minimalist methodology which requires simpler theories and not (stipulative) construction-specific principles such as the entire GB Control module dedicated to a single lexical item PRO. I will attempt to explain the Control properties that are attested in the three distinct syntactic domains I presented in the introduction (i.e. subjunctive and indicative complements and *V-ondas* adjuncts), without appealing to PRO, given its problematic empirical aspects and explanatory drawbacks, but instead by appealing to independent featural properties of these expressions and independently motivated syntactic operations.

In previous work (Kapetangianni, 2004; Kapetangianni and Seely, 2003, 2007) I showed that the OC properties that Greek subjunctive complements display can be derived

by the movement approach to Control (see also Alboiu 2007 for Romanian) and thus PRO is not necessary to account for finite Control.

The hypothesis that we put forward was that OC subjunctives are 'defective' not with respect to tense but to Agreement. We adopted in particular from Chomsky (2001) the contention that only a phi-complete T may check Case of a DP and argued that OC subjunctives involve a phi-defective T selected by the matrix predicate, i.e. a T not fully specified for phi-features. As such T is unable to check nominative case and thus the overt DP subject moves out of the embedded clause for Case checking.

Furthermore, we argued that although morphologically identical, NOC subjunctives involve a phi-complete T, able to check nominative case; thus pro and an overt DP can be licensed, deriving the NOC properties. However, recall that OC and NOC subjunctives are identical with respect to their overt morphology: the verb of both complement types shows tense/aspect, and person and number, but not gender. The proposal that was advanced in my previous work, was that a morphologically phi-"incomplete" predicate (i.e. it shows overtly less than the complete set of phi features ([person], [gender], and [number]) can be underlyingly (i.e. abstractly) phi-complete or phi-incomplete.

In this dissertation, I argue, contra my earlier work, that a closer investigation of the syntactic properties of all the domains that exhibit Control in Greek, in fact domains that have distinct overt morphological agreement, namely subjunctive complements (finite), adjuncts (non-finite) and indicative complements (finite), reveals that the Control relation is established in domains that lack semantic tense and not in domains with abstract phi-incomplete T. Thus, I provide more evidence supporting the contention that other

researchers have formulated regarding the role that semantic tense plays in the licensing of Control. However, I will still argue that Control in Greek can be reduced to movement which is triggered in domains where semantic tense is absent and consequently nominative case is not available. The details of the analysis are presented in the following section.

5.2 The analysis of Control in subjunctive complements

The analysis that I am proposing for Control in Greek maintains and further supports the insights of Varlokosta (1993/94) and Landau (2004) that OC subjunctive complements lack semantic tense. However, unlike the researchers above, I do not take Control to be a property of PRO. Instead, I propose that the effects of the PRO submodule can be derived from independently motivated properties of feature-driven (NP) movement as in O'Neil (1995) and Hornstein (1999, 2000, 2001, 2003). Notice that the notion of semantic tense does not appear to play a role in the construal-as-movement approach of Hornstein. In his theory, movement of the embedded DP-subject is motivated for theta role checking and nominative case assignment by the matrix T. But crucially, movement is <u>not tied</u> to the absence of semantic tense in the embedded infinitival domain. I will argue, nevertheless, that movement out of the embedded subjunctive clause, and in effect movement out of other syntactic domains (i.e. indicative complements and adjuncts in Greek), <u>is triggered because of lack of semantic tense</u>.

I assume specifically that subjunctive complements are of three types with respect to tense properties –Independent, Dependent and Anaphoric– that were presented in Chapter 4 and are repeated here in Table 5.1, following the distinctions proposed by Varlokosta (1993/1994), Roussou (2004) and Spyropoulos (2007).

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TABLE 5.1: TYPES OF SUBJUNCTIVE CLAUSES & THEIR TEMPORAL PROPERTIES

Type of *na*-complement	Distinct temporal adverbial	Past tense	Present Perfect tense
Independent	√	√	√
Dependent	√	—	√
Anaphoric/Untensed	—	—	—

Recall that both independent and dependent subjunctives give evidence for semantic tense, their difference being that independent subjunctive complements allow both past tense morphology and distinct temporal adverbials, whereas dependent subjunctive complements disallow past tense morphology but can appear in Present Perfect, and support temporal adverbials distinct from the matrix clause. Note that this classification differs from Landau's in that he treats subjunctive complements that have semantic tense (i.e. subjunctives classified as temporally independent in Table 5.1) to be 'dependent' because their tense is selected by the matrix predicate. Consequently, Landau's classification misses the empirical fact that was presented in Chapter 4, namely that there are no restrictions on the tense morphology on the verb form and on the temporal reference that independent subjunctives can establish, denoting anterior, posterior and simultaneous time reference with respect to the matrix time reference, as shown in ((98)a & b) (examples repeated from Chapter 4), and hence they behave in this respect similarly to indicative complements given in ((99)a & b):

(98) a. elpizo   na   irthe   o   yanis
          hope.1SG.PRES   subj   **come**.**3SG**.**PAST**   the   John.NOM
          'I hope that John came'   *Anterior event*

     b. elpizo   na   erthi   o   yanis
          hope.1SG.PRES   subj   come.3SG   the   John.NOM
          'I hope that John comes'   *Simultaneous event*
          'I hope that John will come'   *Posterior event*

(99) a. elpizo   **oti**   irthe   o   yanis
          hope.1SG.PRES   that   **come**.**3SG**.**PAST**   the   John.NOM
          'I hope that John came'   *Anterior event*

     b. elpizo   **oti**   tha   erthi   o   yanis
          hope.1SG.PRES   that   **fut**   **come**.**3SG**   the   John.NOM
          'I hope that John will come'   *Posterior event*

Given this three-way distinction, I will assume that semantic tense is expressed in the syntax by the feature [T] on C^0 and I^0 and I will propose the specification summarized in (100), following and modifying the scale of finiteness proposed by Landau (2004, pg.839):

(100)   Specifying [T] on embedded I^0 and C^0

     a.   Independent subjunctives: [+T] on I^0, $\varnothing$ on C^0
     b.   Dependent subjunctives: [+T] on I^0 and C^0
     c.   Anaphoric/Untensed subjunctives: [–T] on I^0

Subjunctive complements with independent tense are headed by C^0 with no [T] feature since, as was shown above, their tense is not restricted by the matrix tense, contra Landau's argument, and thus they have the same specification that indicatives have in Landau's system. Given that they have semantic tense, independent subjunctives carry [+T] on I^0.

Dependent subjunctive complements carry a [+T] on I^0 and on C^0 given that, although they show evidence of semantic tense, their tense is restricted by the matrix predicate, and they can have only a future interpretation. This is similar to Landau's scale for dependent subjunctives. Finally, anaphoric subjunctive complements, lacking semantic tense altogether, carry a [–T] on I^0. Recall that Landau assumes that complements with anaphoric tense are headed by a C with a [–T] feature. However, as it is shown in the following section, subjunctive complements with anaphoric tense appear to not project a CP, they are IPs, and hence I am arguing that they carry ONLY a [–T] on I^0.

On the basis of this featural specification regarding tense in Greek, I will follow Polinsky and Potsdam (2006)'s proposal that a complement clause can be transparent to movement only if this complement does not have fully independent semantic tense. Thus, I propose that subjunctives with anaphoric tense (and in effect any clausal domain that carries anaphoric semantic tense regardless of its overt verbal morphology) are transparent to A-movement by virtue of lacking semantic tense; and thus the embedded DP subject is able to move out of the complement clause to the higher, matrix clause. Assuming that Control is analyzed as A-movement and assuming that movement out of this clausal domain is allowed, then we can account for the attested OC properties without appealing to PRO. In turn, if a subjunctive complement is specified for dependent semantic tense, then it may be transparent to movement or not.[42] If, however, a clausal domain is fully

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[42] Polinsky and Potsdam (2006) do not clarify what factor(s) exactly trigger the possible transparency of domains with dependent semantic tense to movement. I will argue that in this class of complements, movement may be triggered in order to satisfy the lexico-semantic properties of the selecting predicate (i.e. the matrix predicate). As will be shown below in this section, although an overt DP subject can in principle be licensed in domains with dependent semantic tense, it may move out to the matrix domain in order to satisfy the theta requirements of the matrix predicate.

independent with respect to semantic tense, then a lexical DP or pro is licensed and NOC arises. This proposal regarding the temporal properties of complement clauses and their transparency to movement is summarized in Table 5.2.

TABLE 5.2: SEMANTIC TENSE & TRANSPARENCY TO MOVEMENT (POLINSKY & POTSDAM 2006)

Independent tense	Dependent tense	Anaphoric tense
Opacity	Possible Transparency	Transparency

Finally, the critical postulates of the analysis that I will present below, each independently motivated within Minimalist methodology (Chomsky 1995, 2000, 2001) are as follows:

a) There are ineliminable lexical features/properties.

b) There is a syntactic structure-building operation, Merge, which means there's a *derivation*.

c) There is interaction with external systems: thus, there are operations (most notable, the operation Move) which apply to eliminate uninterpretable features; operations produce objects legible to the interfaces.

The second component of the Minimalist framework that I will assume is the derivational approach to syntactic relations (Epstein et al., 1998; Epstein, 1999; Epstein and Seely 1999, 2002, 2006). Two features of this approach are important: (i) derivations proceed in a strictly bottom up fashion, and (ii) relations are not defined on already built up trees but rather are deduced from the fundamental, independently needed, structure building operation *Merge* itself and its derivational mode of application. With this much in place,

we are now in a position to begin to account for the Control properties of subjunctive complements.

5.2.1 Independent subjunctives

Consider first the NOC structure in (101).

(101) o   yanis   elpizi   na   figi   (i   maria)
       the John.NOM hope.3SG.PRES subj leave.3SG (the Mary.NOM)
       'John hopes that he/she/(Mary) leaves'

By hypothesis, the predicate *elpizo* 'hope' does not impose any selectional restrictions on the tense of the complement clause in (101) which, as was shown in Chapter 4, shows evidence for presence of semantic tense, specifically independent tense. As such, the embedded C^0 carries no [T] feature and I^0 carries an interpretable [+T] feature. This hypothesis combined with the Minimalist framework outline above, yields the NOC properties of (101). Since temporally independent subjunctives have semantic tense, their I^0 is specified [+T] and it can check the nominative case of a full lexical DP; thus an overt lexical DP subject is licensed, as in (101) above. Given the pro-drop property of Modern Greek, I assume that the subject of this type of subjunctive clause, if empty, is pro. I assume that pro is like any DP in that it must have its Case feature checked (Rizzi 1986), which it can, in this instance, since the I^0 of independent subjunctive complements is specified [+T]. There is little more to say regarding (101) than that pro is licensed. Just like overt pronouns, pro can receive an external reference, it may take a non c-commanding antecedent, or split antecedents (overt and empty pronouns are the same with respect to

these properties, as expected under the null hypothesis), it can support both sloppy and strict readings and *de se* and *non de se* interpretations.

In addition, according to this analysis, the coreferent interpretation that temporally independent subjunctives allow, as was shown in section 4.3 and repeated here in (102), is derived simply by the licensing of pro in this domain: that is, the null subject of independent subjunctives being pro can establish any reference, including that of the matrix DP-subject.

(102)   o   yanis$_i$ elpizi   [na   erthi   **pro$_{i/j}$**]
        the   John.NOM   hope.3SG.PRES   subj   come.3SG
        'John hopes that he (himself) will come' (Coreference)

The present analysis correctly accounts for the lack of motivation for two different syntactic derivations/representations (see examples (96), Section 4.3), as in Terzi (1992) and Landau (2004), who argue that coreference is derived by licensing PRO, in order to explain the availability of coreference in this class of subjunctive complements (see also Roussou 2009).

5.2.2 Anaphoric subjunctives

Consider next the OC structure in (103):

(103)   o   yanis$_i$ kseri   na   horevi   ec$_{i/*j}$
        the   John.NOM   know.3SG.PRES   subj   dance.3SG
        'John knows (how) to dance'

To recap, OC is attested in subjunctive complements that lack semantic tense, in that their temporal reference is anaphoric to that of the matrix clause. Their anaphoric time reference

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is reflected on the feature specification of I^0: I^0 of anaphoric (semantically untensed) subjunctives bears an interpretable [–T] feature. As already pointed out above, unlike temporally dependent subjunctives, subjunctive complements with anaphoric tense do not carry a [T] feature on C^0 since there is evidence that this type of subjunctives lacks a CP.

Varlokosta (1993) has specifically argued that subjunctives that display OC properties are TPs and do not project a CP whereas subjunctives that display NOC are CPs. For illustration, consider the following example:

(104) *o   yanis$_i$ kseri   **an**   na   kolimbai   ec$_{i/*j}$
      the   John.NOM   know.3SG.PRES   **if**   subj   swim.3SG
      *'John knows if to swim'

The data in (104) shows that in OC subjunctives a complementizer like *an* 'if' cannot be licensed. According to Varlokosta, (104) does not involve a CP projection, it is a TP, and thus there is no position to host the element *if* thus explaining its ungrammaticality. Now consider the data in (105):

(105) a.   o   yanis$_i$ kseri   [**pu**   na   kolimbisi **ec$_{i/j}$**]
        the   John.NOM   know.3SG.PRES   **where**   subj   swim.3SG
        'John knows where he/she can swim'

      b.   o   yanis$_i$ kseri   [**pu**   na   **kolimbisun ec$_{*i}$**]
        the   John.NOM   know.3SG.PRES   **where**   subj   **swim.3PL**
        'John knows where they can swim'

The examples in (105) show two things: first, that a subjunctive complement can be a CP, the item *pu* 'where' in ((105) a & b) occupies the Specifier position of CP, and second, that OC is suspended when the subjunctive complement projects a CP. Notice that the null

subject of the complement in (105)a is not controlled by the matrix DP: it can be interpreted as 'John' or it can receive an independent reference. Thus, we observe that OC arises in domains that lack a CP layer. Once a CP is projected, OC disappears.

Considering this evidence, hence I am assuming that the OC example in (103) has the structure illustrated in (106) and does not involve a CP projection, whereas the NOC examples in (105) have the structure shown in (107):[43]

(106) o   yanis   kseri   [$_{TP}$ na   horevi] [$_{VP}$ t$_v$...]]
       the John.NOM know.3SG.PRES   subj swim.3SG
       'John knows (how) to dance'

(107) o   yanis   kseri   [$_{CP}$ **pu** [$_{TP}$ na   kolimbisi/kolimbisun pro [$_{VP}$ t$_v$...
       the John.NOM know.3SG.PRES **where**   subj swim.3SG/3PL
       'John knows where he/she/they can swim'

The analysis of OC subjunctives as TPs and not CPs (which actually goes against the standard assumption that control structures are CPs) may lead one to claim that the defectiveness of this domain relative to Case valuation is a consequence of its T^0 not being selected by C^0. In Chomsky's (2007, 2008) feature inheritance system, T^0 does not bear phi-features (and tense) inherently in the lexicon. Instead, it is assumed that phi-features and tense are inherited/transfered to T^0 only if T^0 is selected by C^0. In this system, T^0 of Raising predicates is distinguished from T^0 of Control predicates in that the former is not selected by C^0, thus it does not inherit phi-features and, as a consequence, it is unable to value Case. It could be argued then that in (106) since we assumed that C^0 is missing, tense

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[43] I would like to note that both structures here are simplified for ease of exposition; for instance, the MoodP which, I am assuming, hosts the particle *na* is not illustrated.

is also missing and thus Case cannot be valued in this domain therefore the DP-subject moves to the matrix TP for Case valuation, yielding the Control properties of (106). Notice, however, that phi-features do not appear to be a property of C^0 in Greek given that phi-features are present in both the OC and NOC examples in (106) and (107) above, although the two subjunctive T^0s have different properties, i.e. the OC subjunctive T^0 is not selected by C^0 whereas the NOC T^0 is. In both examples, phi-features are present but crucially only the subjunctive T^0 of (107) can value Case, evidenced by the licensing of lexical DPs and pro. We may conclude then that an analysis along the lines of C-to-T feature inheritance does not seem to be compatible with the data presented here from Greek subjunctives.[44]

Bearing the structure in (106) in mind, let us trace the key steps in the derivation associated with (103), using English glosses for ease of exposition, in (108):

(108)   a.   [$_{vP}$ θ John dance]

Merge; theta features checked

b.   I [$_{vP}$ θ John dance]

Merge

c.   [$_{IP}$ I dance [$_{vP}$ John dance]]

Move verb to I & EPP checking via V-raising

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[44] In Chomsky (2008), there is a brief note regarding this issue. More precisely, Chomsky referring to tenseless T with phi-features, as is observed in Greek, writes: "When phi-features appear morphologically at T without tense (or in participles, etc.), they should therefore be regarded as just a morphological effect of agreement, without significance in the syntactic computation". I should point out that it is not entirely clear what Chomsky means here by 'significance in syntactic computation': is it that the presence of phi-features, as in the case of Greek subjunctives, does not determine the defectiveness of this domain but rather the lack of tense (when T^0 is not selected by C^0) is the crucial feature for driving syntactic operations (e.g. Move) or Case valuation? If this is so, then Chomsky seems to suggest that, as I propose here for Greek, Case valuation is not contingent upon the inheritance of phi-features from C-to-T but upon the inheritance of tense features only, a contention that is not different from what I am claiming here: that lack of tense renders a domain defective with respect to Case valuation and triggers movement of a DP out of this domain.

d.   [$_{MOODP}$ na [$_{IP}$ I dance [$_{vP}$ John dance]]]

Merge na with IP

e.   [$_{VP}$ know [$_{MOODP}$ na [$_{IP}$ I$_{[-T]}$ dance [$_{vP}$ θ John dance]]]]

Merge; selection, i.e. "know" imposes selectional restrictions on the semantic tense of the embedded domain

f.   *v* [$_{VP}$ know[$_{MOODP}$ na [$_{IP}$ I$_{[-T]}$ dance [$_{vP}$ θ John dance]]]]

Merge; selection (v of VP)

g.   [θ John *v* [$_{VP}$ know[$_{MOODP}$ na [$_{IP}$ I$_{[-T]}$ dance [$_{vP}$ θ John dance]]]]]

Move; John attracted by v; theta checking

h.   I$_{[+T]}$ [θ John *v* [$_{VP}$ know[$_{MOODP}$ na [$_{IP}$ I$_{[-T]}$ dance [$_{vP}$ θ John dance]]]]]

Merge

i.   I$_{[+T]}$ know [θ John *v* [$_{VP}$ know[$_{MOODP}$ na [$_{IP}$ I$_{[-T]}$ dance [$_{vP}$ θ John dance]]]]]

Move verb to I & EPP checking via V-raising

j. [$_{IP}$ John I$_{[+T]}$know[θ ~~John~~ *v*[$_{VP}$ ~~know~~[$_{MOODP}$ na[$_{IP}$ I$_{[-T]}$ dance[$_{vP}$ θ ~~John dance~~]]]]]]

Move, John attracted by matrix I$_{[+T]}$, Case valuation

As can be seen in the derivation above, the DP subject first merges in the embedded thematic position, acquiring the theta role of the predicate 'dance'. Next, the embedded I^0 is merged and the verb moves to I^0, as is independently argued for Greek. I assume that at this step, EPP is checked via V-raising, following Alexiadou and Anagnostopoulou's (1998) proposal that EPP is parametrized across languages and it is satisfied in Null Subject languages, like Greek, via V-raising. Next, the subjunctive marker is merged. The following step (see (e)) is to merge the matrix verb. Notice that the embedded I^0 lacks semantic tense, i.e. it is specified [−T], and thus cannot check/value the Case of the DP *John*. The DP is still "active" and hence is attracted up to the specifier of v, specifically at

the step from (f) to (g), for theta feature checking. As is indicated in the derivation above, I assume that, given that operations are purposeful, there is no movement of the DP through the Specifier of the embedded IP, since no feature of the DP can be checked there; hence movement applies in one fell swoop from the embedded theta to the matrix theta position.[45] Ultimately, the DP moves to the Specifier of the matrix IP for Case valuation, yielding (103). The complete derivation is represented in ((108)j).

Next, let us see how the properties of OC can be derived. First, no overt DP-subject distinct from the matrix one is allowed in the subjunctive complement, thus (109) is ruled out:

(109) *o   yanis   kseri   na   horevi   i   maria
       the   John.NOM   know.3SG.PRES   subj   dance.3SG   the   Mary.NOM
'*John knows (how) Mary to dance'

Since the embedded I^0 lacks semantic tense, the DP *Mary* cannot receive case in the embedded domain, causing LF crash, thus the ungrammaticality of (109) is accounted for.

In addition, we can derive the ban on free/disjoint reference that the subjunctive complement in (103) exhibits: The only way to get disjoint reference with a null subject would be to generate pro in the embedded subject position. Nevertheless notice that no DP, including pro, can occupy the embedded subject position in (103) and be convergent: The empty element pro could "start" in the subject of the subjunctive clause, but cannot stay there (which by the null hypothesis, is like any other DP in needing its Case feature

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[45] See Epstein and Seely (1999, 2006) and Epstein, Pires and Seely (2005) who argue that there is no movement of the DP to the Specifier of the embedded TP (specifier of *to*) in English Raising infinitives to check the EPP feature.

checked) – again, for Case reasons. Pro can move, attracted through higher positions, to yield (110) and here pro can receive an independent reference.

(110) [$_{TP}$ pro [$_{VP}$ pro' kseri [$_{TP}$ na pro' horevi]
       'He/she knows (how) to dance'

But since pro' is a copy of pro (which, again, means that pro and pro' are occurrences of the same thing), there is no question of pro' establishing a free/disjoint reference.[46]

The next issue that arises is how to explain the requirement that the null subject must have a c-commanding antecedent. As was argued in Kapetangianni and Seely (2007), this requirement can be explained under Epstein's notion of derivational c-command. As Epstein (1999) notes, the c-command requirement of the structural description of *Agree* follows from the conception of "movement" as attraction incorporated into the probe-goal analysis combined with Epstein's derivational approach to syntactic relation. Epstein develops the First Law, informally stated as in (111):

(111)   X may participate in a syntactic relation with Y only if X derivationally c-commands Y.

Thus, X can attract Y iff X (derivationally) c-commands Y. The relevant derivation given this assumption is illustrated in (112) - recall that the derivation proceeds "bottom-up".

(112)   a.   [John dance]
        b.   I [John dance]
        c.   know [I$_{[-T]}$ John dance]

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[46]   See Epstein and Seely (2006) and Nunes (1999) for a detailed discussion of the consequences of copy theory.

d.   [John (gen)'s friend] + [know I$_{[-T]}$ John dance

'John's friend knows (how) to dance'
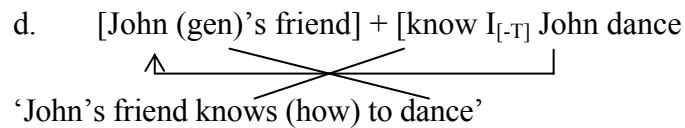
Let us hypothesize, as is standard, that there is some genitive Case element inside the DP "John's friend". Since this element is contained inside the DP, it does not c-command out of that DP, hence does not c-command *John* at point "d" in the derivation, and thus cannot participate in the *Agree* operation relative to the DP *John*. That is, the DP *John* at point (d) cannot be attracted up by the genitive since the genitive does not c-command the DP *John*.

In addition, the other two properties of OC (i.e. impossibility of split antecedents and only sloppy reading under ellipsis) can be derived as follows: For Hornstein (1999), the null subject in the lower subject position cannot take split antecedents because we cannot Merge two DPs, i.e. both *Mary* and *John*, into the same embedded subject position. In Kapetangianni and Seely (2007), we have suggested two other reasons for why we cannot derive something like (113).

(113)   John thinks Mary   knows   Mary   John to help each other
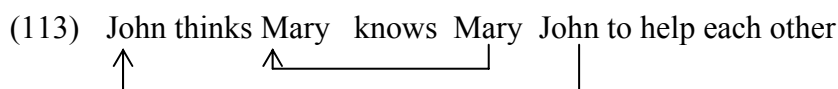
'*John thinks that Mary knows (how) Mary and John to help each other'

One reason is that the DPs *Mary* and *John* cannot both receive the agent role of the predicate *help*. For the construal-as-movement approach, a DP may get more than one theta role. However, there is a vestige of the theta criterion that is (tacitly) assumed: namely, theta features can only be "assigned" once. Thus, merging two DPs into one "theta position" is prohibited. Another reason is that (113) would involve an intervention effect: the highest I could not attract the DP *John* since the DP *Mary* intervenes; once *Mary* is

attracted up to the Specifier of the *v* of *thinks*, it would be closer to the higher I, thus blocking I from attracting the DP *John*.

Finally the sloppy only reading of OC, as in (114), can also be derived.

(114) o   yanis   kseri   na   horevi,
       the   John.NOM   know.3SG.PRES   subj   dance.3SG
       to   idhio   ke   o   vassilis
       the   same   and   the   Bill.NOM
       'John knows (how) to dance, so does Bill'
       (= Bill knows (how) Bill to dance. *Not*: Bill knows (how) John to dance)

In Kapetangianni and Seely (2007), it was shown that, in order to obtain the strict reading of (114), we would need a derivation like the one illustrated in (115) in which the DP *John* would "start" in the second conjunct and be attracted into the first conjunct.

(115)   *John knows John to dance and [*Bill does ~~know John to dance~~]
       'John knows (how) John to dance and *Bill knows (how) John to dance'

As was argued in that work, such attraction is not possible, since no element inside the first conjunct c-commands the DP *John* in the second, and thus the structural description of *Agree* is simply not meet. The licit sloppy reading, however, is derived as shown in (116), where each conjunct, in effect, has only conjunct internal attractions that properly do meet the structural description of *Agree*.[47]

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[47] The explanation that is given in Kapetangianni and Seely (2007) is quite different from the one provided in Hornstein (2001) who makes crucial use of "sidewards" movement.

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(116) John knows John to leave and Bill does know Bill to leave

  o yanis kseri   na horevi

  the John.NOM know.3SG.PRES subj dance.3SG

  ke o vassilis kseri   na horevi

  and the Bill.NOM know.3SG.PRES subj dance.3SG

  'John knows (how) to dance and Bill knows (how) to dance too' **NOT** 'Bill

  knows how John to dance)

In sum, as we have seen, all the interpretive properties of the empty subject of anaphoric/untensed subjunctives can be deduced by the movement approach to Control assuming independently necessary lexical features and an independently motivated set of postulates and restrictions regarding syntactic operations. The OC properties of anaphoric subjunctives exemplified above emerge without generating PRO in the lower subject position or adopting construction-specific principles, for example the special empty category PRO, the PRO theorem, Varlokosta's (1994) V-to-C movement or Landau's R-Assignment Rule.

  In addition, the present analysis yields the desired empirical coverage that other theories developed for Greek subjunctives fail to. More specifically, the theories (Phillipaki-Warburton 1987; Philippaki-Warburton and Catsimali 1999; Spyropoulos and Philippaki-Warburton 2001; and Spyropoulos 2007) that assume that the empty subject of anaphoric subjunctives is not PRO but the empty pronominal category pro, fall short in explaining why the empty subject of untensed subjunctives exhibits Obligatory Control properties (i.e. anaphoric properties) and not the properties of the null pronominal pro (i.e. pronominal properties).

Spyropoulos (2007) specifically argues that nominative case is licensed inside the domain of anaphoric/untensed subjunctives and thus this class of complements is not a defective domain regarding Case valuation.[48] The controlled interpretation that the empty subject exhibits is derived, according to Spyropoulos, through a series of *Agree* operations that are established between the matrix and embedded [T] and [Agr] features of the C and T heads. More specifically, it is assumed that the [tense] feature of the matrix C targets both the matrix and the embedded T and thus the two heads match with respect to their temporal reference, as shown in (117). In addition, the [Agr] features of the embedded T head match with the [Agr] of the matrix clause; this matching is taken to be a consequence

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[48] This argument is based on the empirical fact that in OC subjunctives nominal modifiers/intensifiers/adjectives which modify the controlled empty subject of the complement clause carry nominative case although the matrix DP controller carries accusative case, as shown in the following example:

(i) i   maria$_i$ voithise   to yani$_j$ na   figi   ec$_j$ **telefteos$_j$/*telefteo$_j$**
    the   Mary.NOM   help.3SG.PAST   the John.**ACC**   subj   leave.3SG   last.**NOM**/ last.**ACC**
    'Mary helped John to leave last'   (Spyropoulos, 2007:171)

Philippaki-Warburton and Katsimali (1999) and Spyropoulos (2007) assume that in these data there is a pro in the subject position of the subjunctive clause, that this pro subject does receive nominative case, and that through a form of Case concord, matches with the modifying element for this Case. Thus, the licensing of nominative case marked modifiers such as *telefteos* 'last' in the example here has been taken as evidence that nominative case is valued internal to the OC subjunctive complement, therefore this domain is not defective with respect to Case. This is an important observation, potentially problematic for my proposal that Case valuation is not available within OC subjunctives due to their complete lack of semantic tense. One way to account for these data is to assume that the licensing (and consequently Case valuation) of 'weak' elements such as modifiers which are not fully referential DPs, is not contingent upon semantic tense but upon Agreement. That is, the phi-features on T of the subjunctive clause are sufficient for the licensing (and Case valuation) of elements that do not have fully referential properties, like adjectives or modifiers, but not for strong elements like lexical DPs. Although this assumption appears to be a stipulation, it allows us to maintain the present proposal while suggesting a path to explore for these data which does yield the desired empirical results: as illustrated in the following example, although a nominative case marked modifier is licensed in OC subjunctives, a distinct overt lexical DP-subject (nominative case marked) <u>cannot</u> (despite the argument developed by Spyropoulos, and Philippaki-Warburton and Katsimali that Case valuation is available in the domain of OC subjunctives).

(ii) *o yanis   kseri   na   ine   harumenos   o   vassilis
    the John.NOM   know.3SG.PRES   subj   be.3SG   **happy.NOM**   the   **Bill.NOM**
    '*John knows (how) Bill to be happy'

of the matching of the two T heads. In this way, Spyropoulos argues that the embedded [Agr] acquires the same feature specification with the matrix [Agr].

(117) $[_{CP} C^0 [tense] [\ldots F[Agr] \ldots [_{CP} C^0 [_{MP} M^0 [_{TP} T^{0max} [T^0, Agr] \ldots]]]]]$

(Spyropoulos 2007:177)

In turn, the matrix [Agr] targets the matrix DP subject and receives its reference as shown in (118), whereas the [Agr] of the embedded T targets the embedded subject, presumably pro, checks its nominative case and receives its reference. The OC interpretation is obtained by the matching of the two [Agr] probes.[49]

(118) $\ldots DP_i \; F[Agr_i] \ldots [_{CP} C^0 [_{MP} M^0 [_{TP} T^{0max} [T^0, Agr_i] \; subject_i \ldots]]]$

(Spyropoulos 2007:177)

Nevertheless, notice that there is a potential problem with such an account: it is not clear, for instance, how Spyropoulos would rule out the licensing of an overt lexical subject in anaphoric/untensed subjunctives, as illustrated in (119):

(119)   *o   yanis   kseri   na   horevi   i   maria
         the   John.NOM   know.3SG.PRES   subj   dance.3SG   the   Mary.NOM
        '*John knows (how) Mary to dance'

If nominative case is assigned internal to the subjunctive complement in (119), then why is the overt subject *Mary* not licensed? What would prevent the embedded [Agr] from undergoing *Agree* with the DP *Mary*, thus acquiring a distinct reference from the matrix

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[49]   Note that this is similar to Landau's calculus of Control in anaphoric/untensed subjunctives but is crucially different regarding the nature of the empty subject: in Landau's theory OC is derived by the licensing of PRO whereas in Spyropoulos's system, a pro is licensed and the OC reading results from the matching of the two [Agr] probes.

DP? Spyropoulos' answer to this problematic issue would be that "the [Agr] features on the embedded T match the closest [Agr] probe in the matrix clause as a side effect of the matching between the two T heads" (pg. 177), as was illustrated in (117). But why should the matching of the matrix and embedded T which is associated with the licensing of the temporal properties of the subjunctive complement (as Spyropoulos assumes) have any effect on the feature specification of the [Agr] of the embedded T?

Also notice that in a derivational approach to structure building, Spyropoulos' proposals would require operations to apply counter-cyclically: in a bottom-up structure building system, the [Agr] of the embedded T would *Agree* first with the embedded DP subject and thus would receive its reference, and at a later point, when the matrix T is merged into the derivation, the [Agr] of the embedded T would *Agree* again with the [Agr] of the matrix T. In addition to this, it is not obvious how the [Agr] of the embedded T which has already acquired its feature specification by Agreeing with the embedded DP subject, could, later in the derivation, enter into another *Agree* relation with the [Agr] of matrix T which has a different feature specification since it enters into *Agree* with the matrix DP-subject: in theory, the two [Agr] could not match/*Agree* in the syntactic derivation.

With that said, it seems that a theory such as Spyropoulos (2007) that allows pro to be licensed in anaphoric subjunctives requires different stipulations to derive syntactically the OC properties that the embedded null subject exhibits or in turn has to appeal to semantic-pragmatic factors (e.g. Phillipaki-Warburton and Catsimali 1999) and not to restrictions on syntactic operations. In contrast, the movement analysis that I proposed here

and developed in this section derives naturally the referential properties of the subject of anaphoric subjunctives by just appealing to general principles that apply to the syntactic derivation (yielding Merge and Move), in constructions with different features (specifically tense of lexical items).

5.2.3 Dependent subjunctives

Finally, let us examine how we can derive the Control properties of temporally dependent subjunctive complements. Recall that this class of subjunctives shows evidence for semantic tense but they are not completely independent in their temporal interpretation from the matrix tense, in that they can only establish a future interpretation. As was argued above, this temporal dependence is represented on the C and I heads: specifically, this class of subjunctives bear a [+T] feature on I^0 and C^0. Since the I^0 is specified [+T], an overt lexical DP-subject or pro can be licensed in temporally dependent subjunctives, similarly to temporally independent subjunctives that we saw above, and thus we derive the NOC properties that (120) exhibits, an example of temporally dependent subjunctive that was presented in Chapter 4:

(120) o   yanis   theli   [na   figi   i   maria/ pro]
       the   John.NOM   want.3SG.PRES   subj   leave.3SG   the   Mary.NOM
       'John wants that Mary will leave'

An important issue that arises is that under the proposed analysis both temporally independent and dependent subjunctives are domains where pro can be licensed and hence NOC properties emerge. Nevertheless, it should be noted that in (120) a coreferent interpretation when the embedded null subject has the same feature specification as the DP-

subject of the matrix clause, illustrated in (121), is more readily available compared to a temporally independent subjunctive selected by the predicate *elpizo* 'hope', shown in (122):

(121)   o   yanis$_i$ theli   [na   figi   **pro$_{i/j}$**]
       the   John.NOM   want.3SG.PRES   subj   leave.3SG
       'John wants to leave'

(122)   o   yanis$_i$ elpizi   [na   figi   **pro$_{i/j}$**]
       the   John.NOM   hope.3SG.PRES   subj   leave.3SG
       'John hopes that he/she will leave'

This attested property of (121) and (122) regarding the reference of the subjunctive null subject can be captured/derived if we assume that, given that temporally dependent subjunctives do not have fully independent tense, i.e. their temporal reference is restricted by the matrix tense, they can be transparent to movement. The different interpretations that (121) allows (i.e strongly preferred coreference but also disjoint reference, including licensing of an overt subject in the embedded clause, as shown in (120)) can be derived from the existence of different numerations and the need for convergence at the interfaces. More precisely, if there is only one DP in the numeration for (121) (i.e. *John*)**,** the DP-subject *John* will merge at the embedded thematic position and move out to the matrix clause to satisfy the theta feature requirements of the matrix predicate, as shown in (123):

(123)   [$_{TP}$ o   yanis   [$_T$ theli   [$_{vP}$ ~~o   yanis   theli~~ [$_{CP}$ [$_{MOODP}$ na[$_{TP}$ [$_T$ figi [$_{vP}$ ~~figi o yanis~~]
       the John.NOM   want.3SG   the John   want   subj   leave leave the John
       'John wants to leave'

Theoretically, since dependent subjunctives carry semantic tense, the case of the DP *John* can be valued in the embedded domain; if the DP stays in the lower domain, however, the theta features of the matrix predicate will not be checked, since *John* is the only DP available in the numeration. If the DP does not move to the matrix clause, then the derivation will crash at the interfaces. Movement, therefore, of the DP is triggered for convergence at the interfaces, yielding the coreference interpretation. In turn, the free reference that (121) receives is derived by a numeration that contains a DP and pro. Pro is licensed as the embedded subject –since Case valuation is possible in temporally dependent subjunctives, and the DP *John* merges in the matrix theta position, checking the theta feature of the matrix predicate and from there to the Specifier of the matrix TP for Case valuation, as the derivation in (124) illustrates:

(124) [TP o yanis [T theli [vP ~~o   yanis   theli~~ [CP [MOODP na[TP [T figi [vP ~~figi~~ **pro**]
       the John.NOM want.3SG   the John   want   subj   leave leave pro
       'John wants himself/ he/she to leave'

As already pointed out above in the discussion of the derivation of independent subjunctives, pro can establish any reference, including that of the matrix DP-subject (i.e. coreference) yielding the possibility of either the disjoint reference or coreference interpretation that (121) allows. Finally, if there are two DPs in the numeration (i.e. *John* and *Mary*), one DP is licensed in the embedded subject position due to the presence of semantic tense whereas the other DP merges in the matrix theta position, yielding a derivation with two distinct overt subjects, as shown in (125), corresponding to the data presented in (120).

(125) [TP o yanis [T theli [vP <s>o yanis</s> <s>theli</s> [MOODP na[TP [T figi [vP <s>figi</s> i **maria**]

the John.NOM want.3SG the John want subj leave leave the Mary

'John wants for Mary to leave'

The transparency of this class of subjunctives to movement has the effect of favoring coreference when the embedded null and matrix overt subject have the same feature specification, which, as we saw, can be derived by two different numerations and thus two different non-competing derivations, either by the licensing of pro or by movement of the subject.

In temporally independent subjunctives though, like the one presented in (122), movement cannot apply because the embedded domain carries independent tense with respect to the matrix tense, and is, therefore, a domain opaque to movement. Thus the coreference interpretation is derived only by licensing pro as the embedded null subject.

Recall also, as I have shown in my review of Varlokosta's analysis in Section 4.2, and in Kapetangianni and Seely (2007), that not all subjunctive complements with dependent tense show NOC properties. In contrast to what Varlokosta's theory predicts, subjunctive complements with dependent tense may exhibit Obligatory Control properties, specifically object control as illustrated in (126), repeated here from Chapter 4.

(126) o yanis$_i$ entharine ti maria$_j$ na erthi ec$_{j/*i}$

the John.NOM encourage.3SG.PAST the Mary.ACC subj come.3SG

sta genethlia tu

to.the birthday.ACC his

'John encouraged Mary to come to his birthday party'

As was demonstrated in Section 4.2, these data exhibit the standard properties of OC (i.e. the embedded empty subject does not allow an external reference, it must have a c-commanding antecedent and it allows only sloppy interpretation under ellipsis). The object Control properties that are attested in this subclass of temporally dependent subjunctives are accounted for by assuming the following: In Polinsky and Potsdam (2006), it is argued that "as long as a complement clause does not have fully independent semantic tense, it can be transparent to A-movement" (pg. 188). The authors, however, do not specify the exact factor(s) that yield the possible transparency of complements with dependent tense to movement. Here I argue (refining Polinsky and Potsdam's proposal) that temporally dependent subjunctives can be transparent to A-movement, due to lexical/semantic restrictions that the selecting predicates impose on the syntax. To be more precise, I propose that the embedded DP-subject *Mary* in (126) can move out of the subjunctive complement to the matrix object theta position in order to satisfy the theta requirements of the matrix predicate, yielding the object control properties that (126) exhibits. Let us see the details of a proposal along these lines.

Assuming a bottom-up derivation, we "first" build, through a series of Merges, the complement clause shown in (127):

(127) [IP I erthi   [VP ~~erthi~~   i   maria   sta   genethlia tu]]
            come.3SG   come.3SG   the   Mary   to.the   birthday   his

The DP *Mary* checks the theta feature of the predicate *come* and acquires its theta role. The next step in the derivation is to Merge the particle *na* and then the subjunctive clause

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merges with the matrix predicate *encourage*, checking the propositional theta role of the verb, yielding (128).

(128) entharine   [MOODP na [IP I[+T] erthi [VP ~~erthi~~ i   maria   sta   genethlia tu]]]
       encourage.3SG.PAST subj   come.3SG come the Mary   to.the birthday his

Since this class of subjunctives has semantic tense (their I and C heads are specified [+T] due to selectional restrictions imposed by the matrix predicate *encourage*), the lexical DP-subject *Mary* can, in theory, receive case (i.e. nominative case) inside the complement clause. Also at this point, the theta features of the matrix predicate need to be checked. There are two ways to satisfy the thematic requirements of the predicate *encourage*: either Merge the DP *John* that is still in the numeration, or Move the DP *Mary* to the object position of *encourage*. Merging the DP *John* will yield (129):

(129) [VP entharine   to   yanni   [MOODP na   [IP I[+T] erthi
       encourage.3SG.PAST the John.ACC   subj   come.3SG
     [VP ~~erthi~~   i   maria   sta   genethlia   tu]]]]
     come.3SG   the   Mary.NOM   to.the   birthday   his

At this step, the DP *John* checks the internal theta role of *encourage* and receives accusative case by virtue of merging in this position. The next step is to raise *encouraged* to merge with v as shown in (130):

(130) [v+entharine   [VP to yanni   ~~entharine~~ [MOODP na   [IP I[+T] erthi
       encourage.3SG.PAST the John.ACC encourage   subj   come.3SG
     [VP ~~erthi~~   i   maria   sta   genethlia   tu]
     come.3SG   the   Mary   to.the   birthday   his

At this step in the derivation, the external theta role of the matrix predicate will need to be checked. Since there is no other DP available in the numeration to Merge in the subject position of *encourage*, we will either have to Move the DP *John* or the DP *Mary*. The DP *Mary* cannot be attracted by the matrix predicate since the DP *John* intervenes (movement of the DP *Mary* over the DP *John* will violate the Minimal Link Condition (see Hornstein 1999). The DP *John* having received case is not an active goal anymore, so it cannot move either. Hence, the derivation would crash because the theta role feature (the external theta role) of the matrix predicate will remain unchecked.

Instead, we can entertain a different derivational path and Move the DP *Mary* at the step of the derivation illustrated in (128). We can thus assume the Hornstein account of "object control," whereby *Mary* moves to the object position of *encourage* (ultimately checking a theta role and Accusative Case), yielding (131).

(131) [VP entharine ti maria [MOODP na [IP I[+T] erthi[VP ~~erthi~~ i maria sta genethlia tu]

Finally, the DP *John* is Merged to check the external theta role of the matrix predicate (and raises to the matrix TP) to produce (132).

(132) [TP o yannis [VP ~~o yannis~~ entharine   [VP ~~entharine~~ ti maria
          the John.NOM the John   encourage.3SG.PAST encourage the Mary.ACC
       [MOODP na [IP I[+T] erthi   [VP ~~erthi~~ ~~i maria~~ sta   genethlia tu]
          subj   come.3SG   come   the Mary to.the birthday his

The important point to be made here is that, although the DP *Mary* could theoretically stay in the embedded clause and have its case valued there since the embedded I head has dependent tense, the DP moves up to the thematic object position to satisfy the theta

requirements of the matrix predicate. As was shown, if this movement does not take place, the derivation would crash because the external theta role of the matrix predicate would remain unchecked.

Note that an approach along these lines predicts that a lexical DP subject can be licensed in temporally dependent subjunctive complements that are selected by predicates that take a thematic object. This prediction is fully borne out. Consider (133):

(133) o   yanis   epise   ti   maria   na   ti   sinodepsi
       the   John.NOM   persuade.3SG.PAST   the   Mary.ACC subj her   escort.3SG
       o   **vasilis**   sto   parti
       the   **Bill.NOM**   to.the   party
       'John persuaded Mary that Bill will escort her to the party'

Here the predicate *pitho* 'persuade' takes a thematic DP-object but it does not exhibit object control properties, since an overt DP-subject is licensed in the complement clause and thus Control is suspended. Spyropoulos (2007) points out that this data shows that temporally dependent subjunctives do not exhibit the standard properties of Obligatory Control but what he calls 'Partial Control' properties. As he correctly explains, the term 'Partial Control' he is using to refer to the control properties of this class of subjunctives does not correspond to Partial Control as described by Landau (2000) where the reference of the empty subject includes the matrix DP-subject referent and some other salient individual in the discourse, illustrated in (134) below in English:

(134)   John$_i$ wanted [ec$_{i+}$ to meet at 6].

Spyropoulos' argument that the control phenomena attested in temporally dependent subjunctives do not have the properties of Obligatory Control is based on the observation

that the controlled null subject of complements of *pitho* 'persuade' can take split antecedents (135) or it permits a partial control interpretation as in Landau (2000), illustrated in (136), and can alternate with an overt lexical DP-subject, as was shown above in (133).

(135) o   yanis$_i$ epise   ti   maria$_j$ na   **pane ec$_{i+j}$**
      the John.NOM   persuade.3SG.PAST the Mary.ACC   subj **go.3PL**
      gia psonia   tin   triti
      for shopping   the   tuesday
      'John persuaded Mary that they go shopping on tuesday'

(136) episa   ti   maria$_i$ na   **pane ec$_{i+}$** gia psonia
      persuade.1SG.PAST the Mary.ACC   subj **go.3PL**   for shopping
      tin   triti
      the   tuesday
      'I persuaded Mary that they should go for shopping on Tuesday'
          (examples are from Spyropoulos 2007)

My proposal regarding the Control properties of temporally dependent subjunctives goes as follows: this class of subjunctives exhibit 'mixed properties' regarding Control, with some displaying Obligatory Object Control (see (126)) while others show Non-Obligatory Control (see (133)), depending on the semantic properties of the selecting predicate. With respect to (133), the presence of dependent tense in the subjunctive clause allows the lexical DP *Bill* to be licensed as the embedded subject and no movement is taking place from the embedded domain to the thematic object position of *persuade* where the DP *Mary* is first merged. Given that an overt DP can be licensed inside the subjunctive complement, pro can be licensed too yielding all the NOC properties that Spyropoulos discusses.

In view of these data, we can argue then that the inherent lexico-semantic properties of the matrix predicate also have an effect on the licensing of an overt lexical subject inside the subjunctive clause (and ultimately to the licensing of Control or Non-Control interpretation): in other words, going back to the complements of *pitho* 'persuade', the semantics of *persuade* allow a distinct individual other than the referent of the theme (i.e. the individual who is persuaded) to be associated with the propositional thematic role, whereas the semantics of *encourage* requires the proposition to be associated with its theme (i.e. the DP that carries the internal theta role of the predicate *encourage*).

Put simply, one cannot *encourage* some individual for other people to perform an action. The same semantic property is also attested in predicates like *apotharino* 'discourage', *apotrepo* 'dissuade', *diatazo* 'order', *vazo* 'get somebody to', *afino* 'let', *kano* 'make'. This suggests that the semantics of particular transitive predicates does restrict the licensing of a distinct lexical subject in their complements (and hence the interpretation that this subject receives if it is null) even when the syntactic properties of the complement (in this case presence of dependent tense) would allow this licensing.

One important clarification is required here: although I am proposing that the lexico-semantic properties of the matrix predicate are higly relevant for the licensing of Control or the licensing of an overt subject/pro inside the subjunctive clause, I am not suggesting that the relation of Control or Non-Control is entirely determined semantically as a number of researchers argue (e.g. Jackendoff 1972, 1974; Culicover and Jackendoff 2001, 2003). The argument that I am defending here is that Control is derived through an interplay of the lexico-semantic properties of the selecting predicates together with the

syntactic properties of the subjunctive clause (most crucially the temporal properties), which may allow or not the licensing of null or overt subjects in this domain and thus Control cannot be construed on purely semantic grounds given that Control appears to be sensitive on syntactic conditions as well.

A summary of the specific theoretical assumptions that I proposed in this chapter relative to tense and Control distinctions as well as the derivation of the referential properties of the different classes of Greek subjunctive complements is given below in Table 5.3.

TABLE 5. 3: PROPERTIES OF GREEK SUBJUNCTIVE COMPLEMENTS UNDER THE PROPOSED ANALYSIS

	Independent Subjunctives	**Dependent Subjunctives**	**Anaphoric Subjunctives**
Morphological tense marking	Past tense	No past tense	No past tense
	Temporal adverbials	Temporal adverbials	No temporal adverbials
	Present Perfect	Present Perfect	No present perfect
tense interpretation	Anterior/Posterior/Simultaneous	Irrealis/Future	Anaphoric to matrix tense
Control properties	NOC	NOC & Object Control	OC
Availability of Case	YES	YES	NO
Transparency to A-movement	NO	POSSIBLE	YES
Nature of subject	Pro	Pro	Copy of matrix DP-subject
	distinct overt lexical DP subject	distinct overt lexical DP subject	*pro
	*Copy of matrix DP-subject	Copy of matrix DP-subject	*distinct overt lexical DP subject

CHAPTER 6

Experimental Study

In the previous chapter, I argued that the lexical and tense properties of Greek subjunctive complements determine the Control or Non-Control interpretation that their empty subject receives. In order to test the proposal that I developed for the licensing of Control in Greek, I conducted an experimental study aiming at finding additional confirmation in experimental work for the theoretical assumptions I advanced regarding the distinctions relative to tense and Control in the domain of subjunctive complements: more specifically that Control is licensed in anaphoric/untensed subjunctives whereas Non-Control arises in temporally dependent or independent subjunctives.[50] By testing this theoretical model for the grammar of Greek Control, in this chapter I seek to relate syntactic theory and psycholinguistics, as little has been shown experimentally regarding adults' and children's interpretation of Greek subjunctives. With this interdisciplinary goal in mind, in

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[50] A couple of clarifications are required at this point regarding the use of experimental methodology in linguistic inquiry. Note that I am not suggesting here that the standard grammaticality judgments used in syntactic inquiry are not reliable sources of empirical data. My view on this issue is that grammaticality judgments do constitute psycholinguistic evidence for the mental representations that subjects construct for the relevant data and they are a legitimate source of empirical evidence. I also believe that experimental linguistics is important and can contribute to our better understanding of the relevant grammatical phenomena because it gives us the opportunity to test our theoretical claims and distinctions and therefore find additional confirming (or not) evidence for our analyses. Most importantly, it allows us to test and disentangle/discover more subtle factors or grammatical properties that play a role in semantic interpretation which may not arise in grammaticality judgments. Therefore, I take both methodologies to be equally important and to complement each other as sources of empirical data.

this chapter, I present the results of a Truth Value Judgment Task that I conducted with Greek adults and discuss how the experimental findings relate to the theoretical proposal I advanced for Greek Control. In Sections 6.1 and 6.2, I review a previous study that investigated experimentally the interpretation that Greek adults and children assign to the empty subject of some Greek subjunctive complements and I set the background of the present study. In Section 6.3, I present the experimental design, materials and predictions of the present study and in Section 6.4, I discuss the results.

6.1 Previous Studies

Although the grammar of Control in Greek has been extensively investigated and different theoretical analyses have been proposed, there is but one study (Goodluck, Terzi and Chocano Diaz 2001, henceforth GTC) that experimentally investigated the interpretation that adult and child speakers assign to the empty subject of subjunctive complements in Greek.[51] The goal of GTC was to examine what factors (lexical vs structural- i.e. syntactic) exactly play a role in the acquisition of Control complements.[52] The overall finding of their

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[51] GTC's study involved a cross-linguistic investigation of the interpretation that both children and adults assign to the null subject of subjunctive complements in Greek and Spanish. Here I focus on presenting the findings and the authors' arguments relative to Greek. I will discuss the results for Spanish only where relevant.

[52] Unlike Greek, Spanish has the category of infinitive. In Spanish, the Control (OC vs NOC) properties of the null subject of complement clauses is determined by the structural properties of the complement: that is, the subject of the embedded clause is **obligatorily** controlled by the matrix subject when the complement is an infinitival clause, as shown below in (i):

    (i)   maria$_i$ intenta/quiere   [ec$_{i/*j}$ cantar]
         Maria   try/   want.3SG.PRES   **sing.INF**
         'Maria tries/wants to sing'

When the complement is a subjunctive clause, the empty subject is **obligatorily** interpreted as **disjoint** from the subject of the matrix clause (exhibiting therefore what is referred to as *obviation*):

    (ii) maria$_i$ intenta/quiere   [que   ec$_{j/*i}$ cante]
         Maria   try/   want.3SG.PRES COMP   **sing.SUBJ.3SG**
         'Maria tries/wants (for) someone other than herself to sing'

study is that Greek children (four to five years old) appear to know that the Control properties of subjunctives depend on the lexical properties of the matrix predicate. However, as GTC report, Greek children, and in fact adults too, but to a lesser degree, prefer to assign a **coreferential interpretation** to the empty subject even in contexts where the grammar also allows a disjoint/distinct interpretation, that is in NOC subjunctive complements.

GTC's study consisted of an act-out task in which the subjects, both adults and children, were asked to act-out the interpretation/meaning of the following types of test sentences using some dolls and a set of props:

*Subjunctive complements of **prospatho** 'try'*

(137) i   maria   prospathi   na   krifti   piso   apo   ton tiho
       the   Mary.NOM   try.3SG.PRES subj   hide.3SG behind from the wall
       'Mary tries to hide behind the wall'

*Subjunctive complements of **thelo** 'want'*

(138) o   babas   theli   na   fai   ti   banana
       the   dad.NOM   want.3SG.PRES subj   eat.3SG the   banana
       'Dad wants to eat the banana or Dad wants for he/she to eat the banana'

*Subjunctive complements of **diatazo** 'order'* (with an overt matrix object)

(139) i   mama   diatazi   to   baba   na   kani   mia   toumba
       the   mom.NOM   order.3SG.PRES   the   dad.ACC subj   do.3SG a   somersault
       'Mom orders dad to do a somersault'

*Subjunctive comlements of **diatazo** 'order'* (without an overt matrix object)

(140)   i   mama   diatazi   na   diavasi   tin   efimerida
        the   mom.NOM   order.3SG.PRES   subj read.3SG the   newspaper
        'Mom orders to read the newspaper'

Notice that the subjunctive complements of the three predicates that were tested by GTC
(i.e. *prospatho* 'try', *thelo* 'want' and *diatazo* 'order') display distinct Control properties:

- the empty subject of the complement clause of *prospatho* 'try' is obligatorily
  controlled by the matrix subject DP;

- the empty subject of the complement clause of *thelo* 'want' exhibits NOC
  properties and thus it can be interpreted as coreferential with the matrix subject or
  as distinct/disjoint in reference;

- the empty subject of the complement clause of *diatazo* 'order' is obligatorily
  controlled by the object DP of the matrix clause.

The fourth type of sentences involved a matrix clause (that contained the predicate *diatazo*
'order') with no overtly realized DP object and a subjunctive complement: these data also
involve object control by a null object and thus the empty subject of the embedded
subjunctive clause is interpreted as distinct from the matrix DP subject.

The results of GTC's study can be summarized as follows:

- Both adults and children assigned an OC interpretation for the subjunctive
  complements of *prospatho* 'try' as in (137), and an object control interpretation for
  the subjunctive complements of *diatazo* 'order + overt DP object' as in (139).

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- Adults assigned a disjoint (from the matrix subject) interpretation for the subjunctive complements of *diatazo* 'order' + no overt DP object' as in (140); children did so in 70% of responses.

- Finally and most crucially, both adults and children showed preference for a coreferential interpretation for subjunctive complements of *thelo* 'want' as in (138), which as we have seen in Chapter 5, exhibit NOC properties: children gave only 30% responses indicating NOC reference and adults did so in 53% of their responses (reflecting also adults' preference for the coreferential reading).

Based on these findings, GTC concluded that learners of Greek are sensitive to the lexical properties of matrix predicates in interpreting the subject of subjunctive complements: children assigned a NOC reference only in the complements of *thelo* 'want', and *diatazo* 'order + no overt DP object' but <u>not</u> in the complements of *prospatho* 'try' which display OC properties. However, they prefer assigning coreference (with the matrix subject) in subjunctive complements which display NOC properties, i.e. complements of *thelo* 'want'.

Another particularly interesting finding of GTC's study is that four-to-five years old Spanish children performed similarly to Greek children in that they assigned (incorrectly in Spanish) an OC interpretation in subjunctive complements, where the adult grammar requires NOC interpretation. As GTC report, even at six-to-seven years of age, Spanish children show some difficulty in giving a disjoint reference interpretation.[53] Spanish adults, nevertheless, correctly assigned only disjoint reference/NOC in subjunctive complements and OC reference in infinitival complements.

The observed children's difficulty in assigning a NOC reference in both Greek and Spanish subjunctives, and the Greek adults' preference for coreference in NOC subjunctives, have been taken by GTC to indicate that there is a processing bias towards coreference. In explaining the results of their study, GTC point out: "Internal reference [coreference with a c-commanding antecedent in my terms, KK] is an option that adults readily access (where the grammar permits it) … Internal reference may be favored by the structure of the sentence processing mechanism, a bias that may be exacerbated by quantitatively lesser processing ability on the child's part" (Goodluck 1990:169).

To summarize, according to GTC, children by four years of age appear to have knowledge of the different factors that determine the Control properties of complement clauses. Additionally, children's preference for coreference is taken by GTC to reflect a processing difficulty and not an underlying grammatical deficit, that is, it is not the case that children cannot assign disjoint reference where the adult grammar allows it (both Greek and Spanish children gave disjoint reference responses) but that disjoint reference causes processing difficulty in both children and Greek adults, resulting in performance errors. It is worth pointing out that GTC do not specify in their explanation what exactly this 'processing bias' refers to. For instance, one question that arises is whether 'bias' for them is intended as 'preference', as is standardly the case in ambiguity resolution, where different syntactic-semantic respresentations are constructed and thus are available during processing but individuals prefer one of them as the optimal one. Or, it may be the case that

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[53] Nevertheless, as the authors point out, Spanish children seemed to be sensitive to the syntactic properties of complement clauses: Spanish children gave more disjoint reference responses in subjunctive complements than in infinitive complements for both predicates 'try' and 'want'.

the notion of 'processing bias' they refer to, also encompasses pragmatic or discourse factors.

Additional questions arise also with respect to both the methodology and the findings of GTC's study. One issue concerns the methodology and the test materials that were used. More precisely, the experimental task that GTC have used may not have been the best to investigate children's and adults' performance. Notice that predicates of mental states such as *want* are difficult to act-out (Goodluck, 1996).[54] Additionally, it has been noted in the experimental literature that the act-out task gives only a partial view of the child's grammar: certain interpretations may be available to the subject but the subject may choose not to act these out (Goodluck, 1996). In the case of the Greek study, children (and in fact adults too) might have assigned the NOC interpretation to the empty subject in complements of *thelo* 'want', but they did not act this out in the experiment. Thus, the purported bias that children and adults showed towards coreference may be an artifact of the experimental task and not a direct reflection of their knowledge and/or performance.

One further issue concerns the type of sentences that were tested. All the matrix predicates that were used by the authors involve cases of dependent or anaphoric subjunctives (in terms of temporal properties): the predicate *prospatho* 'try' selects an anaphoric (i.e. untensed) subjunctive, whereas the predicates *diatazo* 'order' and *thelo* 'want' select a temporally dependent subjunctive complement. Assuming that tense is a crucial factor for the licensing of an overt subject (and thus for the interpretation of null

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[54] Another issue that arises is whether children's preference for coreference in 'want' complements' relates to the acquisition of mental state verbs. Notice that research on child acquisition of mental state verbs indicates that in early stages children's use of these predicates does not reflect mental reference but serve conversational functions (Shatz, Wellman and Silber 1983).

subjects), as I argued in Chapter 5, it may be that adults and children are sensitive to tense distinctions and thus the observed preference for coreference resulted from the tense dependencies that the experimental sentences exhibit.

Finally, GTC's findings raise important issues regarding the role that pragmatics may play in the interpretation of subjunctive complements. As already mentioned, the participants in GTC's study were asked to act out sentences given in a random order and with no context. Could it be that the purported bias for coreference resulted from the lack of an appropriate context? Would this coreference preference be evidenced (in both children and adults) in a pragmatically controlled situation that is more compatible with the NOC reference?

In what follows, I describe a study that I conducted, in order to experimentally test the hypotheses that I defended for the syntax of Control in Greek and in order to further explore the issues that I raised in this section concerning the role that tense and pragmatics play in the interpretation of Control vs Non-Control subjunctives.

6.2 Experimental Study: The Role of tense in the Interpretation of Empty Subjects

The main goal of the present experimental study is to investigate how adults interpret the empty subject of subjunctive complements that differ in their tense properties.[55]

The research questions that I address are the following:

- Does tense play a role in the interpretation (OC vs NOC) that adults assign to the empty subject of subjunctives?

- What is the relative role that the pragmatics of a given context plays in affecting/restricting the interpretation of the empty subject of subjunctives?
- What can the experimental investigation of subjunctive complements tell us about the formal analyses that have been proposed for the grammar of Control in Greek (see Chapters 3 to 5, i.e. syntactic vs pragmatic analyses as well as Finiteness vs tense analyses)?

In order to investigate the role of tense in constraining the interpretation(s) that Greek adults assign to the empty subject of subjunctives, I used two matrix predicates that select subjunctive clauses with distinct semantic/temporal properties: *elpizo* 'hope', and *thelo* 'want'. As seen in Chapter 5, the predicate *elpizo* 'hope' selects a NOC subjunctive complement that has independent temporal reference. The predicate *thelo* 'want' also selects a NOC subjunctive but it differs in i) that the complement has dependent temporal reference and ii) it has been taken by different researchers (e.g. Spyropoulos, 2007; Roussou, 2009) to more readily allow a coreference interpretation, compared to the complement of 'hope' (as was pointed out in the previous chapter). By testing these two predicates, we will be able to investigate whether adults are sensitive to subtle semantic tense distinctions in assigning an interpretation to null subjects and whether they perform differently when processing different types of complement clauses (that is *elpizo* 'hope' vs. *thelo* 'want').

As I discussed before, the predicate *thelo* 'want' was previously tested by GTC in their act-out task. By testing the same predicate in the current study using a different

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[55] The present study focuses only on adults and will set the basis for exploring in future research the

experimental task, we will be able to compare the results from the two studies and determine to what extent the difficulty that the Greek adult participants experienced in assigning a NOC reference to the subject of 'want'-complements in GTC's study is due to the experimental task that was used.

Differently from GTC, one goal of the present study was to create a specific discourse context that favors the NOC interpretation of the null subject of the complement clause and test adults' performance in this situation. If the adults' preference for coreference results from some processing constraints/difficulties, as argued by GTC, when provided with a context that requires the NOC reference, they might be able to overcome this 'processing difficulty' and assign the interpretation that is required given the pragmatics of the context (contra GTC's study in which the context was not manipulated at all). Therefore, the objective of this study was to present subjects with stories that pragmatically favored one of the interpretations, either coreference or the NOC reference, and test whether subjects are able to assign the pragmatically intended interpretation.

6.3 Experimental design and materials

In the present study, 20 native Greek adults (ages ranging from 20 to 50) were tested in Greece using a Truth Value Judgment task (picture verification) as described by Crain and Thornton (1998). The test sentences that were used had the same syntactic structure: a matrix clause introduced either by *elpizo* 'hope' or *thelo* 'want' and a subjunctive

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interpretation that young children assign to the empty subject of subjunctives that differ in their tense properties.

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complement clause including a verb and an overt DP object, but no overt subject; examples

of test sentences for 'hope' and 'want' are shown in (141) and (142) respectively:

(141) o   dimitris   elpizi   na   pii   to   tsai

     the   Dimitris.NOM   hope.3SG.PRES   SUBJ   drink.3SG   the   tea

     'Dimitris hopes to drink tea'

(142) o   yanis   theli   na   fai   tis   karameles

     the   John.NOM   want.3SG.PRES   SUBJ   eat.3SG   the   candies

     'John wants to eat the candies'

Four different embedded predicates *pino* 'drink', *troo* 'eat', *diavazo* 'read', and *pleno*

'wash' were used to create stories. There were 8 stories favoring the coreference

interpretation in complements of both *elpizo* 'hope' and *thelo* 'want' and another 8 stories

favoring the NOC interpretation in complements of both predicates (n = 4 each). This is

summarized in the table below:

TABLE 6.1 EXPERIMENTAL CONDITIONS

Want + Subjunctive clause	*Hope + Subjunctive clause*
Eat Coreference & Eat NOC	Eat Coreference & Eat NOC
Drink Coreference & Drink NOC	Drink Coreference & Drink NOC
Read Coreference & Read NOC	Read Coreference & Read NOC
Wash Coreference & Wash NOC	Wash Coreference & Wash NOC
Total: 8 stories/test sentences	**Total**: 8 stories/test sentences

There were a total of 16 stories and test sentences, and 12 stories and fillers/distracter

sentences (with different syntactic structure than the subjunctive complements). Examples

of the stories that were created to provide the discourse context and that favored the

coreference or NOC interpretation of the empty subject of the subjunctive complements are given in (143) and (144):

(143) (Story favoring coreference in subjunctive complement of *elpizo* 'hope')
Όλα είναι έτοιμα για το πάρτυ του Δημήτρη και της Ελένης. Στο μπουφέ, υπάρχει τσάι και πορτοκαλάδα. Ο Δημήτρης λέει: Της Ελένης δεν της αρέσει το τσάι. Ας πιεί πορτοκαλάδα. Εγώ δεν έχω ξαναδοκιμάσει τσάι. Τί γεύση έχει; Είμαι περίεργος.

Everything is ready for Dimitris' and Helen's party. In the buffet, there is tea and orange juice. John says: Mary does not like tea. She can have orange juice. I have not tried tea before. I am curious to see how it tastes.

Test sentence: Ο Δημήτρης ελπίζει να πιει το τσάι

o	dimitris	elpizi	na	pii	to	tsai
the	Dimitris.NOM	hope.3SG.PRES	SUBJ	drink.3SG	the	tea

'Dimitris hopes to drink tea'

(144) (Story favoring the NOC reference in subjunctive complement of *elpizo* 'hope')
Ο Γιάννης και ο μπαμπάς είναι στην κουζίνα. Ο μπαμπάς λέει: Ετοίμασα καφέ και γάλα για πρωινό. Εγώ νυστάζω ακόμη, χρειάζομαι καφέ. Το γάλα είναι καλό για τα παιδιά. Ο Γιάννης χρειάζεται γάλα για να μεγαλώσει.

John and his dad are in the kitchen. Dad says: I prepared some coffee and milk for breakfast. I am still sleepy; I need coffee. Milk is good for kids. John needs some milk to get strong.

Test sentence: Ο μπαμπάς ελπίζει να πιεί το γάλα

o	babas	elpizi	na	pii	to gala
the	dad.NOM	hope.3SG.PRES	SUBJ	drink.3SG	the milk

'Dad hopes that (John) will drink milk'

The stories were pre-recorded and played in parallel to the presentation of three slides on a computer screen. The first slide was a background picture that introduced the initial setting and the characters of each different story. As can be seen in the stories above, there were two characters, P1 and P2. In the second slide, the context was established by presenting the two characters and two activities. Each story presented a different situation establishing a context where the two characters were involved such that a choice between two individuals performing the event represented by the embedded clause in the test sentence was possible. However, the context of each story favored an interpretation that would be compatible only with one of the individuals performing the event corresponding to the embedded subjunctive clause. The final sentence in each story was associated with the meaning that was favored by the specific story. After the subjects heard the story, they were presented with the third slide which had two pictures: one depicting character P1 to perform the action of the embedded verb and another one showing character P2. In parallel to the presentation of the pictures, subjects heard the test sentence which was pre-recorded in this slide, and were asked to pick one of the two pictures that they thought corresponded to the story end represented by the test sentence.

Based on the theoretical proposals that I developed in the previous chapter and the results of GTC's study, the predictions of the present study are the following:

(a)   Adults should not have any difficulty assigning either a coreferent or a disjoint interpretation in complements of both predicates *elpizo* 'hope' and *thelo* 'want'.

(b)   If the preference for coreference is due to some processing bias, we expect adults to assign a disjoint reference in cases where the story favors this interpretation in

both types of complements, i.e. when adults are provided with a context that requires the NOC reference given the pragmatics of the context, they should be able to assign this interpretation.

(c) If adults are sensitive to tense distinctions, we expect them to assign a NOC reference more readily in complements of *elpizo* 'hope' (which carry independent semantic tense) than in complements of *thelo* 'want' (which carry dependent semantic tense).

With these predictions in mind, let us turn to the next section and consider the results.

6.4 Results and Discussion

Figure 6.1 below shows the percentage of coreference and NOC reference responses the subjects gave for the two experimental conditions, that is, the subjunctive complements of
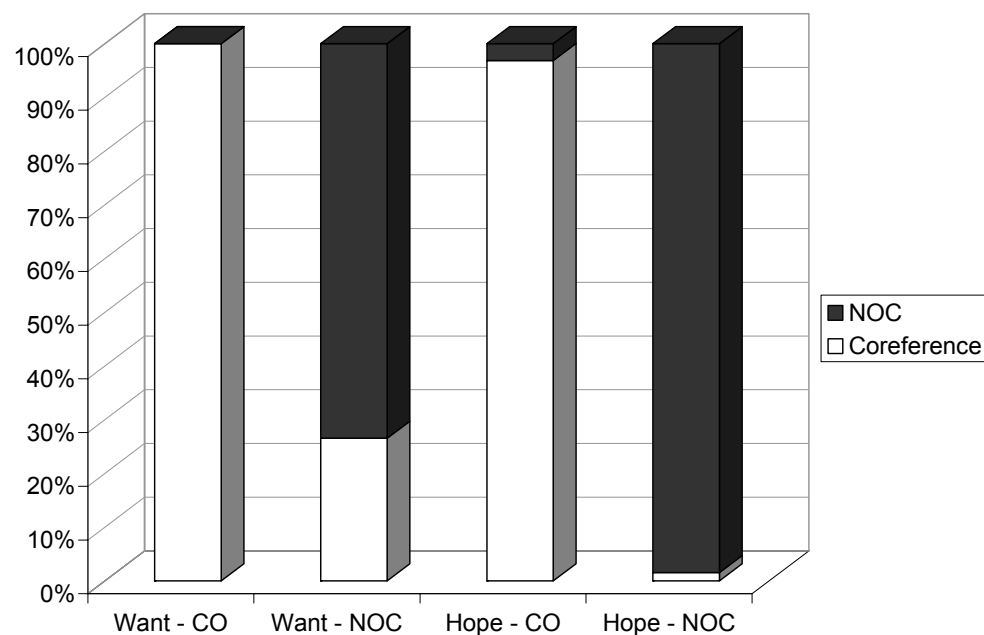
Figure 6.1: Experimental results

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thelo 'want' and *elpizo* 'hope'.

As can be seen in columns 1 and 3, which present the adult responses in contexts/stories that favored the coreference interpretation in complements of the predicates *thelo* 'want' and *elpizo* 'hope', Greek adults interpreted the empty subject of the subjunctive as coreferential with the matrix subject, as required by the context and as expected given the results from GTC (where it was shown that Greek speakers allow only OC in OC subjunctives). Turning now to the responses that adults gave in NOC contexts/stories, depicted in columns 2 and 4, we see that adults interpreted the empty subject of complements of 'want' and 'hope' as NOCed, as was required by the pragmatics of the situation. Thus, the results of the present study do not reveal an adult 'preference' for coreference in NOC contexts.

Notice, however, that adults did allow some cases of coreference in contexts where the story favored a NOC reading: as the data in columns 2 and 4 show, adults gave 26.5% coreference responses in NOC subjunctives embedded under the predicate *thelo* 'want' whereas they gave only 1.6% responses in subjunctives embedded under *elpizo* 'hope'. An ANOVA revealed that the attested difference regarding coreference between *thelo* 'want' and *elpizo* 'hope' is significant ($p < .0029$).

In sum, the results of the present experiment show that there is no restriction on the part of Greek adults in their ability to assign either a coreferential or a disjoint/NOC interpretation to the embedded null subjects of subjunctives with independent or dependent tense, differently from what GTC concluded in their study. Thus, we can argue that the prediction that we formulated in (a) in Section 6.3 is borne out. As the data indicate, adults

do not appear to have any difficulty assigning a NOC interpretation in subjunctive complements when provided with a pragmatic lead that favors this type of reference.

In addition, this study crucially showed that the pragmatic lead that was provided by the context of the stories plays a strong role in the interpretation that adults assign to the embedded null subjects, confirming therefore prediction (b) as well. Instead of taking GTC's argument, i.e. that there exists a 'processing bias' towards coreference, this study showed that semantic/pragmatic considerations are a stronger predictor of whether subjects will assign a coreference or a disjoint interpretation between the embedded null subject of subjunctives and the overt subject of 'want' or 'hope'. Therefore, we can conclude that the pragmatics of the discourse context does influence adults' performance and therefore affects the interpretation of subjunctive null subjects in cases where the grammar allows more than one interpretations that is in NOC subjunctives.[56]

Moreover, the difference regarding coreference responses that we obtained in this study between *thelo* 'want' and *elpizo* 'hope' in NOC contexts indicates that adults appear to be sensitive to subtle tense distinctions (i.e. distinctions of semantic tense) in assigning an interpretation (confirming the prediction we formulated in (c)), given that adults' performance partially differs in these two types of complements with respect to the interpretation of the empty subject. As I argued in the previous chapter, the subjunctive complements of these two predicates differ in their tense properties, with complements of 'hope' carrying independent tense whereas complements of 'want' carry dependent tense, receiving only a future interpretation. It can therefore be claimed that the results of this

experimental work provide additional confirming evidence for the correlation of tense/Control distinctions I assumed and developed in the theoretical analysis of subjunctives.[57]

If the claim, that adults' coreference responses in NOC contexts reflect their sensitivity to the tense properties of subjunctives is right, then it could be argued that the preference for coreference that GTC observed in their study for Greek was also related to the tense dependency that complements of 'want' exhibit. Recall, that as I pointed out in Section 6.1, all the test sentences that GTC used were instances of either temporally anaphoric/untensed subjunctives (complements of *prospatho* 'try') or of temporally dependent subjunctives (complements of *diatazo* 'order' and *thelo* 'want') which in the absence of discourse context in their study, may also have contributed in favoring coreference in both adults and children. In other words, we could argue that the attested preference for coreference in GTC'study may not necessarily indicate a 'processing bias' towards coreference but speakers' sensitivity to the tense properties of subjunctives.

Finally, I believe that the results of the present experimental study raise important implications for the child acquisition of subjunctive complements which I briefly address here. In the literature on the acquisition of Control in English, there is some evidence that children appear to be sensitive to the tense properties of clausal domains and the

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[56] This is especially the case if GTC take the bias for coreference to relate to 'syntactic processing' independently of pragmatic context.

[57] One could possibly argue that the slight difference that this study revealed regarding coreference responses in subjunctive complements of 'want' is not determined by the embedded tense (which maps to NOC null subjects as I argued in Chapter 5) but it is a result of the lexico-semantic distinction between 'want' and 'hope'. This is an interesting alternative argument that needs to be further explored but notice that disentangling (and testing) which exactly semantic properties of predicates determine their embedded null subject interpretation is a very subtle issue.

licensing/distribution of overt vs null subjects. Lust et al. (1986) specifically report results from a production task (elicited imitation) where 3-year old children were presented with temporal adjunct clauses introduced by 'when', shown in (145) and (146).

(145)   Johnny washed the table when drinking juice.

(146)   Johnny washed the table when he was drinking juice.

The authors note that in the elicited imitations, children productively converted sentences like (145) to sentences like (146), but when they did so, they changed not only the type of the anaphor (from null to the overt pronoun 'he') but also the tense of the complement clause from untensed to tensed.

In addition, GTC have argued that Greek children have early knowledge of the lexical properties that determine the OC or NOC interpretation of subjunctives. Recall that their results showed that children allow a NOC reference only in complements of 'want' and not in the other classes of predicates that select OC subjunctives (i.e. complements of *prospatho* 'try' and of *diatazo* 'order' with an overt DP-object). Assuming that this argument is on the right track, an important question that arises is whether children's knowledge of the lexical distinctions of predicates that determine the interpretation of null subjects of subjunctives, also encompasses tense distinctions.

The results reported here from the adult study can serve then as controls for future investigation of Greek children's acquisition of subjunctive complements, allowing us to make important connections between syntactic theory and language acquisition. More precisely, extending the current experimental study in child language research, we can explore whether children are sensitive to the tense (in)dependencies that Greek

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subjunctives display (and if they are, at which stage of their development we observe such a sensitivity) and how adults' and children's competence compare with respect to this sensitivity to tense. Additionally, we can investigate to what extent children allow the pragmatics of the context to affect their interpretation of subjunctive null subjects. I believe that both issues regarding the acquisition of Greek subjunctives need to be formally investigated in future research.

CHAPTER 7

Exceptional Cases of Control in Greek Subjunctives

Having discussed in Chapter 5 how the proposed analysis accounts for the Control properties that the three basic classes of subjunctive complements (i.e. temporally independent, anaphoric/untensed and dependent subjunctives) exhibit, in this chapter, I turn to discuss some exceptional cases of Control that are attested in subjunctives. I first consider, in Section 7.1, the ambiguous behavior of aspectual predicates showing both Control and Raising properties, and I show how their distinct patterns can be accounted for under the movement analysis of Control that I assume. In Section 7.2, I discuss the phenomenon of Backward Control which is attested in Greek Control subjunctives, building on arguments developed by Alexiadou et al. (2010). Finally, in Section 7.3, I consider to what extent an Optimality Theory acount of linearization of chains at PF, proposed by Spyropoulos and Revithiadou (2009), can be extended to Control configurations and derive pronounciation of the higher vs the lower copy of the DP-subject, yielding the standard Forward Control pattern or Backward Control respectively.

7.1 Aspectual verbs

In Chapter 3, section 3.3, it was noted that another class of predicates that exhibit OC in Greek is that of aspectual verbs as in (147) and (148):

(147) o   yanis_i   arhise   na   kapnizi   **ec_{i/*j}**   /*kapnizun

the   John.NOM   begin.**3SG**.PAST   subj   smoke.3SG   smoke.**3PL**

'John began to smoke'

(148) i   maria_i   stamatise   na   perni   **ec_{i/*j}**   ta   farmaka   tis

the   Mary.NOM   stop.3SG.PAST   subj   take.3SG   the   medicine   hers

'Mary stopped taking her medicine'

In the examples above, there is obligatory coreference between the matrix and the embedded null subject evidenced by the obligatory agreement-feature matching between the two predicates: agreement mismatch regarding the feature of number on the embedded predicate, as shown in (147), results in ungrammaticality. In terms of interpretation, the DPs *John* in (147) and *Mary* in (148) are associated thematically with both the matrix and embedded predicates: they are associated with the role of *smoker* and *taker* respectively while also carrying the thematic role of the matrix predicates, 'begin' and 'stop'.

Aspectual predicates have been shown to exhibit both Raising and Control properties (see Perlmutter 1970 for English, Zubizarreta 1982) and thus to have an ambiguous syntactic status. The same argument has been put forward for Greek aspectuals by Alexiadou and Anagnostoulou (2001) (hence A & A) who, based on a number of binding and idiom formation tests, analyze them as ambiguous between Control and Raising.[58]

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[58] The issue of whether Greek has Raising has been controversial for many years: some researchers (see e.g. Joseph (1976) for arguments that Greek has Raising to Object specifically, Anagnostopoulou (1999); Iatridou (1993)) have argued that there is Raising out of subjunctive clauses while others (Philippaki-Warburton and Spyropoulos, 1996; Spyropoulos 2007) maintain the view that Raising is impossible in Greek given that subjunctives carry a full agreement.

Two pieces of evidence that A & A provide come from reconstruction effects. First, they show that nominative anaphors are allowed in the subject position of aspectual predicates selecting an experiencer object verb (149), whereas they are not allowed in constructions with OC predicates (150):

(149) **o   eaftos   tu$_i$**   arhizi   na   tu$_i$ aresi
       the   self.NOM he.GEN   start.3SG.PRES subj   cl.GEN   like.3SG
       'He starts liking/accepting himself'

(150) ***o   eaftos   tu$_i$**   kseri   na   tu$_i$ aresi
       the   self.NOM he.GEN   know.3SG.PRES   subj   cl.GEN   like.3SG
       'He knows liking/accepting himself'

A & A argue that the well formedness of (149) is evidence that the anaphor[59] reconstructs to its base position, i.e. in a position where it can be bound by the object of the embedded clause, and thus suggests that it is a Raising construction since reconstruction is possible. In addition, A & A show that aspectual predicates differ from OC predicates relative to obviation of WCO effects and clitic doubling. Specifically, they notice that WCO effects are attested with aspectual verbs when the quantificational object of the embedded predicate is not doubled as illustrated in (151) a & b:

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[59] See Anagnostopoulou and Everaert (1999) for arguments that, in Greek, nominative anaphors (licensed in the domain of experiencer object predicates) as in (i) are bound by the object experiencer due to reconstruction to a lower position, below the object experiencer:
       (i)   o   eaftos   tu   tu   aresi
               the   self.NOM   his   him   like.3SG.PRES
               'Himself appeals to him'
       (ii)   *o   eaftos   tu   ton   antipathi
               the   self.NOM   his   him   dislike.3SG.PRES
               'Himself dislikes him'   (From A & A 2001)

(151) a. kathe mitera arhise na sinodevi
every mother.NOM start.3SG.PAST subj accompany.3SG
to pedhi tis sto sholio
the child.ACC hers to.the school
'Every mother started to accompany her child at school'

b. *i mitera tu arhise na sinodevi
the mother.NOM his start.3SG.PAST subj accompany.3SG
to kathe pedhi sto sholio
the every child.ACC to.the school
'*His mother started to accompany every child to school'

However, when the embedded object is clitic-doubled, WCO effects do not arise, as shown in (152).

(152) i mitera tu arhise na **to** sinodevi
the mother.NOM his start.3SG.PAST subj **cl.ACC** accompany.3SG
to kathe pedhi sto sholio
the every child.ACC to.the school
'His mother started to accompany each child to school'

In A & A (1999), it is argued that the obviation of WCO effects is the result of reconstruction of the subject to its base position, below the object clitic. Notice that in constructions with OC predicates as in (153), obviation of WCO is not attested suggesting that the subject does not reconstruct:

(153) * i   mitera   tu   kseri   na   **to**   sinodevi
       the   mother.NOM   his   start.3SG.PRES subj **cl.ACC** accompany.3SG

       to   kathe   pedhi   sto   sholio
       the   every   child.ACC   to.the   school

       'His mother knows (how) to accompany each child to school'

Finally, another empirical fact reported by A & A that suggests that Greek aspectual predicates are Raising verbs involves idiomatic expressions. As they note, idioms like (154) can be embedded under the predicates *arhizo* 'start/begin' and *stamato* 'stop' as shown in (155) but not under OC verbs as illustrated in (156):

(154) mu   bikan   psili   st'aftia[60]
       cl.1SG.GEN   enter.3PL.PAST fleas.NOM   in.the.ears
       'I became suspicious' (Lit: 'fleas entered my ears')

(155) Stamatisan/arhisan   na   mu   benun   psili   st'aftia
       stop/start.3PL.PAST   subj cl.1SG.GEN   enter.3PL fleas. NOM   in.the.ears
       'I stopped being/started becoming suspicious'

(156) * kserun   na   mu   benun   psili   st'aftia
         know.3PL.PRES   subj cl.1SG.GEN   enter.3PL fleas. NOM   in.the.ears
        '*I know how to become suspicious'

A & A take the fact that the embedded subject in (155) agrees with both the matrix and the embedded verb, although it depends for its interpretation on the embedded verb- as

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[60] Notice that in Greek, nominative DPs in idioms must occur in post-verbal position:
  (i) (*psili)   mu   bikan   psili   st'aftia
      fleas.NOM   cl.1SG.GEN   enter.3PL.PAST fleas.NOM   in.the.ears
      'I became suspicious' (Lit: 'Fleas entered my ears')

evidence that it (i.e. the nominative DP-subject 'fleas') has raised at some point in the derivation to the higher clause and thus these constructions involve Raising.[61]

Here, I present one more piece of evidence from voice transparency that shows that aspectual predicates in Greek differ in their behavior from OC predicates and pattern like raising verbs. It is a well known fact that raising and control structures differ in their semantic interpretation when the complement clause is passivized (Rosebaum 1967). Whereas for raising predicates like *seem*, the passive complement is synonymous with the active complement as shown in (157), for control predicates the embedded passive IS NOT synonymous with the active (158):

(157) a. John seemed to have read the book   =

     b. The book seemed to have been read by John

(158) a. The doctor tried to examine John   #

     b.   John tried to be examined by the doctor

In (157) , the active and the passive complements of *seem* are synonymous; in the control example in (158), however, in the active complement in (a), it is the doctor who attempts to examine John and he may fail due to John's unwillingness to be examined, whereas in the passive counterpart in (b), it is John who attempts the examination and he may not succeed due to the doctor's refusal.

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[61] In fact, A & A (2001) consider these idiom formation data to suggest that in Greek there is covert Raising manifested as Long Distance Agreement.

An immediate prediction of the analysis of Greek aspectuals as raising verbs is that passivization in the embedded clause will not yield a semantic effect. This is indeed borne out as shown by the following data in (159):

(159) a. o   kathighitis   arhise   na   eksetazi
         the professor.NOM start.3SG.PAST subj test.3SG.ACT
         tus mathites   stin   istoria
         the students.ACC   in.the history
         'The professor started to test the students in history'

      b. i   mathites   arhisan   na   eksetazonde
         the students.NOM start.3PL.PAST subj be.tested.3PL.PASS
         stin   istoria apo ton   kathighiti
         in.the history by   the   professor
         'The students started being tested in history by the professor'

The active and the passive complements of *arhizo* 'start' above are synonymous: in both complements, it is the professor who started testing the students, an empirical observation that confirms the claim that aspectuals behave like raising verbs in Greek. Notice that the same voice transparency is not attested, nevertheless, in OC complements; the complements of *tolmo* 'dare' in (160) below are not synonymous:
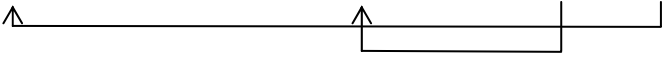
(160) a. o   ghiatros   tolmise   na   eksetasi   to   yani
         the doctor.NOM dare.3SG.PAST subj examine.3SG the   John.ACC
         'The doctor dared to examine John'

      b. o   yanis   tolmise   na   eksetasti   apo to ghiatro
         the John.NOM   dare.3SG.PAST subj be.examined. 3SG.PASS by the doctor
         'John dared to be examined by the doctor'

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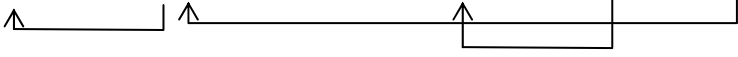
The semantic contrast that was observed in the English counterpart in (158) above is also attested in the Greek OC structure: in (a) it is the doctor who dares to examine John whereas in (b) it is John who dares to undergo the exam. Based on these empirical observations from voice transparency and the tests used in A & A, we can conclude that aspectuals differ in a variety of ways from other OC predicates in Greek and instead exhibit properties of Raising predicates.

It is worth pointing out, however, that in addition to the raising properties that aspectuals exhibit, they can also show Control properties. This can be seen in (161) where an agent-oriented adverb taking matrix scope is allowed with aspectual verbs (see also A & A, Roussou 2009):

(161) **epitidhes** stamatisa/arhisa na perno ta farmaka
on.purpose stop/start.1SG.PAST subj take.1SG the medicine.ACC
'I stopped/started on purpose taking the medicine'

The licensing of the adverb shows that the thematic structure of aspectuals can involve an Agent theta role which is assigned to the DP-subject, similarly to Control predicates and thus involve OC. This ambiguous status of aspectuals can be naturally derived under the movement analysis that I am defending here for Greek by just assuming the following: when aspectuals show raising properties, there is no movement of the embedded DP-subject to the thematic subject position since there is no theta role to be assigned; when aspectuals show OC properties, then the embedded DP-subject moves to the (matrix) thematic subject position acquiring a second theta role. This is illustrated in (162) and (163) respectively:

(162) [IP o eaftos tu [VP arhizi [MP na [IP tu aresi [VP tu ~~aresi o eaftos tu~~]]]] **(Raising)**

the self his   start.3SG   subj   cl.GEN like.3SG   the self his

'He starts liking/accepting himself'

(163) [IP i maria [VP **~~i maria~~** arhise [MP na [IP trehi [VP ~~trehi   i maria~~]]]] **(Control)**

the Mary   the Mary   start.3SG   subj   run.3SG   run.3SG   the Mary

'Mary started running'

In both derivations, movement is triggered due to absence of semantic tense in the complement clause: aspectuals, like OC predicates, exhibit the same semantic tense deficiency as illustrated in (164) where morphological tense (i.e. Past tense) is not allowed on the embedded predicate, and in (165) where a temporal adverb distinct from that of the matrix clause cannot be licensed, showing that the tense of complements of aspectuals is interpreted anaphorically to the matrix tense:

(164) a. *o   eaftos   tu   arhizi   na   tu   **arese**

the   self.NOM   he.GEN   start.3SG.PRES   subj   cl. GEN   **like.3SG.PAST**

'He started liking himself'

b. *i   maria   arhise   na   **etrehe**

the   Mary.NOM   start.3SG.PAST   subj   **run.3SG.PAST**

'*Mary started having run'

(165) a. *o   eaftos   tu   arhise   **htes**

the   self.NOM   he.GEN   start.3SG.PAST   **yesterday**

na   tu   aresi   **avrio**

subj   cl. GEN   like.3SG   **tomorrow**

'* He started yesterday liking himself tomorrow'

b. *i   maria   arhise   **htes**   na   trehi   **avrio**

    the   Mary.NOM   start.3SG.PAST   **yesterday**   subj run.3SG   **tomorrow**

    '*Mary started yesterday running tomorrow'

As noted in Chapter 2, the strong correlation of lack of semantic tense and absence of Case in Raising constructions has been shown by Martin (1996) to hold in English, as can be seen in (166), where the embedded clause does not seem to carry semantic tense evidenced by the impossibility of licensing an independent temporal adverbial:

(166)   *John seemed to be sick right now

The data above from Greek aspectuals show that the correlation between lack of Case and semantic tense holds in any syntactic domain irrespective of Control or Raising and that it is contingent upon the properties of selecting predicates: that is aspectual predicates select a [- tense] complement (regardless of whether they are Control or Raising predicates) and that movement out of their complement is motivated due to absence of Case.

In the next section, I discuss another set of empirical data from Greek that can also be accounted for in a straightforward way by the movement analysis of Control, namely the phenomenon of Backward Control.

7.2 Backward Control

With the advent of the 'Copy theory' of movement (Chomsky 1995) according to which movement creates a copy chain and in that chain one or more instances of the copied element may be deleted, there are three different types of syntactic relations that can theoretically be licensed: as illustrated in (167), if only a higher copy is pronounced at PF,

anaphora is established; if the lower copy is pronounced, cataphora is established; if both copies are pronounced then the result is resumption.

(167)   a.   [Higher copy … ~~Lower copy~~] Anaphora

     b.   [~~Higher copy~~ … Lower copy] Cataphora

     c.   [Higher copy … Lower copy] Resumption

Based on this, Polinsky and Potsdam (2006) (henceforth P & P) propose that the following typology regarding Control and Raising is predicted:

TABLE 7.1: TYPOLOGY OF CONTROL & RAISING (POLINSKY & POTSDAM 2006)

Higher copy pronounced	Lower copy pronounced	Resulting structure
√	*	Forward Control/Raising
*	√	Backward Control/Raising[62]
√	√	Copy Control/Raising

The forward Control/Raising is the familiar pattern found in English and many other languages as well as in Greek, where the lower copy is deleted and the higher copy is overtly realized. A less familiar Control pattern can be seen in (168) from Tsez which P & P describe as an instance of Backward (obligatory subject) Control[63], in which the higher copy is deleted and the lower one is pronounced:

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[62]   Backward Raising is also allowed by Universal Grammar but as P & P (2006, 2008) note, unlike Backward Control, Backward Raising seems rare: they point out Adyghe, a Northwest Caucasian language, as exhibiting Backward Raising.

[63]   Backward Control has been documented in several languages: Japanese (Kuroda 1965, 1978, Harada 1973), Brazilian Portuguese (Farrell 1995), Korean (Monahan 2003, 2004), in several Nakh-Dagestanian languages, in Northwest Caucasian, in Malagasy (see Polinsky and Potsdam 2006 and references therein).

(168) ~~kid~~ [kid-bā cōrpa bod-a] y-oqsi
      girls.ABS girl. ERG soup. ABS make.INF II-began[64]
      'The girl began to make soup' (P & P, 2006:178)

P & P provide a host of empirical evidence showing that (168) exhibits typical properties of Control (among others, that (168) involves a biclausal structure and an overt distinct lexical subject is disallowed in the embedded clause, see P & P (2006) for more details).

The same pattern of Backward Control is also attested in Greek and Romanian Control subjunctives, as can be seen in (169) and (170) respectively (see Spyropoulos (2007) for Greek, Alboiu (2007) for Romanian and Alexiadou, Anagnostopoulou, Iordachioaia & Marchis (2009) for both):

(169) ~~o   yannis~~ kseri [na pezi **o   yannis** kithara]
      the John.NOM know.3SG.PRES subj play.3SG **the John.**NOM guitar
      'John knows (how) to play the guitar' (Greek)

(170) ~~Victor~~ încearcā [sā cînte **Victor** la trombon]
      Victor.NOM try.3SG.PRES subj play.3SG **Victor.**NOM at trombone
      'Victor is trying to play the trombone' (Romanian)

The Backward Control data presented above are challenging for approaches that derive Control by licensing PRO as the subject of the complement clause (e.g. Terzi 1992, Varlokosta 1994, Landau 2004) for the following two reasons. First, because PRO-analyses predict that PRO is in complementary distribution with overt DPs, which as illustrated in (169) and (170) above is not the case for Greek and Romanian and other languages that exhibit Backward Control properties. Second, because these analyses do not allow PRO to

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[64] II is marking noun class agreement.

be licensed in a matrix clause (the licensing of PRO is contingent upon the syntactic/semantic properties of the embedded clause: either properties specific to the particle *na* (Terzi 1992) or properties of the embedded C and (or) I heads (Varlokosta 1994 and Landau 2004). In effect, Backward Control can be derived by a Movement approach to Control, whereby movement creates an A-chain of copies and the choice of lower vs higher copy deletion accounts for the difference between forward and backward control (resulting in anaphora or cataphora pattern).

Although Landau (2007) admits that Backward Control constitutes a challenge for PRO-based approaches and it instead supports a movement analysis to Control, he is skeptical about the very existence of the Backward Control pattern in natural language and writes:

> First, perhaps the most striking feature of backward control is its rarity. In Tsez, only two verbs display it; the numbers hardly exceed five in other languages. Most commonly, the backward control verbs are aspectuals (begin, continue, stop, etc.) which also have a standard raising guise. (Landau 2007, pg. 311)

It is very relevant, however, to note that Landau's argument that Backward Control structures are rare across languages does not eliminate it from the set of empirical phenomena that linguistic theory should analyze and explain. In other words, since Backward Control is attested and documented in some languages, it is a possible structure, allowed by Universal Grammar (i.e. it is a possible knowledge state), therefore it is an empirical reality that a theory of Control should take into consideration and account for.

What is more, unlike Tsez, where the Backward Control pattern is observed only with aspectuals and Forward Control is attested with most OC predicates, Greek and

Romanian have Backward Control with all OC predicates (i.e. Backward Control in Greek is attested with the all the classes of predicates that allow OC which were presented in Chapter 3), an empirical fact that invalidates Landau's objection regarding the scarcity of Backward Control.

Alexiadou, Anagnostopoulou, Iordachioaia and Marchis (2009) (hereafter Alexiadou et al.) present compelling evidence against Landau's doubts and convincingly show that Backward Control in Greek and Romanian is 'real', exhibiting the properties that are argued by P & P to hold in Backward Control structures. I discuss below the relevant empirical facts for Greek only (the same arguments that I present hold for Romanian too).

First, Alexiadou et al. argue that in Greek, the OC structures in which the overt DP subject surfaces in the embedded clause - assumed to be instances of Backward Control- are biclausal and not instances of restructuring (but see Roussou 2009), a syntactic property that P & P take as a criterion for identifying the backward pattern of control. Evidence from negation licensing and event modification shows that the OC structures are biclausal: as can be seen in (171), a separate negation can be licensed in the matrix and embedded clause or in both (examples 20a, b, c from Alexidaou et al.):

(171) a. **den**   emathe   [na   magirevi   o   yannis]
        NEG   learn.3SG.PAST   subj   cook. 3SG   the   John.NOM
        'John didn't learn how to cook'

    b. emathe   [na   **min**   magirevi   o   yannis]
        learn.3SG.PAST   subj   NEG   cook. 3SG   the   John.NOM
        'John learned not to cook = John got into the habit of not cooking'

c. **den**   emathe   [na **min** magirevi o   yannis]

   NEG   learn.3SG.PAST   subj NEG   cook. 3SG the John.NOM

   'John didn't learn not to cook = John still has the habit of cooking'

In addition to that, the event of each clause can be modified by an independent eventive

adverbial, as shown in (172) (examples 22a, b from Alexiadou et al.):

(172) a. fetos   emathe   **tesseris fores** [na pirovoli   o   yannis]

          this.year   learn.3SG.PAST **four**   **times** subj shoot.3SG the John.NOM

          'This year there were four times that John learned how to shoot'

       b. fetos   emathe   [na pirovoli   **tesseris fores** o   yannis]

          this.year   learn.3SG.PAST subj shoot.3SG **four**   **times** the John.NOM

          'This year John learned how to shoot four times (in a row)'

Another criterion that P & P identify for backward control configurations is that the overt

DP-subject must belong to the embedded clause. Alexiadou et al. demonstrate that the overt

subject precedes embedded objects, as shown by the VSO order in the complement clause

in (173), and thus appears to remain in the embedded domain:

(173) kseri   [na   pezi   **o**   **yannis**   **kithara**]
       know.3SG.PRES   subj   play.3SG **the** **John.**NOM   **guitar**
       'John knows how to play the guitar'

Notice also that the DP-subject precedes embedded VP-modifiers, as (174) illustrates:

(174) ksehase   [na   ksevgali   **o**   **yannis**   to   pukamiso
       forget.3SG.PAST   subj   rinse.3SG **the** **John**.NOM   the   shirt.ACC
       tesseris   fores]
       four   times
       'John forgot to rinse the shirt four times' (example 24a, Alexiadou et al.)

As pointed out by Alexiadou et al., clause final event adverbs, depending on their position, can either modify the embedded clause as in (174) above or the matrix clause as in (175):

(175) ksehase   **tesseris   fores**   [na   ksevgali
       forget.3SG.PAST **four   times**   subj   rinse.3SG

       o   yannis   to   pukamiso]
       the   John.NOM   the   shirt.ACC

       'John forgot four times to rinse the shirt'   (example 24b, Alexiadou et al.)

In (175), the adverbial unambiguously modifies the predicate of the matrix clause and it is thus assumed to right-adjoin to the matrix vP or TP resulting in the interpretation where 'John forgot four times to rinse the shirt' – four forgetting events but only one rinsing event). In (174), however, the adverbial modifies the predicate of the embedded clause and it is thus considered to be adjoined to the embedded vP or TP; the interpretation that (174) receives is that 'John forgot to rinse the shirt four times' – four rinsings/forgettings. As Alexiadou et al. explain, if the overt subject were not part of the embedded clause, the adverbial modifier would have to be higher (i.e. be adjoined to the matrix clause), yielding only the matrix scope interpretation, which, as we saw, is not the case for (174).

Besides the two criteria mentioned above (i.e. the biclausal property of the structure and the overt DP-subject copy being situated in the embedded clause), P & P also observe that in a backward control configuration there must be evidence that a (silent) subject copy exists in the matrix clause. This is evidenced by the ability of the non-pronounced subject copy to license some other element(s) in the matrix clause, for instance matrix modifiers.

Crucially, in Greek backward control structures, predicative modifiers[65] can appear in the matrix clause although the DP they modify is in the embedded clause. This is shown in (176), where the modifier 'alone' agrees in gender and number with the embedded overt DP-subject:

(176)   tolmise   **monos**   **tu$_i$**   [na   lisi   **o**   **yannis$_i$**
        dare.3SG.PAST   **alone**.SG.MASC cl.GEN   subj   solve.3SG **the**   **John**.NOM
        tis   askisis]
        the   problems
        'John dared alone to solve the problems'   (example 36b, Alexiadou et al.)

The licensing of the modifier in the matrix clause and the observed agreement suggests that there is an unpronounced copy of the DP-subject *John* in the matrix clause.

Interestingly enough, Alexiadou et al. point out that in contrast to what we observe in OC backward structures, predicative modifiers cannot modify the embedded subject of NOC subjunctives or indicative complements: as shown in (177)a and (177)b respectively, the modifier 'panicking' in the matrix clause can only modify a referentially distinct matrix null subject (i.e. a null subject that obligatorily receives a disjoint reference from the embedded one):

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[65] In Greek, predicative modifiers and nominal secondary predicates agree in gender and number with the c-commanding DP they modify:

(i)   o   yanis   pezi   **monos**   tu   /***moni**   tis
        the John.NOM   play.3SG.PRES alone.SG.**MASC** cl.**MASC** alone.SG.**FEM** cl.**FEM**
        'John is playing alone'
(ii)   i   maria   efige   **apogoitevmeni**   /***apogoitevmenos**
        the Mary.NOM   leave.3SG.PAST disappointed.SG.**FEM**   disappointed.SG.**MASC**
        'Mary left disappointed'

(177) a. elpizi   **pro$_j$ panikovlitos$_{*i/j}$**   [na   perasi   **o   yannis$_i$**

hope.3SG.PRES   panicking.MASC   subj   pass.3SG   the   John.NOM

tis   eksetasis]

the   exam.PL.ACC

'He hopes panicking that John will pass the exam'

b. pistevi   **pro$_j$ panikovlitos$_{*i/j}$**   [oti   tha   perasi

believe.3SG.PRES   panicking.MASC   that   FUT   pass.3SG

o   yannis$_i$ tis   eksetasis

the   John.NOM   the   exam.PL.ACC

'He believes panicking that John will pass the exam'   (examples 37a, b)

This difference in the interpretation, that is coreference in OC Backward (subjunctive) structures (176) but disjoint reference in NOC subjunctives and indicatives (177), is explained, according to Alexiadou et al., as a Principle C[66] effect: as they notice, while coreference is possible in NOC subjunctives and indicatives when the matrix subject is overt and the embedded one is null, as can be seen in (178)a, when the structure is reversed (that is when the matrix subject is null and the embedded one is overt) shown in (178)b, then coreference is blocked by Principle C: the pro subject in the matrix clause in (178)b c-commands the DP-subject in the embedded clause and thus coreference is impossible:

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[66] Principle C of the Binding Theory (Chomsky 1981, 1986; Lasnik 1976) governs the distribution of R(eferential)-expressions (i.e. lexical DPs): "An R-expression must be free everywhere", capturing hence obviation effects, illustrated in (i) and (ii), where the pronoun cannot be coreferent with the R-expression it c-commands:

(i)   *She$_i$ kissed Mary$_i$.

(ii)   *She$_i$ said that Mary$_i$ left today.

(178) a. **o** **yannis**ᵢ elpizi [**pro**ᵢ/ⱼ na fai to tiri]

the John.NOM hope.3SG.PRES subj eat.3SG the cheese.ACC

'John hope that he will eat the cheese'

b. **pro***ᵢ/ⱼ elpizi [na fai **o** **yannis**ᵢ to tiri]

hope.3SG.PRES subj eat.3SG the John.NOM the cheese.ACC

'He hopes that John will eat the cheese' (examples 39a, b from Alexiadou et al.)

Let us return to the backward control structure in (176), where, as noted, the matrix modifier modifies the embedded DP and coreference is the only option (but no Principle C effect is attested). It is worth observing that analyses that assume a *pro* subject for Controlled subjunctives (Philippaki-Warburton & Katsimali 1999 and Spyropoulos 2007) fail to account for these empirical facts. Here is why: for them Backward Control must be analyzed as involving a structure, as shown in (179), where the null pronominal *pro* in the matrix clause is coindexed with the overt DP subject of the embedded clause, which *incorrectly* predicts Principle C effects in backward configurations:

(179) tolmise **pro**ᵢ **monos** **tu** [na lisi

dare.3SG.PAST **alone**.SG.MASC cl.GEN subj solve.3SG

o **yannis**ᵢ tis askisis]

the **John**.NOM the problems

'John dared alone to solve the problems'

Under the movement analysis assumed here, (176) has the structure illustrated in (180), with an (unpronounced) subject copy of the embedded DP-subject in the matrix clause, yielding naturally the coreference interpretation (between the modifier and the overt embedded subject) that is attested in backward structures and excluding a disjoint interpretation:

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(180) tolmise   ~~o   yannis~~   monos   tu   [na lisi

dare.3SG.PAST   **the John**.NOM   alone.SG.MASC   cl.GEN   subj solve.3SG

o   yannis   tis   askisis]

the John.NOM   the   problems

'John dared alone to solve the problems'

Another argument that supports the assumption that a higher copy of the DP-subject exists

in the matrix clause in backward control structures is constructed by Alexiadou et al., on

the basis of a different class of structures that display Control in Greek, namely absolutive

constructions.[67] A characteristic property of these constructions is that they display only

subject control: as indicated in (181), only the matrix subject can control the null subject of

the absolutive:

(181) heretise   o   yannis$_i$ ti   maria$_j$ [**ec**$_{i/*j}$ fevgondas]

greet.3SG.PAST   the   John.NOM   the   Mary.ACC   leave.non-finite

'John greeted Mary leaving'   (example 41a, Alexiadou et al.)

Similarly, corresponding backward control constructions display a subject control

interpretation: as we see in (182), the null subject of the absolutive is controlled by the

overt DP subject of the lower clause, which again indicates the presence of a higher copy in

the matrix clause that acts as a controller for the null subject of the absolutive.[68]

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[67] This construction is typically referred to as "gerund" in Greek (Holton, Mackridge & Philippaki-Warburton, 1997; Tsimpli, 2000; Tantalou 2004) even though it differs from, for instance, the English gerund, regarding their distribution, interpretation and structure. I will consider this construction and the Control properties it exhibits in more detail in Chapter 9.

[68] As Alexiadou et al. note this is not the case with NOC subjunctives or indicatives, where coreference between the null subject of the absolutive and the lower overt subject is not allowed and Principle C effects are attested (similarly to the examples with matrix modifiers considered above):

(i) **pro**$_j$ parakalese [**ec**$_{*i/j}$ fevgondas]   na   heretisi   **o   yannis**$_i$ ti   maria
   ask.3SG.PAST   leave.NON-FIN subj   greet.3SG   the   John.NOM   the   Mary.ACC
   'He asked leaving for John to greet Mary'   (NOC subjunctive, ex. 43a, from Alexiadou et al.)
(ii) **pro**$_j$pistepse   [**ec**$_{*i/j}$ fevgondas]   oti   tha   heretisi   **o   yannis**$_i$ ti   maria

(182) thimithike   [ec**ᵢ** fevgondas]   na   heretisi   **o yannis**ᵢ   ti   maria
      remember.3SG.PAST leave.non-finite subj greet.3SG the John.NOM the Mary
      'John remembered when leaving to greet Mary' (example 42a, Alexiadou et al.)

To summarize, based on the set of empirical facts outlined above, Alexiadou et al. draw the conclusion that Greek and Romanian indeed exhibit Backward Control supporting P & P's typology of Control and the structural properties of the Backward pattern while at the same time refuting Landau's objection that Backward Control patterns have a disputable statistics crosslinguistically.

7.3 Forward vs Backward Control and the issue of Linearization of Chains

An important issue that arises with respect to Backward Control, not addressed by Alexiadou et al., is what factors or mechanisms determine the choice of copy deletion; what allows deletion of the higher copy and pronounciation of the lower copy in the backward control configuration and the reverse situation in forward control structures. P & P address this question only partially and suggest that an account may be provided by recent theories of linearization of chains in the spirit of Boskovic (2001), Bobaljik (2002) and Nunes (2004) where deletion or overt realization of copies is determined by PF, the phonological form component.

   More specifically, Boskovic (2001) and Bobaljik (2002) have proposed a version of the 'copy theory of movement', developed initially by Chomsky (1993), which emphasizes the interfaces' (the articulatory-perceptual (AP) and the conceptual-intentional (CI))

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believe.3SG.PAST leave.NON-FIN that FUT greet.3SG the John.NOM the Mary.ACC
'He believed leaving that John will greet Mary'   (Indicative, ex. 43b, from Alexiadou et al.)

interpretation of the outputs of syntactic derivations. These theories are based on Chomsky's Minimalist Program approach (Chomsky 1993, 1995) according to which movement creates chains, consisting of copies of the moved element in different positions but only one position is interpreted by the interfaces (one for LF and one for PF). Unlike Chomsky, however, these theories crucially adopt the view that the choice of which copy in a chain will be pronounced or deleted is not an issue of the narrow syntax; instead the choice of copy deletion or pronounciation is made based on PF principles and constraints and thus linearization of chains is a PF matter (see earlier proposals in Kayne 1994, Nunes 1995 and Uriagereka 1998).

An account along these lines (but based on an Optimality Theory framework) has been developed recently by Spyropoulos and Revithiadou (2009) in an attempt to account for the variation attested in the distribution of overt DP-subjects in Greek. The basic argument that they put forward is that PF constraints regulate the selection of which subject copy will be pronounced or deleted in different syntactic domains in Greek, reinforcing in this way the role that PF plays in linearization of chains. Although they do not consider the distribution of overt subjects in embedded clauses nor in Control configurations, in the following paragraphs I examine to what extent their approach can account for copy deletion in Control subjunctives and thus can derive Forward vs Backward Control. Before we view the specifics of their proposal, I present a number of empirical facts regarding the distribution of overt subjects in Greek that will be relevant here.

Greek allows all major word orders in simple declarative matrix clauses (including OSV, VOS, and SOV), with SV(O) and VS(O) orders, shown in (183) and (184)

respectively, being the predominant ones and VS(O) the least marked order (Philippaki-Warburton 1985).

(183) **o** **yannis** diavase to vivlio
      the John.NOM read.3SG.PRES the book.ACC
      'John read the book'

(184) diavase **o** **yannis** to vivlio
      read.3SG.PRES the John.NOM the book.ACC
      'John read the book'

DP-subjects can thus surface pre- and postverbally or can be omitted, as illustrated in (185), given the pro-drop property of Greek.

(185) diavase **pro** to vivlio
      read.3SG.PRES the book.ACC
      'He/she read the book'

In terms of its structural position, it is assumed that the DP subject in VS(O) orders (including unaccusatives, unergatives and passives) occupies its thematic position; it has not moved outside of the VP (Alexiadou & Anagnostopoulou 1998 among others). In terms of interpretation, the predominant view in the Greek syntax literature (Phillipaki-Warburton, 1987; Alexiadou and Anagnostopoulou, 1998; Spyropoulos and Philippaki-Warburton, 2002) is that in Greek, postverbal subjects differ from preverbal subjects relative to information structure: A postverbal DP subject conveys 'new' information whereas a DP subject in preverbal position is associated with a topic reading; it is a constituent which is part of the background context and thus it conveys 'old' (known) information. For illustration, consider the examples in (186):

(186) a. i   maria   mu   estile   **ena grama**.

the   Mary.NOM   cl.1SG.GEN   send.3SG.PAST   a   letter.ACC

to   grama   irthe   simera

the   letter.NOM   arrive.3SG.PAST   today

'Maria sent me a letter. The letter came today'

b. i   maria   mu   estile   **ena grama**.

the   Mary.NOM   cl.1SG.GEN   send.3SG.PAST   a   letter.ACC

?? irthe   **to   grama**   simera.

arrive.3SG.PAST   the   letter.NOM   today

'Maria sent me a letter. The letter came today'

(example from Alexiadou & Anagnostopoulou, 2000)

Example (186) shows that a DP conveying 'old' information (the DP *the letter* is part of the background information, i.e. it has been introduced in the discourse) cannot occupy a postverbal position as in (b). It is associated with a Topic reading and occurs preverbally as in (a).

This difference in semantic interpretation of pre- and post-verbal subjects (together with a number of other properties that preverbal subjects exhibit in Greek) has led researchers to hypothesize that the basic structural position of the Greek Subject is the postverbal position, i.e. Spec,vP/VP. Preverbal subjects have been analyzed as Clitic Left-dislocated constituents, occupying an A´-position in the left periphery of the clause, either the Specifier of TopicP or the Specifier of FocusP (Philippaki-Warburton 1985, Alexiadou & Anagnostopoulou 1998, Spyropoulos & Philippaki-Warburton 2001).[69]

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[69] There are also relevant interpretational and binding facts that will not be reviewed here. See Alexiadou & Anagnostopoulou (1998) for details.

This view has been further supported by the observation that the DP subject and the Inflectional Head (to which the verb moves) are not in a Spec, Head relation in Greek (Philippaki-Warburton 1985, Alexiadou & Anagnostopoulou 1998, Spyropoulos & Philippaki-Warburton 2001). It has been shown, for instance, that the DP subject cannot intervene between the negation marker *den* and the verb, nor the negation marker *den* and the future marker *tha*: it must be realized either in a postverbal position or to the left of the negation marker, as example (187) indicates:

(187) (**o yannis**)   den   (***o yannis**) tha (***o yannis**) figi   **o   yannis**
      the John.NOM NEG   the John   FUT the John   leave.3SG the John
      'John will not leave'

The same restriction is observed in the placement of the DP-subject relative to the subjunctive marker *na*: in both matrix and embedded subjunctive clauses, the DP must surface either postverbally or in a position to the left of the [marker *na* + verb] complex as shown in (188) and (189). In other words, the subjunctive marker *na* and the verb must be contiguous; hence a DP subject cannot intervene between the two.

(188) (**o   yannis**)   na   (***o yannis**)   figi   (**o   yannis**)
      the John.NOM subj the John.NOM leave.3SG the John.NOM
      'May John leave'

(189) (**o   yannis**)   kseri   [na   (***o yannis**)   lisi
      the   John.NOM know.3SG.PRES subj the John.NOM solve.3SG
      (**o   yannis**)   tis   askisis]
      the   John.NOM the problems
      'John knows (how) to solve the problems'

A standard assumption in the literature regarding Greek clause structure is that the negation and the mood particle (i.e. *den* and *na*) head the functional projections of NegP and MoodP respectively, each located above TP, as illustrated in the schema in (190) (see also (191), adapted from Philippaki-Warburton (1998, p. 169)).[70]

(190)   [CP 0 [MOODP NA [TP ***DP-subject** V [VP …tv …]]]]   (**Subjunctive**)

(191)   [CP *oti/pu* [MOODP 0 [NEGP *den* [FUTP *tha* [TP ***DP-subject** V [VP …tv …]]]]]]
        (**Indicative**)

It has been therefore argued that a DP-subject can not occupy the position generally associated with the EPP, namely the Specifier position of TP (Chomsky 1995), because it will interrupt the sequence of particles (i.e. *na* in (190) and *tha* in (191)) and the verb, which form a single phonological unit with the verb in Greek (Spyropoulos & Philippaki-Warburton 2001).

However, the analysis of preverbal subjects as topics in Greek has been challenged recently by Roussou and Tsimpli (2006) and Spyropoulos and Revithiadou (2009), who provide evidence that DP subjects in SV(O) order do not always receive a Topic interpretation. More precisely, Spyropoulos and Revithiadou convincingly show that similar to postverbal subjects, preverbal subjects are felicitous answers to questions that require all new information, as the example in (192) illustrates:[71]

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[70] A different analysis of the particle *na* is advanced by Agouraki (1991), who treats it as a complementizer. This is not crucial for the discussion here, since under this account *na* will also be located above TP, in the CP domain.

[71] There is further evidence that supports the analysis of preverbal subjects as non-topics that I will not review here (e.g. preverbal subjects allow extraction whereas other left-dislocated constituents do not; preverbal subjects do not prosodify as other left-dislocated objects). The interested readers are referred to Roussou and Tsimpli (2006), and Spyropoulos and Revithiadou (2009) for more details.

(192) Q: ti   egine?/   ti   nea?

       what.ACC   happen.3SG.PAST/ what   new.PL.NOM

       'What happened? /What's up?'

    A1: **o   yanis**   filise   ti   maria

       the   John.NOM kiss.3SG.PAST   the   Mary.ACC

       'John kissed Mary'

    A2: filise   **o   yanis**   ti   maria

       kiss.3SG.PAST **the   John.NOM**   the   Mary.ACC

       'John kissed Mary'   (from Spyropoulos & Revithiadou 2009)

Given these considerations, Spyropoulos and Revithiadou argue that in SV (discourse neutral) structures, preverbal subjects occupy the Specifier of TP. Thus, in a matrix subjunctive clause, the DP-subject moves from its thematic position to the Specifier of TP (recall that in Greek the verb moves to T), as shown in (193):

(193) [MOODP na   [TP **o   yannis**   [T feri]   [VP ~~o   yannis~~ ~~feri~~   to   vivlio]]]

           subj   the John.NOM   bring.3SG the John   bring the book.ACC

           'John may bring the book'

Recall, nonetheless, that the DP-subject cannot be phonetically realized between the subjunctive marker *na* and the verb, as we have seen above in (188): in Philippaki and Spyropoulos (1999), this restriction is explained as an instance of postsyntactic merger (Marantz 1988), an obligatory PF operation that applies to a string of constituents that are adjacent, and which has the effect of cliticizing the particle *na* on the verb form. If the copy of the DP-subject occupying the Specifier of TP is pronounced, the merger of *na* and the verb will not be allowed, creating an illformed PF object.

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Spyropoulos and Revithiadou (2009) appeal to the following three PF constraints in order to implement pronunciation of the lower copy (i.e. the one in the thematic position) and hence derive the post-verbal PF ordering of the subject:

(194) a. PRONOUNCE (P): A copy must be pronounced.
       b. PRONOUNCE HIGHEST (PH): Lower identical copies are silent[72].
       c. STRICT ADJACENCY (SA): Elements liable to postsyntactic merger must be strictly adjacent.

The first constraint affirms the pronounciation of a copy that exists in a sequence of copies, without making reference to which one, lower vs higher. The second one is an instance of a positional faithfulness constraint (Beckman 1997) which ensures that only higher copies are pronounced, that is, it ensures the pronunciation of the head of a chain (considered the default case), an observation also built into the trace theory of Principles and Parameters Theory and the more recent Copy & Delete Theory of movement (Chomsky 1993). Finally, the third constraint states that no element intervenes between constituents that undergo PF merger.

This set of constraints embedded within an Optimality Theory approach allow Spyropoulos and Revithiadou to derive, as the optimal (candidate) derivation the one in which the lower copy of the DP-subject is pronounced, illustrated in Table 7.2 below.

TABLE 7.2: EVALUATION OF CANDIDATES (SPYROPOULOS & REVITHIADOU 2009: 303)

na o yanis feri o yanis...	SA	PH	PRONOUNCE
a. na **o yanis** feri ~~o yanis...~~	* !		*
⇒ b. na ~~o yanis~~ feri **o yanis**...		*	*

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[72] The PRONOUNCE HIGHEST constraint was originally proposed by Franks (2000).

In evaluating the two candidate derivations, the authors explain that the derivation in (a) (the illformed one in which the subject surfaces between *na* and the verb) is ruled out given that it violates the SA constraint which is highly ranked with respect to the other two constraints (PH and PRONOUNCE). The derivation in (b), however, (in which the lower copy is pronounced) is the optimal one given that it violates the lower ranked constraint, PRONOUNCE HIGHEST, which promotes pronounciation of the higher copy. Notice, finally, that both derivations violate the lowest ranked, PRONOUNCE constraint since in each derivation a copy of the subject is deleted.

Although with this account, Spyropoulos and Revithiadou provide an answer to the puzzling issue of why the subject cannot surface in Spec,TP in subjunctive clauses, and thus the order (*na S V) is disallowed, the authors leave a number of other issues unaddressed. First, the authors do not address how their system of PF constraints can derive the order in which the DP-subject surfaces before the [na + verb] complex in matrix subjunctives, as we have seen above in (188): it is worth observing that when the subject appears preverbally (i.e. before [na + verb]), it always carries focalized stress or is followed by an intonational gap (Philippaki-Warburton 1982, 1985; Spyropoulos and Revithiadou 2009) and thus is considered to receive a Focus or Topic interpretation.[73] Notice that, in Table 7.2 above, only a two member subject chain is evaluated and one copy is deleted in each candidate derivation; applying the same PF constraints to the linearization of a chain with three subject copies, [CP (o yannis) [MOODP na [IP (*o yannis) [I figi [VP (o yannis) figi]]]], the one corresponding to (188), we see that two subject copies will have to be

deleted in each derivation, as illustrated in Table 7.3 below, since <u>only one</u> copy, and not

multiple copies, can be pronounced.

TABLE 7.3: OUTPUT DERIVATION OF PREVERBAL SUBJECT IN SUBJUNCTIVE CLAUSES

o yannis na o yannis feri o yannis	SA	PH	PRONOUNCE
a. ~~o yannis~~ na o yannis feri ~~o yannis~~	*!	*	*
⇒ b. o yannis na ~~o yannis~~ feri ~~o yannis~~			*
⇒ c. ~~o yannis~~ na ~~o yannis~~ feri o yannis		*	*

The ungrammatical output in (a) is ruled out given that it violates SA and PH. Candidates (b)

and (c) - which both yield a grammatical order as seen in (188) above, are the ones that

survive since they do not violate the highest ranked constraint. In fact, candidate (b)

violates only PRONOUNCE whereas candidate (c) has exactly the same status as candidate (b)

of Table 7.2 evaluated by Spyropoulos and Revithiadou, in violating PH and PRONOUNCE.

Let us now consider the output of derivations in which only one subject copy is

deleted. This alternative evaluation is exemplified in Table 7.4. Notice that if, instead of

two copies, only one subject copy is deleted in each derivation, we can exclude the

ungrammatical candidates (a) and (c), but we <u>incorrectly</u> predict that candidate (b) in which

two subject copies are pronounced, is the optimal one, since it does not violate the two

higher ranked constraints.

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[73] Focus in Greek has been analyzed as involving overt movement of a Focus operator to the relevant peripheral functional projection, FocusP (Tsimpli 1990, 1995). The overt DP-subject or any other focalized constituent (e.g. an object DP) is assumed to raise to the Specifier of FocusP (Rizzi 1997).

TABLE 7.4: OUTPUT OF DERIVATION WITH ONLY ONE COPY DELETED

o yannis na o yannis feri o yannis	SA	PH	PRONOUNCE
a. o~~ yannis~~ na o yannis feri o yannis	*!	*	*
⇒ b. o yannis na o~~ yannis~~ feri o yannis			*
c. o yannis na o yannis feri o~~ yannis~~	*!		*

We can therefore conclude that in Spyropoulos and Revithiadou's system <u>two</u> subject copies must de deleted in order to derive the grammatical order of the distribution of overt subjects in matrix subjunctive clauses.

Another set of questions that are not discussed by the authors concerns the EPP. Recall that according to the authors, in SV(O) constructions, the DP-subject moves to the EPP, Specifier of TP position. What is left unexplained, however, is what drives movement of the subject to this position, for instance Case valuation, satisfaction of EPP, agreement valuation. If movement to the Specifier of TP is triggered to satisfy the EPP, what satisfies the EPP in structures where the DP-subject appears before the na-clause as in (188)? Additionally, given that Greek is a Null Subject language, what satisfies the EPP on T in structures with no overt subjects as in (195):

(195)   na   figi
        subj   leave.3SG.PRES
        'He/she may/should leave'

Some other additional mechanism(s) would have to be implemented by the authors (e.g. licensing of the null pronominal pro in the EPP position or V-raising (Alexiadou and Anagnostopoulou 1998)) in order to explain what satisfies the EPP in other domains of the

Greek grammar. Clearly though, under their approach, a uniform account of EPP checking does not seem possible/feasible.

Although I agree with Spyropoulos and Revithiadou that preverbal subjects in Greek are not always Topics, I adopt the view that movement of the subject to the Specifier of TP is driven by Case licensing and not for EPP. With respect to the distribution of subjects, the hypothesis that I adopt here is that preverbal subjects in Greek are of at least two types syntactically.[74] That is, they may be associated with a Topic interpretation and be Clitic Left-Dislocated elements, and thus realized in the CP domain, specifically in the Specifier of TopicP, or they may involve a non-topic reading and thus be TP-internal elements, realized in the Specifier position of TP.

Additionally, I adopt the hypothesis that the subject moves to the Specifier of TP <u>not</u> for satisfying the EPP but for Case licensing. This hypothesis is based on extensive empirical evidence provided in the literature regarding the redundancy of EPP with other principles of Universal Grammar, one of those being Case checking/valuation (Epstein and Seely 1999; Epstein, Pires and Seely 2005; Epstein and Seely 2006, among others).[75]

Thus, in the derivation of OC subjunctives repeated in (196), I assume that the DP-subject moves from its embedded theta position to the matrix theta position without intermediate movement to the Specifier of the embedded T.

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[74] Pires (2008) also presents arguments that preverbal subjects in Brazilian Portuguese exhibit similar 'mixed' properties, i.e. preverbal subjects may be realized as left-dislocated elements (as topics) or as arguments internal to the clause, in Spec, IP, depending on the structural properties of different clauses.

[75] In the works cited above, the authors also present extensive argumentation in favor of eliminating the EPP, given its redundancy with other principles and its unclear formulation, starting from Standard Theory and within recent minimalist approaches (Chomsky 1995, 2001a, 2001b, 2004), and show how properties attributed to EPP can be deduced from other general UG principles.

(196) [TP **o   yannis** [T kseri   [vP ~~o   yannis   kseri~~   [MOODP na

      the John.NOM know.3SG.PRES the John   know.3SG   subj

[TP   [T lisi   [vP ~~o yannis   lisi~~   tis   askisis]

      solve.3SG   the John solve.3SG the   problems

'John knows how to solve the problems'

Recall that OC subjunctives, being interpreted anaphorically to the matrix tense for their temporal reference they lack semantic tense and therefore case cannot be valued in the embedded domain. Thus, the DP-subject does not move to the Specifier of embedded T, since its case requirements cannot be satisfied in this position. In a matrix subjunctive clause, however, repeated here in (197) , T is not defective relative to semantic tense (since the subjunctive clause is not selected by a matrix predicate, its tense is not selected either, i.e. it is not restricted by the matrix tense). Hence I assume that a matrix subjunctive carries independent tense (it is a domain specified [+T] on I^0, $\varnothing$ on C^0) and the DP-subject moves to the Specifier of TP for Case valuation.

(197) [MOODP na   [TP **o   yannis**   [T feri]   [vP ~~o   yannis   feri~~   to   vivlio]]]

      subj   the John.NOM   bring.3SG the John   bring the book.ACC

      'John may bring the book'

With respect to EPP, I assume, following Alexiadou and Anagnostopoulou (1998), that V-raising, which is independently motivated in Greek (Rivero 1994, Philippaki-Warburton 1989, Tsimpli 1990, among others), checks the EPP through the verbal agreement morphology.

    With these assumptions in mind, let us return to the issue of linearization of chains in control configurations and examine whether the set of PF constraints implemented by

Spyropoulos and Revithiadou considered above, can also derive the choice of copy deletion or pronounciation in Control subjunctives (yielding forward vs backward control). The derivation of a typical OC subjunctive complement is repeated again in (198):

(198) [TP **o   yannis** [T kseri   [vP ~~o   yannis   kseri~~   [MOODP na

       the   John.NOM know.3SG.PRES the John   know.3SG   subj

       [TP [T lisi   [vP ~~o   yannis   lisi~~   tis askisis]

       solve.3SG   the John   solve.3SG   the problems

       'John knows (how) to solve the problems'

Similar to the derivation of matrix subjunctives in (197) , the derivation of OC in (198) involves a chain with three copies, but differently from (197) , there is no copy of the subject in the Specifier of the embedded TP. I have shown above that the grammatical order of overt subject(s) in matrix subjunctives can be derived only if two subject copies are deleted in a three-member subject chain. The same effect can be seen here. More specifically, it can be argued that Forward Control arises when the subject copies that occupy the theta positions (both the matrix and the embedded one) are deleted. This is illustrated by the candidate (a) in Table 7.5.[76]

TABLE 7.5: OUTPUT DERIVATION FOR FORWARD CONTROL

o yanis o yanis kseri na lisi o yanis tis askisis	PH	PRONOUNCE
a. o yanis ~~o yanis~~ kseri na lisi ~~o yanis~~ tis askisis		*
b. ~~o yanis~~ o yanis kseri na lisi o yanis tis askisis	*	*
c. ~~o yannis~~ o yannis kseri na lisi ~~o yannis~~ tis askisis	*	*

---

[76] The SA constraint does not apply in the evaluation shown in Table 7.5 since, unlike Spyropoulos and Revithiadou, I assume that there is no copy of the subject in the Specifier of the embedded TP and thus the issue of blocking pronounciation of this copy (in order to derive the strict adjacency of [na +verb] does not arise here.

As far as Backward Control is concerned, we could argue that it arises when the higher two copies (i.e. the one in the Specifier of matrix TP and the one in the matrix theta position) are deleted, illustrated in Table 7.5 by candidate (b). Notice though that deletion of these two copies violates the PRONOUNCE HIGHEST constraint since the highest copy is deleted. The same violation was also attested in the evaluation of candidates in Table 7.2 in which the output with the post verbal subject copy phonetically realized was the optimal one. Spyropoulos and Revithiadou propose that given the observed variation in the distribution of overt subjects (pre- and post-verbally), it seems that the requirement that this constraint imposes (i.e. pronounce the highest copy in a chain) is "somewhat relaxed in Greek, since otherwise a lower copy would never had the chance to surface" (pg. 303).[77]

Even if we take this argument to be on the right track, we observe that violation of this constraint allows the output of candidate (c), (where the subject copy in the matrix theta position is pronounced), to be a well-formed one, like the candidate in (a). This is obviously not a welcome result. This problem could be solved if we assumed that Spell Out does not apply only once during the course of a single derivation but cyclically inside each rule application, that is, Spell Out applies to each syntactic object generated by a transformational operation (Epstein et al. 1998, Epstein and Seely 2002, 2006).[78]

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[77] This argument raises important implications regarding cross-linguistic differences: specifically, why is it that the PH constraint is relaxed in Greek and possibly other languages similar to Greek, but is not relaxed in languages, for instance, like English? It may well be that the variation regarding the distribution of subjects is not purely a PF matter but also determined by other morpho-syntactic properties of individual languages.

[78] This differs from Chomsky's (2001) Cyclic Spell Out approach in which Spell Out applies at the end of each phasal level, vP and CP. See Epstein and Seely (2002) for a discussion of the problematic aspects of this approach, as well as Epstein and Seely (1999) for empirical problems concerning the specification of vP and CP as phases.

In this case, Spell Out will apply at least at points A and B, as indicated in (199), corresponding to the syntactic objects that are constructed by the operation Move (movement of the DP from the embedded to the matrix theta position and subsequent movement of the DP to the Specifier of matrix TP).

(199) [**B** CP [TP **o yannis** [T kseri   **A**[vP **o   yannis** k̶s̶e̶r̶i̶ [MOODP na
              the John.NOM know.3SG.PRES   the John   know.3SG   subj
       [TP [T lisi   [vP **o   yannis** l̶i̶s̶i̶   tis askisis]
          solve.3SG   the John   solve.3SG the problems
          'John knows how to solve the problems'

Under this approach, deletion of the lower copies (not violating the PRONOUNCE HIGHEST constraint) at each Spell Out points A and B will result in pronounciation of the highest copy yielding Forward Control, whereas deletion of the higher copies at each Spell Out (which will violate the PRONOUNCE HIGHEST constraint) will cause pronounciation of the lowest copy resulting in Backward Control. In effect, the intermediate copy of the DP – the one in the matrix theta position- will not be phonetically realized.

We can therefore conclude that an OT account as developed by Spyropoulos and Revithiadou could be extended to Control configurations if coupled with some additional assumptions. Alternatively, we could seek to develop a mechanism of copy deletion/pronunciation in Control structures that will be implemented within minimalist theories of linearization of chains along the lines of Nunes (1995) and Uriagereka (1998), among others. I leave this issue open for future research.

CHAPTER 8

Control in Indicative Complements

Another empirical domain of Modern Greek that I argue exhibits Control properties similarly to subjunctive complements is a subclass of the traditionally referred to as 'Indicative complements'. In this chapter, I examine the syntactic and semantic properties of this domain and extend the analysis of Control that I proposed for subjunctives. I show specifically that the class of complements introduced by the element και 'ke', has the same 'deficiency' that renders subjunctives embedded under the same predicates transparent to movement, namely they lack semantic tense, and therefore their temporal reference is anaphoric to the tense of the matrix clause.

8.1 Syntactic and Semantic Properties of και complements

As was shown in Chapter 3, complement clauses in Greek are typically distinguished not based on their verbal morphology (i.e. indicative and subjunctive mood is not morphologically marked in the verbal paradigm) but based on the element that introduces them: those which are introduced by the particles *oti* and *pu,* treated as indicative complementizers, and those introduced by the particle *na,* analyzed as a mood marker, expressing Subjunctive mood. In addition to these three types of complement clauses, there

exists a third type of complement which is introduced by the lexical item *και* 'ke', illustrated in (200) -(203):

(200) o   yanis   kseri   [**ke**   horevi   kala to   tsamiko]
      the John.NOM know.3SG.PRES [**comp** dance.3SG.PRES well the tsamiko]
      'John knows (how) to dance tsamiko (traditional greek dance) well and he is
      dancing it well'   (from Spyropoulos 2007)

(201) anagastika   [**ke**   piga]
      be.forced.1SG.PAST   [**comp**   go.1SG.PAST]
      'I was forced to go, and I went' (from Giannakidou 2009)

(202) prospatho   [**ke**   ta   matheno   monos   mu]
      try.1SG.PRES [**comp** it.CL.PL learn.1SG.PRES alone.NOM   of.me]
      'I am trying and I am learning it myself'
                    (from Householder, Kazazis, and Koutsoudas 1964)

(203) frontizo   [**ke**   tis   stelno   ego   ta   hrimata]
      take.care.1SG.PRES [**comp** her.CL.PL   send.1SG.PRES I.NOM the   money]
      'I take care and I am sending her the money myself '
                (from Householder, Kazazis, and Koutsoudas 1964)

Similarly to *oti/pu* and *na* complements, this class of complements involves a finite verb form (the verb shows overt morphological features for person, number, tense and aspect). Their difference from the other classes of complements is that they are introduced by the particle *και*. The lexical item *και* exhibits a wide range of grammatical functions. Among others, the most prevalent one is that it functions as a simple coordinating conjunction,

conjoining two or more constituents of the same category, as examples (204) and (205) indicate:[79]

(204) o   yanis   **ke**   i   maria   pigan   sto   parisi
       the John.NOM **and** the Mary.NOM   go.3PL.PAST to.the Paris
       'John and Mary went to Paris'   (coordination of two DPs)

(205) o   yanis   efage   **ke**   efige
       the John.NOM eat.3SG.PAST **and** leave.3SG.PAST
       'John ate and left'   (coordination of two TPs)

Let us focus on the function of *και* as a formative that introduces complement clauses. Consider the following examples in (206) and (207):[80]

(206) o   yanis   kseri/ arhizi   [**ke**   horevi   kala]
       the John.NOM   know/ start.3SG.PRES [**comp** dance.3SG.PRES well]
       'John knows (how) to/ starts and he dancing well'

(207) i   maria   katafere   [**ke**   perase   tis   eksetasis]
       the Mary.NOM   manage.3SG.PAST [**comp** pass.3SG.PAST the exams]
       'Mary managed and passed the exams'

---

[79] Και can also function as an intensifier, indicating emphasis and in this case is equivalent to 'also' or 'too' in English, as the following example illustrates:
  (i) tu   edhosa   **ke**   ti   diefthinsi su
      cl.3SG.GEN give.1SG.PAST **and** the address   your
      'I **also** gave him your address'   (Ingria 2005)
  For a detailed discussion of the various uses of και, see Ingria (2005).
[80] Note that similar data are attested in English too, as can be seen in the following example:
  (i)John will try and leave early in the morning'
  It appears, however, that the English counterpart is less productive than the one attested in Greek as it is not found with the all the classes of predicates that appear in the matrix clause in the Greek data. Whether this structure has the same properties like the ones described here from Greek is an interesting issue but it is beyond the scope of this dissertation.

Given that the lexical item *και* also functions as a coordinating conjunction, the issue that needs to be addressed is whether *και* complements are 'true' complements or just simple coordinated structures. There are three facts clearly indicating that these structures exhibit properties of complements.

First, notice that extraction by wh-movement from the *και* clause is allowed as demonstrated in examples (208) and (209) in contrast to the coordinated structure in (210) where extraction is not allowed (see also Spyropoulos 2007):

(208) **ti_i**   kseri   [**ke**   horevi   kala   **t_i** o   yanis?]
      what.ACC   know.3SG.PRES   [**comp**   dance.3SG.PRES   well   the   John.NOM]
      'What does John know (how) to dance well?'

(209) **ti_i**   katafere   [**ke**   perase   **t_i**   i   maria?]
      what.ACC   manage.3SG.PAST   [**comp**   pass.3SG.PAST   the   Mary.NOM]
      'What did Mary manage to pass?'

(210) ***ti_i**   hamogelase   [**ke**   horepse   **t_i**   o   yanis?]
      what.ACC   smile.3SG.PAST   [**and**   dance.3SG.PAST   the   John.NOM]
      '*What did John smile and dance?'

If the data in (208) and (209) involved a coordinated structure, they would disallow extraction and thus would behave similarly to (210) but, as we see, this is not the case.

Second, notice that the *και* clause cannot be omitted/dropped, as exemplified in (211), an empirical fact that signals the complement status of these structures.

(211) a. o   yanis   kseri/ arhizi   [**ke**   horevi   kala]
       the   John.NOM   know/ start.3SG.PRES   [**comp**   dance.3SG.PRES   well]
       'John knows (how) to/ starts to dance well'

b. *o   yanis   kseri/ arhizi
   the   John.NOM   know/ start.3SG.PRES
   '*John knows (how) to /starts'

Note that the initial verbs in (211) require a complement: if the second clause was not a complement then the subcategorization requirements of the initial verb would not be satisfied, as is evidenced by the ungrammaticality of (211). Regarding this property, *και* clauses thus behave similarly to *na* complements which cannot be omitted either, as can be seen in (212):

(212) a. o   yanis   kseri/ arhizi   [**na**   horevi   kala]
         the John.NOM   know/ start.3SG.PRES [**subj** dance.3SG.PRES well]
         John knows (how) to/ starts to dance well'

      b. *o   yanis   kseri/ arhizi
         the John.NOM   know/ start.3SG.PRES
         '*John knows (how) to/starts'

Furthermore, it is worth observing that adding a complement clause to the *και* clause, as shown in (213), renders the structure ungrammatical showing that a second complement is disallowed, a property also attested in *na* complements (214) and in English *to* complements (215):

(213) *o yanis   kseri/arhizi   [**ke**   horevi]   [**na** pezi   piano]
      the John.NOM know/start.3SG.PRES [comp dance.3SG.PRES] [subj play.3SG piano]
      '*John knows (how) to/starts to dance well to play the piano'

(214) *o   yanis   kseri/ arhizi   [**na** horevi]   [**na**   pezi   piano]
      the John.NOM know/ start.3SG.PRES [**subj** dance.3SG] [**subj** play.3SG piano
      '*John knows (how) to/ starts to dance well to play the piano'

(215)   *He said [that Mary left] [that Bill arrived]

Interestingly enough when the second clause is an adjunct, the structure becomes

grammatical, as shown below in (216) and (217):

(216)   i   sofia   kseri   [**ke**   kani   podhilato]
        the Sofia.NOM   know.3SG.PRES comp do.3SG.PRES bike
        [ADJ horis   na   hrisimopii voithitikes   rodes]
            without subj   use.3SG   helping   wheels.ACC
        'Sofia knows (how) to bike without using training wheels'

(217)   o   yanis   katafere   [**ke**   pire   metathesi]
        the John.NOM   manage.3SG.PAST comp get.3SG.PAST transfer.ACC
        [ADJ hrisimopiondas tis gnorimies   tu   stin   kivernisi]
            use.NON-FIN   the connections his to.the   government
        'John managed and got a transfer using his connections with the government'

In view of the evidence and the arguments presented above, we can conclude safely that the

clauses introduced by *και* are complement clauses. Related to this conclusion is the fact that

we can identify specific classes of predicates that select *και* clauses as their complements.

These predicates fall into the following groups (for a more complete list of predicates

selecting και complements, see Householder et al. (1964) and Ingria (2005)).

(218) a. <u>knowledge verbs</u>
           ξέρω (ksero) 'know how', μαθαίνω (matheno) 'learn'
       b. <u>aspectual verbs</u>
           αρχίζω (arhizo) 'begin', συνεχίζω (sinexizo) 'continue', σταματώ (stamato)
           'stop
       c. <u>modal verb</u>
           μπορώ (boro) 'can/ be able to'
       d. <u>perception verbs</u>
           βλέπω (vlepo) 'see', ακούω (akuo) 'hear'

e. <u>commissive/implicative verbs</u>
αναγκάζω (anagazo) 'force', αναγκάζομαι (anagazome) 'be forced to'
καταφέρνω (kataferno) 'manage', υποχρεώνω (ipohreono) 'oblige',
τολμάω (tolmao) ' dare', αποφασίζω (apofasizo) 'decide', προσπαθώ
(prospatho) 'try', φροντίζω (frontizo) 'take care to, see to', συνηθίζω
(sinithizo) 'be used to', θυμάμαι (thimame) 'remember'

Recall at this point that the same classes of predicates may also select a subjunctive

complement clause, as we have seen in Chapters 3 and 5, and are repeated here in (219)

and (220):

(219) o   yanis   arhizi/ kseri   [**na**   horevi   kala]
       the   John.NOM   begin/ know.3SG.PRES [**subj** dance.3SG   well]
       'John starts to/knows (how) to dance well'

(220) i   maria   katafere   [**na**   perasi   tis   eksetasis]
       the   Mary.NOM   manage.3SG.PAST [**subj** pass.3SG   the   exams]
       'Mary managed to pass the exams'

Nevertheless, notice that the semantic interpretation that the embedded clauses in (219) and

(220) and their counterparts introduced by και, presented above in (206) and (207), receive

is not identical. Whereas the subjunctive complements express indirect evidence, i.e. (219)

is equivalent to 'I assume that/It looks like John starts or knows (how) to dance' (i.e.

irrealis interpretation), the complement introduced with και reports an actual fact, i.e. (206)

literally means 'I know for a fact that John starts/knows (how) to dance and he is dancing

well'. This difference in the semantics of the two types of complements is also noted by

Ingria (2005), who argues that the event denoted by the subjunctive complement 'is always

interpreted as potential' whereas 'the event denoted by the complement clause (i.e. *και*

complement) actually took place' (pg. 82).

This semantic distinction between *να* 'na' complements and *και* 'ke' complements is also evidenced by the empirical fact that the matrix predicate CAN be negated in *να* complements but it CANNOT in *και* complements, as shown in ((221)-(222) and (223)-(224)) respectively:

(221) o yanis   **den** arhizi/kseri   [**na** horevi   kala]
      the John.NOM **NEG** start/ know.3SG.PRES [**subj** dance.3SG   well]
      'John does not start to/know (how) to dance well'

(222) i maria   **den** katafere   [**na** perasi   tis   eksetasis]
      the Mary.NOM **NEG** manage.3SG.PAST [**subj** pass.3SG the exams]
      'Mary did not manage to pass the exams'

(223) *o yanis   **den** kseri/ arhizi   [**ke** horevi   kala]
      the John.NOM **NEG** know/ start.3SG.PRES [**comp** dance.3SG.PRES well]
      '*John does not know (how)/ start and he is dancing well'

(224) *i maria   **den** katafere   [**ke** perase   tis   eksetasis]
      the Mary.NOM **NEG** manage.3SG.PAST [**comp** pass.3SG.PAST the   exams]
      '*Mary did not manage and passed the exams'

Και complements express an event that actually took place. That is, examples (223) and (224) without negation can be literally translated as 'John does know for a fact to dance well and he is dancing well/John is starting and he is dancing well' for (223) and 'Mary did manage and she indeed passed the exam' for (224). Therefore, it is not surprising that negation is blocked from the main clause: one cannot negate an event that has in fact already occurred.

On the basis of the above and given that Mood is not morphologically marked on the verb form in Modern Greek, as already pointed out, the semantic interpretation that *και* complements receive indicates that this class of complements is associated with Indicative Mood. This argument is further supported by one additional distinctive property regarding negation: as can be seen in (225) and (226), *και* complements select the negative particle *δεν* 'den', similarly to other indicative complements (e.g. *oti/pu* complements) and not *μην* 'min' which is selected by *να* 'na' complements and is associated with subjunctive mood (Philippaki-Warburton 1998; Roussou 2000, 2009):

(225) o   yanis   arhise   [ke   **den**   kratuse   tis   iposhesis tu]
       the John.NOM start.3SG.PAST [comp **NEG**   keep.3SG.PAST the promises his]
       'John started to not keep his promises'

(226) tolmas   [ke   **den**   les   tin   alithia?]
       dare.2SG.PRES   [comp **NEG**   tell.2SG.PRES the   truth.ACC]
       'Do you dare not telling the truth?'

The important point to be made here is that although *να* 'na' complements and *και* 'ke' complements are indistinguishable relative to verbal morphology, their distinct syntactic and semantic properties reviewed above indicate that these two types of complements are associated with different Mood, *να* complements with Subjunctive whereas *και* complements involve Indicative Mood.

Before we leave this section, it is worth saying a few words regarding the syntactic status of the element *και* that introduces these complements. In Ingria (2005), *και* is analyzed as an underspecified complementizer given that *και* exhibits a wide range of grammatical functions and it can express relations that other overt subordinating

conjunctions such as *αλλά* (alla 'but'), *τότε* (tote ' then'), *γι'αυτό* (giafto ' therefore') do. As the examples in (227) and (228) illustrate, *και* can be synonymous to αλλά 'but' or *γι'αυτό* 'that's why' and is used felicitously in contexts where these subordinators appear in Greek.[81]

(227)　iha　　　　　tosa　　na　　po　　[**ke**　iha　　　　　glosodheti]
　　　have.1SG.PAST　so.much　subj　say.1SG　[**comp**　have.1SG.PAST　tongue.tied]
　　　'I had so much to say **but** I was tongue tied'　　　(και = αλλά 'but')

(228)　bori　　　　　　na　mi　vriski　ergates　[**ke**　den　erhete]
　　　may.be.3SG.PRES　subj　neg　find.3SG　workers　[**comp**　neg　come.3SG.PRES]
　　　'It may be that he can't find workers and that's why he's not coming' (και =
　　　γι'αυτό 'that's why')

Additionally, Ingria notes that *και* appears to be non-distinct from other complementizers in Greek, e.g. *που* and *να*, since it occurs in domains, i.e. relative, result and purpose clauses, where *που* and *να* also occur. This is illustrated in (229):

(229)　mia　fora　itan　　　　enas　vasilias　[**ke**　ihe　　　　　dhio　kores]
　　　one　time　be.3SG.PAST　a　　king　　[**comp**　have.3SG.PAST　two　daughters]
　　　'Once there was a king **and** (he) had two daughters' =
　　　'Once there was a king **who** had two daughters　　(και = που 'who')

Here I note that the status of *και* as a complementizer can also be seen in its distribution relative to other constituents in the clause. As shown below in (230), *και* precedes negation as well as clitics:

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[81]　Example (227) is from Tzartzanos (1946, pg. 17) and (228) is from Mackridge (1987, pg. 242). They are both cited in Ingria (2005, pg. 71-72).

(230) o   yanis   anagastike   [**ke   den   to**   agorase]

the John.NOM   be.forced.3SG.PAST   [**comp** **NEG** **cl**.ACC   buy.3SG.PAST]

'John was forced not to buy it'

On the assumption that clitics are inflectional elements of the I domain (Sportiche 1996 among others) and NegP is situated outside of IP in a higher position (Philippaki-Warburton 1998; Roussou 2000), then it appears that *και* is situated in the CP domain of the clause, in the head of the Complementizer Phrase.

To summarize, in this section, it was shown that the clauses introduced by και considered here appear to be 'true' complements, exhibiting properties similar to other complements found in the grammar of Greek, e.g. *na* complements. It was also demonstrated that similarly to να clauses, the clauses introduced with και receive a complement interpretation, i.e. they are selected by predicates that require a complement clause. Furthermore, based on their semantics, it was argued that και complements are associated with Indicative Mood and the element that introduces them appears to be a complementizer. In the next section, we turn to the discussion of their Control properties.

8.2 Control in και complements

As is the case with the subjunctive complements selected by knowledge, aspectual and implicative predicates (discussed in Chapter 5), the empty subject of complements introduced by *και* is always interpreted coreferentially with the subject or the object DP of the matrix clause, as shown in (231) and (232) respectively.

(231) o   yanis_i   kseri/ arhizi   [**ke**   horevi   **ec_{i/*j}**   kala]
      the John.NOM   know/ start.3SG.PRES [**comp** dance.3SG.PRES   well]
      'John knows (how)/ starts to dance well and he is dancing well'

(232) i   maria_i   evale   ta   pedia_j   [**ke**   katharisan
      the Mary.NOM   get.3SG.PAST the children.PL.ACC [**comp** clean.3PL.PAST
           to   spiti]
      ec_{*i/j}   the house]
      'Mary got the children to clean the house and they cleaned it'

The coreference interpretation that examples like (231) and (232) receive has been taken
by some researchers as evidence that *pro* can be controlled in Greek (Spyropoulos &
Philippaki-Warburton (2001) and Spyropoulos (2007)) given that the null subject of
indicative clauses is *pro*. However, as it is shown below in ((233)- (236)), the empty
subject of και complements exhibits the standard OC properties (Williams 1980), which are
traditionally NOT associated with *pro*. One of the OC properties that these structures
display is that the empty subject cannot receive an external/disjoint reference, as was
indicated in the examples above in (231) and (232) in which the empty subject is
obligatorily controlled by the matrix DP.

    Additionally, notice that the empty subject cannot alternate with an overt DP
subject, as the examples in (233) indicate:

(233) a. *o   yanis   kseri   [ke   horevi   **i**   **maria**   tango]
       the John.NOM   know.3SG.PRES comp dance.3SG   the Mary.NOM tango
       '*John knows (how) Mary to dance the tango'

b. *i maria katafere [ke perase

the Mary.NOM manage.3SG.PAST comp pass.3SG.PAST

o yanis tis eksetasis]

the John.NOM tis eksetasis]

'*Mary managed for John to pass the exams'

Similarly to the empty subject of OC subjunctive complements (that we have seen in Chapter 3), the empty subject of και complements requires a local c-commanding antecedent. The relevant data is given in (234):

(234) a. [o filos tu yani$_i$]$_j$ kseri [ke horevi **ec$_{j/*i}$** tango]

the friend.NOM the John.GEN know.3SG.PRES comp dance.3SG tango

'John's friend knows (how) to dance the tango'

b. [o filos tis marias$_i$]$_j$ katafere

the friend.NOM the Mary.GEN manage.3SG.PAST

[ke perase **ec$_{j/*i}$** tis eksetasis]

comp pass.3SG.PAST the exams

'Maria's friend managed and passed the exams'

Another OC property that the empty subject exhibits is that it cannot support split antecedents, as the examples in (235) show:

(235) a. *o yanis$_i$ nomizi oti i maria$_j$ kseri

the John.NOM think.3SG.PRES that the Mary.NOM know.3SG.PRES

ke voithane **ec$_{i+j}$** o enas ton allon

comp help.3PL.PRES the one the other

'*John thinks that Mary knows and help each other'

b. *i maria_i nomizi oti o yanis_j katafere

the Mary.NOM think.3SG.PRES that the John.NOM manage.3SG.PRES

ke voithane **ec_{i+j}** o enas ton allon

comp help.3PL.PRES the one the other

'*Mary thinks that John managed and helped each other'

Finally note that the empty subject can receive only sloppy reading under ellipsis: the interpretation that the second conjunct receives is that 'Mary knows and she dances the tango too' in (236)a) and that 'John managed and he passed the exams too' in (236)b):

(236) a. o yanis kseri [ke horevi tango]

the John.NOM know.3SG.PRES comp dance.3SG.PRES tango

to idhio ke i maria

the same and the Mary.NOM

'John knows (how) to dance the tango and Mary knows how (Mary) to dance the tango' **NOT** '*Mary knows how John to dance the tango'

b. i maria katafere [ke perase tis eksetasis]

the Mary.NOM manage.3SG.PAST comp pass.3SG.PAST the exams

to idhio ke o yanis

the same and the John.NOM

'Mary managed and passed the exams and John managed to pass the exam too' **NOT** '*Mary managed and John passed the exam'

The data presented in the paradigm above are particularly interesting for the following reasons. First, they demonstrate that, similarly to OC subjunctive complements, the interpretive properties of the empty subject of και complements are not those of the null pronominal pro but rather those of the pronominal anaphor PRO. Therefore, '*controlled pro*' proponents have to argue that it is an accident that these structures show OC properties

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or appeal to semantics/pragmatics to explain the controlled interpretation of the empty subject.

Second, these data show that the relation of Control cannot be tied to specific syntactic domains, in contrast to the traditional view that Control is typically attested crosslinguistically in infinitives and gerunds or in subjunctive complements. In fact, the typology of Control proposed by Landau (2004) excludes Control in Indicative complements yet, as shown, it is possible in Greek.

Third, the data from OC και complements raise serious challenges/questions for theories that crucially appeal to the properties of the particle να in order to explain Control (e.g. Terzi 1992, Roussou 2009). In Roussou (2009), specifically, it is argued that να 'na' is a nominal element with locative properties similar to *there* in English.[82] Να 'na' is merged in a Locative Phrase in the CP domain (under Roussou's (2000) split CP-approach) and satisfies the EPP together with the D feature of agreement on the verb (given the pronominal nature of verbal agreement in Greek), thus forming an agreement chain, as illustrated in (237):

(237) [Loc na [C [I fig-   iD [V ....]]]]
              subj   leave. 3SG

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[82] This argument is based on the empirical fact that the particle να is also found in deictic contexts, as shown in the examples below, in which να is analyzed as having a presentational interpretation expressing movement towards a location (Christidis 1985).
(i)   na   o   kostas
        part   the   Kostas.NOM
        'There is Kostas'
(ii)   na   su   po
        part   you.CL.GEN   tell.1SG
        'Let me tell you' Lit: 'Hey come here, I want to tell you something'   (Roussou 2009)
Adopting this analysis of να, Roussou suggests that να should be treated as a nominal element having the property of being locative instead of a mood marker as it is typically analyzed.

In Roussou's theory, the Control interpretation of OC subjunctives is derived via restructuring (clause union) depending on the matrix predicate. For a detailed illustration, consider the derivation in (238) (example 34, Roussou 2009):

(238) o   kostas$_D$ bor-i$_D$ na$_{Loc}$ fig-i$_D$
       the   Kostas   can.3SG.PRES na   leave.3SG
       'Kostas can leave'

As Roussou argues, if (237) is embedded under a control predicate as shown in (238), then clause union applies arguably creating a single event in both the matrix and embedded clauses. This triggers matching of all nominal D features in the derivation, that is, να 'na' is bound by the matrix DP subject and in turn it binds an associate in the lower clause which is the embedded verbal agreement. This yields a bound interpretation throughout, thus resulting in Control.[83] Under this approach, the issue of the nature of the empty subject pro vs PRO in controlled domains does not arise since no empty subject is postulated. Instead, the licensing of Control depends on the structural properties of the embedded clause, most crucially on the properties of the particle να, as well as the lexical properties of the matrix predicate: if the selecting predicate triggers clause union, then Control is obtained (through binding of all D features)[84]. On the other hand, if the selecting predicate is not a control one, clause union does not apply and thus no control arises. This account, according to

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[83] Roussou (2009) extends this analysis to the infinitival marker *to* in English suggesting that similar to να, *to* is a locative subject which satisfies the EPP and through the same mechanism, i.e. clause union, Control arises in the infinitival domain. Nevertheless, given that in English there is no inflection on the embedded predicate, there is no nominal D feature associated with it and thus no chain is formed between *to* and inflection. Therefore, according to Roussou, unlike in Greek where EPP is satisfied by both να and agreement, in English only the marker *to* satisfies the EPP.

Roussou, suggests that there is a continuum regarding Control licensing which is contingent upon the properties of the matrix predicates, with aspectuals and modal verbs on the one end and with volitionals on the other, as illustrated schematically in (239):

(239)   Control   Non-Control
        …………………………………………………………………………………………
        arhizo 'start'& boro 'can'------tolmo 'dare'----prospatho 'try'--------thelo 'want'

Based on this continuum, Roussou argues that predicates that may allow what she refers to as control suspension in Greek, like *prospatho* 'try'(as we have seen in Chapter 5) and *tolmo* 'dare' can be accounted for given that they do not belong to either end and thus are not categorized as pure Control predicates.

Leaving aside a number of issues that Roussou's analysis raises, especially with respect to EPP[85], the most problematic aspect of it being its construction-specific properties, in other words, it cannot be naturally extended to other domains that exhibit the relation of Control in Greek, especially to και 'ke' complements examined here, since in her analysis Control is derived through the matching of D features mediated by the particle να 'na', which is not present in these contructions. It would be odd to assume that the particle και is a nominal element like να 'na' and satisfies the EPP in these complements.

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[84]   One serious empirical problem that Roussou's analysis faces is that, as I showed in Chapter 7 in the section of Backward Control, subjunctive complements that display Obligatory Control have a biclausal structure (based on evidence from negation and event modification) and thus cannot be analyzed as instances of restructuring, contra to Roussou's argument.

Therefore, a unified analysis of Control in these two distinct domains does not seem possible within Roussou's framework.

I argue instead that the proposal I have advanced in Chapter 5 for Control in subjunctive complements, adopting the construal as movement approach, can also be extended to the class of και complements without further assumptions or stipulations: more specifically I propose that και complements have the same 'deficiency' that renders subjunctive complements embedded under the same predicates transparent to movement, that is they lack semantic tense, and therefore we can offer a unifying analysis of Control in these two distinct constructions.

As I show in the following paragraphs, although this is not predicted by Landau's typology of feature specification of clausal domains, και complements show the same deficiency that subjunctives exhibit relative to their tense properties, i.e. they lack semantic tense; in Landau's terms, they have anaphoric tense. This is evidenced by the fact that there are restrictions in the aspectual and temporal properties of the domain of και complements.

Notice first that the embedded predicate is inflectionally restricted in terms of aspect and can only appear in [-perfective] as illustrated in ((240)-(241)) (the same aspectual restrictions are also attested in subjunctive complements; see Varlokosta 1994; Spyropoulos 2007; Roussou 2009):

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[85] One question that arises is what satisfies the EPP in other complement clauses, e.g. *oti/pu* complements, or in root clauses where να is not present in the derivation. Would it be just the nominal D feature on the agreement that satisfies the EPP in other domains of the Greek grammar (along the lines of Alexiadou and Anagnostopoulou 1998)? If this is so, why then is EPP satisfied in subjunctives by two elements (both *να* and agreement), but by just one element (i.e. agreement) in other domains? It seems that the analysis of *να* as a way to satisfy the EPP is implemented by Roussou to derive the Control interpretation of the empty subject of subjunctives, but this analysis cannot be extended to other domains that display Control in Greek.

(240) o   yanis   kseri/ arhizi   [ke   horevi
      the John.NOM   know/ start.3SG.PRES [comp dance.3SG.PRES.**-PERF**
      /***horepsi   kala]
      dance.3SG.PRES.**+PERF**   well]
      'John knows how/starts to dance and he is dancing well'

(241) o   yanis   bori   [ke   zografizi
      the John.NOM   can.3SG.PRES   [comp paint.3SG.PRES.**-PERF**
      /*zografisi   me   to   podi]
      paint.3SG.PRES.**+PERF**   by   the   foot]
      'John can paint using his foot and he is painting'

Furthermore, we observe that the embedded predicate cannot sustain morphological tense distinct from the matrix predicate (see (242)-(243) where tense mismatches result in ungrammaticality), nor independent temporal adverbials as shown in (244) and (245).

(242) a. o   yanis   kseri   [ke   horevi   /*horeve]
          the John.NOM   know.**3SG.PRES** [comp dance.**3SG.PRES** /*dance.**3SG.PAST**
          'John knows (how) to dance and he is dancing/*and he danced'

      b. o   yanis   iksere   [ke   horeve   /*horevi]
          the John.NOM   know.**3SG.PAST** [comp dance.**3SG.PAST**/*dance.**3SG.PRES**]
          'John knew (how) to dance and he danced/*and he is dancing'

(243) a. i   maria   katafere   [ke   emathe
          the Mary.NOM   manage.**3SG.PAST** [comp learn.**3SG.PAST**
          /*matheni   galika]
          /*learn.**3SG.PRES** French]
          'Mary managed and learned French/*and she is learning'

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b. i   maria   kataferni   [ke   matheni

the Mary.NOM manage.**3SG.PRES** [comp learn.**3SG.PRES**

/*emathe   galika]

learn.**3SG.PAST** french]

'Mary manages and she is learning French/*and she learned French'

(244) ***tora** o   yanis   kseri   [ke   horevi   **avrio**]

now the John.NOM know.**3SG.PRES** [comp dance.3SG.PRES **tomorrow**]

'*Now John knows how to dance and he is dancing tomorrow'

(245) ***xtes**   i   maria   katafere   [ke   efige   **avrio**]

yesterday the Mary.NOM manage.3SG.PAST [comp leave.3SG.PRES **tomorrow**]

'*Yesterday, Mary managed and she is leaving tomorrow'

Once again we see that although there is overt morphological tense on the verb form

(Present & Past), the embedded event cannot receive an independent temporal reference,

i.e. it cannot define its own distinct tense domain (that is, it lacks semantic tense) and it has

to be anchored to the matrix tense. In view of this, we can conclude that any complement

clause that is selected by knowledge, aspectual and implicative predicates, regardless of

Mood (indicative vs subjunctive), becomes a 'defective' domain with respect to semantic

tense. I take this to be an irreducible property of these (semantic) classes of selecting

predicates.

Assuming that the T of και complements lacks semantic tense and thus Case cannot

be valued in the embedded domain, the data shown in (231) and (232) receive the same

derivation that I presented in Chapter 5 for subject vs object controlled subjunctive

complements. More precisely, the derivation of (231), repeated here in (246) proceeds as

follows: the DP-subject merges in the embedded thematic position, acquiring the theta role of the predicate 'dance'. Then, the DP-subject moves to the matrix thematic position: this being an instance of subject ('movement') control, the DP moves to the external theta role position, acquiring a second theta role, that of 'the knower', and finally to the matrix Specifier of TP for case valuation. This is illustrated in (247):

(246) o   yanis   kseri   [ke   horevi   kala]
       the   John.NOM   know.3SG.PRES [comp   dance.3SG.PRES well]
       'John knows (how) to dance well and he is dancing well'

(247) [TP o yanis [T kseri [VP(θ) ~~kseri o yanis~~ [CP ke [TP [T horevi[VP(θ) ~~horevi o yanis~~
       ]]]]]]]]

The derivation of (232) which involves object control, repeated here in (248) proceeds in a similar way.

(248) i   maria$_i$ evale   ta   pedia$_j$ [ke   katharisan
       the   Mary.NOM   get.3SG.PAST   the   children.PL.ACC   [comp   clean.3PL.PAST
                  to   spiti]
       ec$_{*i/j}$ the house]
       'Mary got the children to clean the house and they cleaned it'

The embedded DP-subject *ta pedia* 'the children' merges with the lower predicate receiving a theta role and from this position, moves to the internal theta role position in the matrix clause where it receives a second theta role. Finally, the DP *Mary* merges in the external theta role position of the matrix predicate and next to the Specifier of TP for case valuation. The complete derivation can be seen in (249):

(249) [$_{TP}$ i maria [$_T$ evale [$_{vP}$ i maria ~~evale~~ [$_{VP}$ ~~evale~~ (θ) ta pedia [$_{CP}$ ke [$_{TP}$ [$_T$ katharisan [$_{VP}$(θ) ~~katharisan ta pedia~~ to spiti]]]]]]]]]

In sum, we can derive Control in both subjunctives and και complements by a single, uniform mechanism (i.e. movement) and by just appealing to an underlying property that these two classes of complements share, i.e. lack of semantic tense. Therefore, the present proposal offers some explanatory and descriptive advantages over previous analyses which cannot be readily applied to both domains without additional assumptions or syntactic mechanisms.

In order to complete our description and analysis of και complements, one more important issue needs to be addressed. As was pointed out, among the classes of predicates that select a και complement, is the class of aspectual verbs. Recall that in Chapter 5, I adopted the view that aspectuals in Greek are ambiguous between control and raising. An issue that arises now is whether the same ambiguity is attested when aspectuals select a και complement. Applying the same diagnostic tests that were discussed in Section 5.3, I demonstrate below that indeed aspectuals show the same behavior. Let us consider the details of such a proposal.

One piece of evidence discussed in Alexiadou and Anagnostopoulou/A&A (1999) arguing for a raising analysis of aspectuals was the possibility of a nominative subject anaphor to be reconstructed in its base position, in the lower clause. The relevant data with a και complement is presented in (250):

(250) o   eaftos tu   arhizi   [**ke** tu   aresi]
       the self   his.NOM   start.3SG.PRES comp cl.3SG.GEN appeal.3SG.PRES
       'He is starting and he is liking himself'

                              (modeled after Alexiadou and Anaganostopoulou (1999))

The grammaticality of (250) shows that the anaphor reconstructs in the lower clause, a fact
that supports the hypothesis that here *arhizo* 'start' is a raising predicate. Once again this
contrasts when the complement is embedded under a control predicate, e.g. *ksero* 'know
how' (see (251)), where reconstruction is not possible, similarly to what we have attested in
subjunctive complements embedded under the same predicate.

(251) *o eaftos tu   kseri   [**ke** tu   aresi]
       the self   his.NOM   know.how.3SG.PRES comp cl.3SG.GEN appeal.3SG.PRES
       '*He knows (how) to like himself and he is liking himself'

                              (modeled after Alexiadou and Anaganostopoulou (1999))

Additional evidence for reconstruction can be seen in (252) which illustrates the absence of
WCO effects with clitic doubling of the embedded object, which, as discussed in Section
5.3, is taken as evidence by A & A that the subject reconstructs below the object clitic.

(252) i   mitera   tu   arhise   ke   **to**   sinodeve
       the mother.NOM   his   start.3SG.PAST   comp **cl.ACC** accompany.3SG.PAST
       to   kathe   pedhi   sto   sholio
       the every   child.ACC   to.the   school
       'His mother started and accompanied each child to school'

Again compare with (253) where obviation of WCO effects is not possible when the matrix
predicate is a control one:

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(253) ?*i mitera   tu   iksere   ke   **to**   sinodeve

      the   mother.NOM   his   know.3SG.PAST   comp   **cl.ACC**   accompany.3SG.PAST

      to   kathe   pedhi   sto   sholio

      the   every   child.ACC   to.the   school

      'His mother knew and accompanied each child to school'

Furthermore, similarly to subjunctive complements of aspectual predicates, idioms can appear in και complements as the examples in (254) and (255) show:

(254) arhisan   [**ke**   mu   ebenan   psili   st'aftia]

      start.3PL.PAST   comp   cl.1SG.GEN   enter.3PL.PAST   fleas.PL.NOM   in.the ears

      'I started and I became suspicious'

(255) arhizun   [**ke**   mu   anavun   ta   lambakia]

      start.3PL.PRES   comp   cl.1SG.GEN   turn.on.3PL.PRES   the   light.PL.NOM

      'I started and I became angry'

Finally, another set of arguments for raising has to do with voice transparency: as illustrated in (256), the passive complement of *arhizo* 'start' in (b) is synonymous with the active complement in (a).

(256) a. o   kathighitis   arhise   ke   eksetaze

        the   professor.NOM   start.3SG.PAST   comp   test.3SG.PAST

        tus   mathites   stin   istoria

        the   students.ACC   in.the   history

        'The professor started and tested the students in history'   =

b. i   mathites   arhisan   ke   eksetazondan
   the students.NOM   start.3PL.PAST comp be.tested.3PL.PAST
   stin   istoria   apo   ton   kathighiti
   in.the history   by   the   professor
   'The students started and were tested in history by the professor'

Nevertheless, the embedded passive of the control verb *ksero* 'know how' presented in (257)b) is not synonymous with the active one in (a), as expected for control predicates and mismatch of active vs passive voice interpretation.

(257) a. o   ghiatros   tolmise   ke   eksetase   to   yanni
         the doctor.NOM dare.3SG.PAST comp examine.3SG.PAST the John.ACC
         'The doctor dared and examined John'   #

      b. o   yanis   tolmise   ke   eksetastike   apo to ghiatro
         the John.NOM dare.3SG.PAST comp be.examined.3SG.PAST by   the doctor
         'John dared and was examined by the doctor'

In turn, notice that an agent-oriented adverb is possible with aspectual predicates selecting a και complement as the example in (258) shows, a fact that argues for an Obligatory Control analysis:

(258) **epitidhes**   o   yanis   arhise   [ke   estelne
      on purpose the John.NOM start.3SG.PAST comp   send.3SG.PAST
      luludia   sti   maria]
      flowers.PL.ACC to.the   Mary
      'John started and he was sending flowers to Mary on purpose'

The above sets of evidence show that aspectuals with και complements also exhibit both raising and control properties, as was demonstrated in Chapter 5 for subjunctive

complements. This dual behavior of this class of predicates is captured under the present analysis via movement, with the only difference being that under Control, the landing site of A-movement corresponds to a thematic position (that of the matrix predicate) whereas under Raising the landing site for a DP undergoing Raising is a non-thematic position, as exemplified below in (259) and (260) respectively:

(259)   [TP o yanis [T arhizi [vP ~~arhizi~~ (θ) ~~o yanis~~ [CP **ke** [TP [T horevi [vP ~~horevi~~ (θ) ~~o yanis~~]]]]]]   Control
'John is starting and he is dancing'

(260)   [TP o eaftos tu [T arhizi [vP ~~arhizi~~ [CP **ke** [TP [T tu aresi [vP ~~tu aresi~~ (θ) ~~o eaftos tu~~]]]]]]   Raising
'He is starting and he is liking himself'

8.3 Backward Control

In this section, I address the issue of whether και complements permit Backward Control. As can be seen in (261) and (262), similarly to OC subjunctives, the overt DP-subject can surface in the lower clause inside the και complement, resulting in a Backward Control configuration.

(261)   telika   katafere   [ke   pire   **i   maria**
        finally   manage.3SG.PAST comp   get.3SG.PAST **the   Mary.NOM**
        to   diploma   odhijisis]
        the   license.ACC   driving.GEN
        'Finally, Mary managed and got the driver's license'

(262) kseri [ke pezi **o** **yanis** kithara]
know.how.3SG.PRES comp play.3SG.PRES **the** **John.NOM** guitar
'John knows and he plays the guitar'

In Chapter 5, we saw that based on the criteria assumed by Polinsky and Potsdam, the pattern of Backward Control attested in Greek subjunctive complements is similar to the pattern attested in other languages. Since I showed in this chapter that και complements display the standard properties of OC that subjunctive clauses exhibit and I proposed a uniform analysis for both domains, the question that arises is whether Backward Control is also evidenced in this class of complements. In what follows, I apply the same diagnostics that were discussed in Chapter 5, based on Alexiadou et al. (2009), and argue that και complements also show properties of Backward Control structures.

One property that a construction should exhibit in order to be identified as showing Backward Control is to be bi-clausal. Similarly to subjunctive complements, the event of each clause in the examples below in (263) can be modified independently by an event modifier, showing that the structure involves two clauses with the control verb as the matrix predicate.

(263) a. htes tolmise **tesseris fores** [ke pirovolise o yannis]
yesterday dare.3SG.PAST **four** **times** comp shoot.3SG the John.NOM
'Yesterday John dared four times and shot'

b. htes tolmise [ke pirovolise **tesseris fores** o yannis]
yesterday dare.3SG.PAST comp shoot.3SG **four** **times** the John.NOM
'Yesterday John dared and shot four times (in a row)'

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Another property of a Backward Control structure involves the position of the embedded subject, specifically whether the DP-subject belongs to the lower clause. The evidence that was presented in Chapter 5 from subjunctive complements was that the DP-subject, when surfacing in the lower clause, precedes embedded objects. This is also attested in και complements, as illustrated in (261) and (262), where the DP-subjects precede the DP-objects 'driver's license' and 'guitar' respectively. Aditionally, it was shown that the subject precedes embedded VP-modifiers. The relevant data for και complements is given in (264):

(264) prospathise   [ke   ksevgale   **o   yannis**   to   pukamiso
      try.3SG.PAST   comp rinse.3SG.PAST **the John**.NOM the shirt.ACC
      tesseris   fores]
      four   times
      'John tried and rinsed the shirt four times'

The clausal final adverb 'four times' in (264) modifies the lower clause and it is assumed to be right-adjoined to the lower vP or TP. The DP-subject then should occupy a position in the lower clause, as shown in the structure below:

(265)
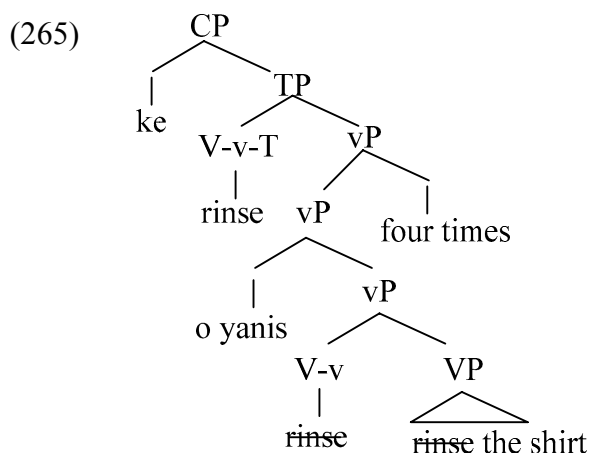
An additional criterion for identifying a Backward Control structure is the existence of a silent subject copy in the matrix clause which is evidenced by the licensing of some constituent in that clause, for example matrix modifiers. As was also observed in subjunctive complements, a predicative modifier can be licensed in the matrix clause and it agrees in number and gender with the c-commanding DP it modifies in the lower και clause. This is shown in (266) and (267):

(266) katafere   **moni   tis$_i$**   [ke   elise   **i   sofia$_i$**
      manage.3SG.PAST   **alone.SG.FEM** cl.GEN comp solve.3SG **the   Sofia**.NOM
      tis   askisis]
      the   problems
      'Sofia managed alone and solved the problems'

(267) molis   idhe   ton   skilo   arhise
      as.soon.as   see.3SG.PAST the   dog.ACC   start.3SG.PAST
      panikovliti   [ke   etrehe   i   sofia]
      panicking.FEM   comp shoot.3SG.PAST **the   Sofia**.NOM
      'As soon as she saw the dog, Sofia started in panic and run'

Further evidence for the argument that a non-pronounced copy of the subject exists in the higher clause can be found in absolutive constructions. Recall that the lower overt DP subject can control the empty subject of a higher absolutive in Backward control in subjunctive complements. Similar data can be found with και complements, given in (268), where once again we observe control of the empty subject of the absolutive by the lower overt DP:

(268) thimithike   [ec$_i$ fevgondas] [ke eklise   **o**   **yanis$_i$**
       remember.3SG.PAST   leaving   comp turn.off.3SG   **the** **John**.NOM
       ta   fota]
       the   lights
       'John reMembered when leaving and turned off the lights'

Finally, it should be noted that Backward Control in this domain is not restricted to specific predicates (as, for instance, in Tsez where only two verbs allow it) but it is attested with all verbs that select a και complement: as we have seen in this section, all OC verbs, e.g. *ksero* 'know how', *kataferno* 'manage', *tolmo* 'dare', *prospatho* 'try', *arhizo* 'begin' and *thimame* 'remember', display Backward Control. This empirical fact together with the evidence presented above regarding the syntactic properties of this structure and the embedded subjects (both the overt and empty ones), indicate that και complements do indeed exhibit structural Backward Control properties.

To conclude, in this chapter, I have examined another domain that displays Control in Greek and I have shown: i) that the clauses introduced by και are true complements selected by the same classes of predicates that select OC subjunctive complements, and they also display OC and Backward Control properties, ii) unlike subjunctive complements, however, the complements introduced by και are associated with Indicative mood. Finally, I have demonstrated that this domain also lacks semantic tense and therefore the movement analysis that I proposed for OC in subjunctives can be naturally extended to account for the attested properties of και complements, without added theoretical constructs, stipulations or ad hoc assumptions.

CHAPTER 9

Control in Adjuncts

In this chapter, I complete the description and analysis of Control in Greek by examining Control in the *V-ondas* domain, which is referred to in traditional grammars as gerund (Holton et al. 1997) or active (present) participle (Tzartzanos 1946). This syntactic domain is the only non-finite domain in the grammar of Greek with respect to Agreement (i.e. it does not exhibit overt agreement morphology) and the Control properties that are observed have been argued to derive from the licensing of PRO (Philippaki-Warburton and Spyropoulos 1999, Tsoulas 1996, Tantalou 2004). In other words, Control in *V-ondas* constructions is taken not to be challenging to account for, compared to subjunctives, given that the licensing of PRO has been standardly linked to non-finiteness in terms of Agreement. I will take a different view on the matter and show that Control in this domain too can be derived via A-movement without the need to postulate PRO. More specifically, I show in the following sections that the subclass of *V-ondas* that show Control properties is a defective domain with respect to semantic tense, similarly to what we have seen for OC subjunctive and και complements, and therefore is transparent to movement.

9.1 Description of the syntactic and semantic properties of *V-ondas*

The aim of this section is to present the properties of the *V-ondas* domain concentrating on the morphology, syntax and semantics, and consider previous analyses that have been offered regarding the structure and interpretation of this construction. Morphologically, the verbal form of this domain consists of the imperfective present tense verbal stem and the suffix *–ondas*, as the example in (269) illustrates:

(269) τρέχ-ω   **treh**-o   τρέχ-οντας   **treh**-ondas
       run.1SG.**IMPERF**.PRES   running

      τρέξ-ω   **treks**-o   *τρέξ-οντας   *treks**-ondas
       run.1SG.**PERF**.PRES   running

Unlike all the other verbal forms in Greek, the *V-ondas* carries no overt morphological marking for agreement features nor (overtly marked) tense, as illustrated in (270) and (271), where the verb form *trehondas* 'running' remains morphologically invariant regardless of the person and number feature specification of its subject:

(270) pigame   pro$_i$ sto   sholio [ec$_i$ treh**ondas**]
       go.**1PL**.PAST   to.the   school [running.-**FIN**]
       'We went to school running'

(271) piga   pro$_i$ sto   sholio [ec$_i$ treh**ondas**]
       go.**1SG**.PAST   to.the   school [running.-FIN]
       'I went to school running'

Although *V-ondas* clauses are referred to as 'gerunds' in Greek (Tsimpli 2000, Tantalou 2004), their distribution and interpretation differs significantly from gerund clauses in English. First, notice that *V-ondas* clauses cannot appear as complements of verbs (272),

nor in subject position (273) and as such they behave differently from their counterparts in

English, represented in the translation of the Greek examples:

(272) * mu   aresi   [**pigenondas** gia psonia]

      cl.1SG.GEN like.3SG.PRES go.-FIN   for shopping

      'I like going shopping'

(273) * [**kapnizondas**] ine mia kakia sinithia

      smoking   is   a   bad   habit

      'Smoking is a bad habit'

Furthermore, *V-ondas* cannot be nominalized as shown in (274), unlike other complement

clauses in Greek, for instance *na* and *oti* complements which can, as the examples in (275)

and (276) respectively demonstrate: [86]

(274) * [to **pernondas** i   maria   tis   eksetasis] itan   ekpliksi

      the passing   the Maria.NOM the exams   be.3SG.PAST surprise

      'Passing Mary the exams was a surprise'

(275) [to **na perasi** i   maria   tis   eksetasis] itan   ekpliksi

      the subj pass.3SG the Maria.NOM the exams   be.3SG.PAST surprise

      'It was a surprise for Mary to pass the exams'

(276) [to **oti perase** i   maria   tis eksetasis] itan   ekpliksi

      the that pass.3SG.PAST the Maria.NOM the exams   be.3SG.PAST surprise

      'It was a surprise that Mary passed the exams'

---

[86] Different types of CP-clauses can undergo nominalization in Greek, a process which involves introducing the clause with the definite article *to* 'the', as shown in (275) and (276). Nominalization has been analyzed as involving a DP introduced by the definite article το 'the' that takes a CP complement (Tsimpli and Stavrakaki 1999) and with the D element bearing case and resumptive agreement features. Based on this analysis then, nominalization is associated with argument/case marked positions.

The data above show that, unlike English gerunds, *V-ondas* clauses do not appear in argument positions and thus do not behave like DPs. Given their restricted distribution, *V-ondas* clauses have been analyzed as adjunct clauses receiving either a manner or temporal interpretation (Tsimpli 2000, Tantalou 2004, Panagiotidis 2005). For illustration of the interpretive properties that *V-ondas* exhibit, consider the following examples:

(277)   i   maria   pige   sto   sholio   [**trehondas**]
the Mary.NOM   go.3SG.PAST to.the   school   running
'Mary went to school running' (manner reading)

(278)   o   yanis   singendronete   [monon   **akugondas** opera]
the John.NOM   concentrate.3SG.PRES only   listening   opera
'John manages to concentrate only by or when listening to opera'
(manner or temporal reading)   (Tsimpli 2000, pg. 133/1c)

(279)   [**ehondas** grapsi to   vivlio]   to   estile   gia   dimosiefsi
having   written   the   book   it.CL send.3SG.PAST for   publication
'Having written the book, he sent it for publication'
(temporal reading)   (Tsimpli 2000, pg.133/1e)

In (277) the *V-ondas* clause is interpreted as a manner adverbial modifying the event denoted by the main clause. That the adjunct receives a manner reading here can be demonstrated by the fact that the *V-ondas* clause can stand alone as a response to the question 'How did Mary go to school?', as illustrated in (280):

(280)   – pos   pige   i   maria   sto   sholio? – trehondas
how go.3SG.PAST the Mary.NOM to.the   school?   running
'–How did Mary go to school?
– Running'

The example in (278) shows that the adjunct may be interpreted as either a manner adverbial or a temporal adverbial denoting an event that takes place simultaneously with the event of the matrix clause and in this case it is being interpreted synonymously to a 'when' clause. Finally, the *V-ondas* clause in (279) receives a temporal reading only, expressing an event anterior to the event denoted by the matrix clause[87]. Notice also that although the *V-ondas* form consists of the imperfective verb stem, as was pointed out above, it allows both a perfective and an imperfective reading in the clause, as the following examples show:

(281) [diplonondas to   forema]   prosekse   to   leke
        folding   the   dress.ACC notice.3SG.PAST the stain
        'While folding the dress, she/he noticed the stain'

(282) [ehondas etimasi to   fagito] i   maria   estrose   to   trapezi
        having   prepared the food   the Mary.NOM set. 3SG.PAST the table
        'Having prepared dinner, Mary set the table'

In (281), the event denoted by the adjunct clause receives an imperfective interpretation– the event of 'folding the dress' was taking place when the event of 'noticing the stain' took place, and the two events are thus contemporaneous. In (282), however, the event denoted by the adjunct clause receives a perfective reading, given that the event of 'preparing the dinner' is interpreted as having occurred prior to the event of 'setting the table'.

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[87] Given the differences that the *V-ondas* clauses exhibit compared to English gerunds with respect to their distribution and interpretation, it seems that they correspond to the English nominative absolute construction, shown in (i) and (ii) below:
(i) Mary opened the letter, *her hands trembling*.
(ii) *It being very late*, there was no traffic on the streets.

As I show below in detail, the two classes of adjuncts identified above (i.e. manner and temporal adjuncts) also display very distinct syntactic properties and thus appear to be structurally different.

One characteristic difference is that manner adjuncts cannot be negated, as the example in (283) shows.

(283)   * i   maria   pige   sto   sholio   [**min   trehondas**]
          the Mary.NOM go.3SG.PAST to.the school **NEG**   running
          'Mary went to school not running'

This contrasts with temporal adjuncts in which negation can be licensed, as can be seen in (284).

(284)   [**min**   ehondas teliosi   i   sofia   ta   mathimata tis]
          NEG   having   finished the Sofia.NOM the   lessons   her
          den   tha   pai   volta
          NEG   FUT   go.3SG   walk
          'Sofia not having finished her homework, she will not go out for a walk'

Another property that manner adjuncts exhibit is that they appear to be defective with respect to their temporal reference. Notice that in (285) an independent temporal adverbial distinct from a matrix one is not allowed, an empirical fact that suggests that manner adjuncts do not have a tense specification distinct from the tense of the matrix clause, a property also attested in anaphoric/untensed subjunctives.

(285) * i   maria   pige   sto   sholio   **stis   8   to   proi**
     the   Maria.NOM   go.3SG.PAST to.the   school   at.the 8   the   morning
     [trehondas   **apo   tis   7**]
     running   since   the   7
     '*Maria went to school at 8'clock in the morning running since 7 o'clock'

Once again this contrasts with temporal adjuncts (see (286)) in which a distinct temporal
adverb can be licensed, showing that the adjunct can establish its own independent
temporal reference and hence is not dependent upon the tense of the matrix clause.

(286) [telionondas   i   sofia   ta   mathimata tis   **stis   5   to   apojevma**]
     finishing   the Sofia.NOM the lessons   her   at.the 5   the afternoon
     tha   pai   sinema   **to   vradi**
     FUT   go.3SG cinema   the evening
     'Sofia having finished her homework at 5 o'clock in the afternoon, she will go to
     the movies in the evening'

We observe then that although *V-ondas* lack overt morphological tense (and agreement)
features, a subclass of them, i.e. the subclass which receives a temporal interpretation,
shows evidence for presence of semantic tense given that the two events denoted can be
associated with distinct tense domains. This observation goes against the argument
advanced by Tsimpli (2000), who argues that tense is absent in all *V-ondas* adjuncts (in
both manner and temporal ones) and explains that the "anterior or contemporaneous
reading was shown to be derived from the presence or absence of the perfect auxiliary
'have' as well as the temporal and aspectual characteristic of the matrix verb in the absence
of the perfect auxiliary" (pg. 139). Although it is true that the tense reference of the *V-
ondas* clauses which receive a temporal reading is restricted in that the event denoted by it

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cannot be interpreted as posterior to the event expressed by the matrix tense (but only anterior or simultaneous), I take the licensing of independent temporal adverbials within this domain (an empirical fact which is actually not considered by Tsimpli) to indicate that temporal *V-ondas* are not defective with respect to tense. They do carry semantic tense, and hence their tense feature specification is [+T].

Finally, another characteristic difference between manner and temporal adjuncts concerns the realization of their subject and its interpretive properties. More precisely, as is indicated in (287), a distinct overt lexical DP-subject cannot be licensed in the *V-ondas* manner adjunct.

(287) * i   maria   diavaze   [akugondas   musiki   **o   yanis**]
         the Mary.NOM   read.3SG.PAST listening   music   the John.NOM
         '* Mary was reading John listening to the music'

In fact, the subject of manner adjuncts must be null and is interpreted as corefential with the overt subject of the matrix clause. Most importantly, as the example in (288) demonstrates, the subject of the adjunct can only be controlled by the matrix subject and NOT the matrix object.

(288) i   maria$_i$ ide   to yani$_j$ [ec$_{i/*j}$ trehondas]
         the Mary.NOM   see.3SG.PAST the John.ACC   running
         'Mary was running and she saw John' '*Mary saw John and John was running'

What is more, the empty subject of manner *V-ondas* shows the by now familiar properties of Obligatory Control: as illustrated in the following paradigm, the empty subject must have a local c-commanding antecedent (289), does not allow split antecedents (290) and can only receive a sloppy reading under ellipsis (291).

(289) [o   filos   tis marias_j]_i   irthe   [ec_{i/*j}   trehondas]
       the   friend.NOM   the Mary.GEN   come.3SG.PAST   running
       'Mary's friend came running'

(290) * i   maria   ipe   oti   o   yanis   diavazi
        the   Maria.NOM   say.3SG.PAST that the John.NOM   read.3SG.PRES
       [voithondas   o   enas   ton alo]
       helping   the one   the other
       '*Mary said that John is reading helping each other'

(291) i   maria   pige   sto   sholio   [trehondas]
       the Maria.NOM   go.3SG.PAST to.the   school   running
       to   idjio   ke   o   yanis
       the same   and   the John.NOM
       'Mary went to school running and so did John = John went to school running
       NOT Mary went to school by John running'

Under these diagnostic tests for OC, the controlled null subject of manner adjuncts is interpreted as an anaphor (Chomsky and Lasnik 1977) that is it displays the properties of PRO and not those of a pronoun.

Turning now to temporal *V-ondas* adjuncts, we observe that, unlike the manner ones, they allow an overt nominative case marked subject, distinct form the matrix DP-subject, as shown in (292):

(292) [pernondas **o   yanis**   to   dromo] ton htipise   **ena   aftokinito**
       crossing   the John.NOM the street   him hit.3.SG.PAST a   car
       'While John was crossing the street, a car hit him'

                                                             (Tsimpli 2000: 148/17a)

As has already been noted, *V-ondas* lack overt agreement features which are generally associated with the identification of null subjects. Nevertheless a null subject can be licensed in temporal adjuncts (see (293) below, in addition to an expletive *pro* with weather verbs, shown in (294), and to a referential *pro* (295)[88].

(293) [pro$_i$ ehondas pari to diploma odhigisis] i maria$_i$ agorase aftokinito

       having got the license driver the Mary.NOM buy.3SG.PAST car

    'Having gotten the driver's license, Mary bought a car'

(294) [pro-expl ehondas hionisi oli nihta]

       having snowed all night

    i dromi itan epikindini to proi

    the streets be.3PL.PAST dangerous the morning

    'Having snowed all night, the streets were dangerous in the morning'

---

[88] Tsimpli (2000) notes that generally weather verbs cannot appear in the *V-ondas* form, based on the following example:

(i) * **vrehondas** to spiti plimirise

    raining the house be.flooded.3SG.PAST

    '*Raining the house flooded'

However, she goes on to observe that there are some exceptions, as the example in (ii) demonstrates:

(ii) **vradiazondas** epese krio

    getting.dark fall.3SG.PAST cold

    'When it got dark, it became cold'

It is worth pointing out that these two examples differ in their interpretation and thus they correspond to the two distinct classes we have identified: more precisely, the example in (i) does not involve a temporal adjunct, which as we have seen above, permit expletive and referential pro; the example in (i) involves a manner adjunct, it modifies the event of the matrix clause as a manner abverbial and not as a temporal one. As was noted in this section, the empty subject of manner adjuncts is always controlled by the matrix DP-subject, thus the ungrammaticality of (i) is predicted. Notice that if the perfect auxiliary 'have' is used in the example in (i), the adjunct receives an unambiguous temporal interpretation and the structure becomes grammatical, as shown in (iii):

(iii) **ehondas vreksi** htes to spiti plimirise simera

    having rained yesterday the house be.flooded.3SG.PAST today

    'Having rained yesterday, the house was flooded today'

In turn, the example in (ii) corresponds to a temporal adjunct – it is interpreted as a temporal adverbial as the English translation indicates, and thus expletive pro can be licensed similarly to the example in (294).

(295) [pro ehondas vgi sto pelagos] ksespase kateyidha

        having gone.out to.the ocean break.3SG.PAST storm

'He/she having gone out in the ocean, the storm started'

Based on this evidence, I conclude that the subject of temporal *V-ondas* adjuncts if empty is pro. Given that *V-ondas* are non-finite forms (they are not morphologically marked for number and person (φ-features)), I assume that the licensing of pro (and therefore nominative case licensing, resulting in licensing of overt DP subjects in this domain) is contingent upon the presence of semantic tense which, as it was argued above, these structures show evidence for.

To summarize the discussion so far, I have shown that the two classes of *V-ondas* adjuncts that were identified in this section, exhibit distinct syntactic and semantic properties. The differences that they exhibit are exemplified in Table 9.1:

TABLE 9.1: PROPERTIES OF THE TWO CLASSES OF V-ONDAS

Manner adjuncts	Temporal adjuncts
No negation	Negation (μην 'min')
No temporal adverbials	Temporal adverbials
No overt subjects	Overt subjects (nominative case marked), expletive pro and referential pro
OC properties	NOC properties

9.2 The structure of *V-ondas*

Now that we have identified the differences that characterize the two classes of *V-ondas* clauses, we are in a position to start accounting for the distinct properties they display. The contrast that is observed regarding licensing of negation in *V-ondas* suggests that manner

adjuncts do not project a TP. Assuming that NegP is contingent upon the presence of TP (Zanuttini 1996), then it appears that manner *V-ondas* lack a TP layer and are just VP adverbial expressions adjoined to the VP-position (see also Tsimpli 2000, Tantalou 2004).

In turn, I assume that temporal adjuncts are full fledged clauses including both a TP and CP domain. This assumption is based on two facts: first, as was shown, this classs of *V-ondas* allows negation, hence these structures must project a TP upon which NegP is also projected. Second, movement to peripheral positions is allowed in temporal adjuncts suggesting that these structures have a CP layer as well. Let us consider the following examples.

(296) [pia   vivlia$_i$ ehondas diavasi t$_i$ o   yanis]
        which   books   having   read   the John.NOM
        egrapse   kala stis   eksetasis?
        write.3SG.PAST well at.the exams
        'After having read which books, John did well on the exam?'

(297) [TA VIVLIA TU   TSOMSKI ehondas diavasi o   yanis]
        the books the.GEN Chomsky having   read   the John.NOM
        egrapse   kala stis   eksetasis
        write.3SG.PAST well at.the exams
        'After having read CHOMSKY'S BOOKS, John did well on the exam'

(298) [ta vivlia tu   tsomski, ehondas ta   diavasi o   yanis]
        the books the.GEN Chomsky having   them.CL read   the John.NOM
        egrapse   kala stis   eksetasis
        write.3SG.PAST well at.the exams
        'Having read Chomsky's books, John did well on the exam'

Example (296) shows that wh-movement is allowed, targeting the clause initial position of the *V-ondas* clause. Additionally, example (297) demonstrates movement of a focused constituent 'Chomsky's books' to the Specifier of FocusP (Tsimpli 1995), whereas example (298) shows that Topicalization is also allowed. Assuming that wh-elements, focused and topicalized objects appear in peripheral positions (Spec, FocusP and Spec, TopicP respectively) ouside the TP domain, it seems that temporal adjuncts do project the CP domain. In contrast to this conclusion, Tsimpli (2000) has proposed that all *V-ondas* (both manner and temporal ones) lack a CP layer. Her proposal is based on the following three properties that *V-ondas* exhibit: first, as we have already seen, *V-ondas* cannot be nominalized (see example (274) above), second they are not introduced by connectives or subordinators, as the example in (299) shows, and third, they do not allow wh- and focus movement to clause initial position, as illustrated in (300), corresponding to examples (11c) and (12c) from Tsimpli (pg.143):

(299)   * [**eno**   diplonondas to   forema] prosekse   to   leke
          while   folding   the   dress   notice.3SG.PAST the   stain
          'While she was folding the dress, she noticed the stain' (example (5a), Tsimpli 2000, pg. 136)

(300)   a. * [ti$_i$ diavazondas   t$_i$] perases   sto   panepistimio?
            what   reading   enter.2SG.PAST to.the university
            'Reading what, did you enter the university?'

        b. * [TSOMSKI$_i$ diavazondas   t$_i$] perase   sto   panepistimio
            CHOMSKY   reading   enter.3SG.PAST to.the university
            'It was by reading Chomsky that he entered the university'

With respect to Tsimpli's suggestion that in *V-ondas* movement to peripheral positions is disallowed, it is worth pointing out that the examples in (300), where this suggestion is based on, do not involve temporal *V-ondas* adjuncts. As is indicated in the translation of these examples, the *V-ondas* clauses receive a manner reading and not a temporal one. Thus, the ungrammaticality of these examples shows only that the manner adjuncts do not allow wh- and focus movement, an empirical fact which is predicted by the view that was adopted here that manner adjuncts are VPs and not CPs. Thus, the (ungrammatical) data that are presented by Tsimpli as evidence for the lack of CP in all *V-ondas* involve only manner adjuncts, although the bare VP analysis is put forward for both classes of *V-ondas*. Notice that the data in (300) become grammatical when the perfect auxiliary 'have' is introduced in the adjunct, which has the effect of changing the interpretation from a manner adverbial to an unambiguous temporal one, as illustrated in (301):

(301)   a. [ti_i **ehondas** diavasi t_i] perases   sto   panepistimio?
             what   having   read   enter.2SG.PAST   to.the   university
             'After having read what, did you enter the university?'

        b. [TSOMSKI$_i$ **ehondas**   diavasi t_i] perase   sto   panepistimio
             CHOMSKY   having   read   enter.3SG.PAST   to.the   university
             'It was after having read Chomsky that he entered the university'

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Once again, we observe that both wh- and focus movement is allowed in adjuncts with a temporal reading, an empirical fact that cannot be explained if we assume Tsimpli's proposal that this class of *V-ondas* does not project a CP[89].

What is more, Tsimpli takes all *V-ondas* to lack the TP domain as well. This proposal is based on i) her argument that tense is absent in all *V-ondas*, ii) the fact that all *V-ondas* are deprived of a modal (i.e. future oriented) reading (unlike, for instance, subjunctive clauses) and, finally iii) on the fact that expletive pro and preverbal subjects are not possible in *V-ondas* clauses. This last property is illustrated in (302):

(302) * [**o yanis** pernondas to dromo] ton htipise ena aftokinito
　　　　the John.NOM crossing the street him hit.3.SG.PAST a car
　　　　'While John was crossing the street, a car hit him'

(Tsimpli 2000: 149/17b)

Assuming that all three properties (i.e. presence of tense and modality, and licensing of expletive pro and overt preverbal subjects) are contingent upon the TP projection, Tsimpli concludes that all *V-ondas* do not project a TP and thus they are VPs, with manner ones

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[89] If, as I have assumed here, temporal adjuncts are CPs, then the other two properties that Tsimpli points out, namely the absence of connectives and the impossibility of nominalization that support a CP-less structure for these clauses, remain to be explained. With respect to the absence of connectives, it could be argued that temporal adjuncts are CPs but their C head is null. This assumption is not unreasonable given that, as we have seen, *V-ondas* clauses are not specified regarding their semantic interpretation. In addition, other types of clauses in Greek have been shown to involve heads that have a zero/null marker. For instance, Philippaki-Warburton (1998) among others, argues that in indicative complements, the elemement *oti* 'that' which introduces the clause, is a complementizer, residing in C, and the head of MoodP is null. In turn, in subjunctive complements, the element *va* 'na' is treated as a subjunctive marker and head of MoodP, whereas the complementizer position is null. Thus, the lack of a connective does not necessarily indicate that these clauses are smaller than CPs. See also Kapetangianni and Taylor (2009) for arguments supporting the existence of null heads in the grammar of English and Greek comparative correlatives.
With respect to resistance of *V-ondas* to nominalization, one hypothesis that could be entertained is that this is due to their overall lack of nominal properties (i.e. as was shown above, *V-ondas* do not pattern like DPs with respect to a number of properties) and also due to their adjunct status: in other words, given the hypothesis that *V-ondas* are adjuncts, it could be assumed that they cannot be nominalized because adjunct positions are not case positions.

being adjoined to the VP-position, whereas temporals are adjoined to the TP position of the matrix clause, for reasons she takes to relate to Full Interpretation of tense. More specifically, Tsimpli adopts the idea that *V-ondas* clauses lack an S (Speech time) point in the temporal representation, they are only specified for Event and Reference time and their interpretation is anchored to the S/R/E points in the matrix clause (following Hornstein 1990's analysis of English infinitives and gerunds). On the basis of the above, Tsimpli proposes the structure illustrated in (303) for all *V-ondas* adjunct clauses.

(303)

```
              MoodP
             /      \
         Mood      NegP
         min      /     \
               Neg      PerfP
               ̶m̶i̶n̶    /       \
                 Perf (E_R)       vP
                 trehondas      /    \
                             Spec     v'
                            subject  /   \
                                    v     VP
                                 ̶t̶r̶e̶h̶o̶n̶d̶a̶s̶  |
                                          V (E)
                                        ̶t̶r̶e̶h̶o̶n̶d̶a̶s̶
```
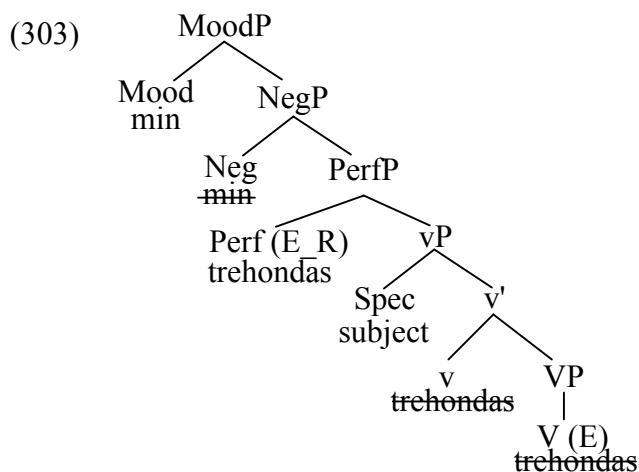
Tsimpli takes the *–ondas* form to be a Mood category, and thus argues that the structure of the *V-ondas* clause includes a Mood phrase which is independently argued to project in all clauses in Greek (as we have already seen in Chapter 3 for indicative and subjunctive clauses) specifying the clause-typing. The Mood category selects the non-indicative negator 'min', similarly to negative subjunctives. The functional projection above vP/VP, i.e. the Perfective phrase, includes aspectual features and expresses the relation of Reference time with the Event time: the verb or the auxiliary 'have' (in case the auxiliary is present in the derivation) moves from VP to Perf, where the aspect [+/- perfect] feature is

specified. Finally, Tsimpli assumes that in negative adjuncts, the negator blocks movement of the *V-ondas* to Mood (the verb thus moves only up to Perf) and the feature of Mood is overtly realized by movement of the negator to Mood, given that 'min' is associated with the non-indicative mood feature.

Notice, however, that if we assume that all *V-ondas* clauses have the structure shown in (303), we cannot explain why the manner *V-ondas* cannot be negated: specifically, if MoodP is projected in all *V-ondas* and if the Mood category is responsible for selecting the Negation phrase, the question that arises (and is left unexplained by Tsimpli's analysis) is why negation is not possible in manner *V-ondas*. This issue can be solved if we assume that the two types of adjuncts have different internal structure, with temporal ones projecting the CP and TP domains whereas manner ones do not. The distinct properties that the manner *V-ondas* exhibit and that were noted in Table 9.1 above (that is, no tense properties evidenced by the impossibility of independent temporal adverbials, no overt subjects, no negation) can all then be attributed to the lack of the TP domain. Maintaining Tsimpli's insights regarding the postulation of the Mood phrase and the Perfective phrase in *V-ondas*, the structure that I will assume for manner adjuncts is illustrated in (304):

(304) The structure of manner *V-ondas*

```
                        MoodP
                       /     \
                    Mood      PerfP
                  trehondas   /    \
                         Perf(E_R)   vP
                         t̶r̶e̶h̶o̶n̶d̶a̶s̶   /  \
                                  Spec    v'
                                subject  /  \
                                        v    VP
                                   t̶r̶e̶h̶o̶n̶d̶a̶s̶  |
                                            V(E)
                                          t̶r̶e̶h̶o̶n̶d̶a̶s̶
```
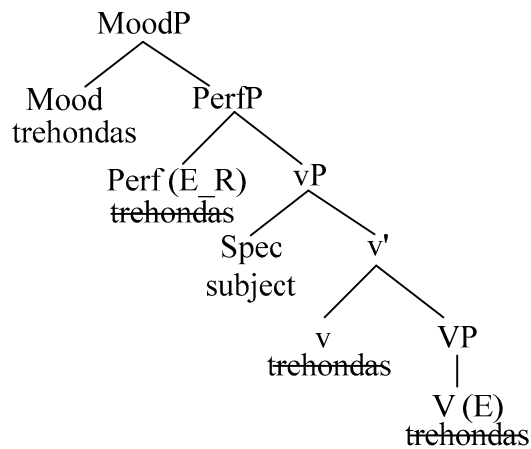
By contrast, I will assume that the temporal *V-ondas* adjuncts are full fledged clauses (adjoined to the TP position of the matrix clause) projecting both the CP and TP domains, given that they allow movement to peripheral positions, they allow negation, they show evidence for semantic (more precisely dependent) tense, since temporal adverbials are licensed in this class of adjuncts, and they allow overt lexical subjects. The detailed structure is given in (305).

(305) The structure of temporal *V-ondas*

```
                  CP
                 /  \
                ∅    MoodP
                    /     \
                 Mood      NegP
                 min      /    \
                       Neg      TP
                       m̶i̶n̶    /    \
                          V-v-T    PerfP
                        trehondas  /    \
                               t̶r̶e̶h̶o̶n̶d̶a̶s̶   vP
                                        /  \
                                     Spec    v'
                                   subject  /  \
                                           v    VP
                                      t̶r̶e̶h̶o̶n̶d̶a̶s̶  |
                                               V(E)
                                             t̶r̶e̶h̶o̶n̶d̶a̶s̶
```

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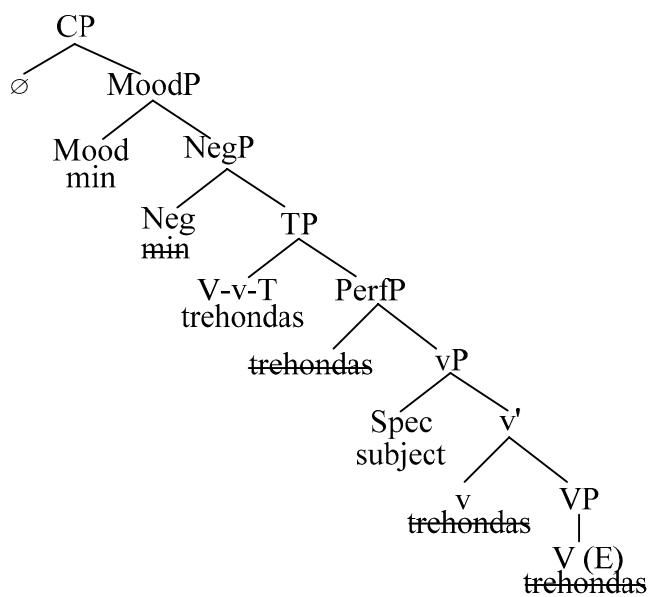
Having discussed the structural differences and distinct adjunction sites of the two classes of *V-ondas* clauses, I will next demonstrate how we can account for the Control properties that only the manner ones exhibit.

9.3 Control in *V-ondas*: A case of Sideward Movement

In Section 9.1, it was shown that one of the properties that distinguish the two classes of *V-ondas* clauses examined here concerns the realization and referential properties of their subject. We have seen specifically that i) an overt lexical subject, distinct from the overt subject of the matrix clause, cannot be licensed in the manner *V-ondas*, and ii) the empty subject of this class of adjuncts shows subject control properties. The lack of agreement morphology on the *-ondas* verb form has led some researchers to assume that the subject of manner *V-ondas* is PRO (Philippaki-Warburton and Spyropoulos 1999, Tantalou 2004) given the standard theoretical assumption (in GB and early Minimalism) that PRO is licensed in non-finite domains (e.g. infinitives and gerunds). Therefore, the licensing of Control in this domain has not been considered challenging to account for, and, as a result, it has received less attention compared to, for instance, subjunctive complements.

Tsimpli however takes a different view and argues that *V-ondas* do not involve syntactic control. The argument that she advances goes as follows: "Reference of the null subject is not a matter of identification via agreement as is the case with null subjects in finite clauses. … When the null subject of the main clause is a potential 'controller', i.e. it is not an expletive and its thematic and lexical properties (e.g. animacy) are compatible with those of the gerundive predicate, it is the preferred option. When the subject of the gerund is overt, its interpretation is distinct from the subject of the main clause". (p.157)

For Tsimpli then the controlled interpretation that is attested in *V-ondas* clauses is semantically/pragmatically determined.

It is quite odd, however, to attempt to reduce control in this domain to the semantic/thematic properties of the predicates, given that, unlike control in complements, selection by the matrix predicate is not involved in adjuncts. Thus, adjunct control cannot be a function of the selecting predicate, as is the case with subjunctive complements which, as we have seen, have their OC or NOC properties partially determined by the selecting predicate. In addition, as was noted above, manner *V-ondas* exhibit only subject control (and not object control), an empirical fact that indicates that the controller seems to be determined structurally in the case of adjunct control (the same pattern is also attested in adjunct control, in English where object control is disallowed). Finally, the data from adjunct control *V-ondas* display all the diagnostic properties of OC, as was exemplified in Section 9.1, similarly to the data from controlled complements in Greek (subjunctive and και complements), therefore it would be odd to argue that adjunct control is derived by entirely different mechanisms or operations.

For these reasons, I will take a different view on the matter and assume that *V-ondas* involves syntactic control: more precisely, I will propose that the absence of morphological agreement is not the crucial factor for the licensing of Control in manner *V-ondas*, as other researchers have argued. As was demonstrated in Section 9.1, manner *V-ondas* exhibit the same deficiency that OC subjunctive and και complements show, namely this class of adjuncts lacks semantic tense, i.e. they carry anaphoric tense. Once more, we observe that, in this domain too, the licensing of Control correlates with the absence of

semantic tense, an important empirical observation that we cannot overlook. Therefore, I propose that this domain, lacking semantic tense, is also transparent to A-movement: as I show below, it is possible to extend the movement approach to Control I have adopted for subjunctive and και complements to this domain as well, and analyze Control in manner *V-ondas* adjuncts as involving 'sideward movement'.[90]

With this in mind, let us consider the derivation for (306), which involves a manner adjunct.

(306) i   maria   pige   sto   sholio   [**trehondas**]
       the   Mary.NOM   go.3SG.PAST   to.the   school   running
       'Mary went to school running' (manner reading)

The derivation proceeds as follows. First, we build the adjunct clause by merging the verb *trehondas* 'running' with the DP *Mary*. The theta role of the verb is discharged to the DP. This yields the syntactic object shown in (307):

(307) [$_{VP}$ trehondas i maria]   'running Mary'

Next, we construct the matrix clause by merging the verb *pige* 'went' with the Prepositional phrase *sto sholio* 'to the school'. This application of Merge yields another

---

[90] Nunes (1995, 2001, 2004) argues that the Copy and Merge theory of movement developed by Chomsky (1993, 1995) allows the possibility for *sideward movement* which he defines as follows: "…the computational system copies a given constituent α of a syntactic object K and merges α with a syntactic object L, which has been independently assembled and is unconnected to K" (pg. 90). This is illustrated in the schema below, where, as can be seen, there are two separate syntactic objects that are not connected and the constituent α is copied from one object and is merged into the other, before the two objects merge together.
(i) a. [$_K$ … α …]   [$_L$ …]   Copy α from K
     b. [$_K$ …α …]   [$_M$ α [$_L$ …]]   Merge α into L creating M
Assuming this 'special instance' of movement, Nunes (1995) provides an analysis for parasitic gaps. See Hornstein (1999, *et seq*.) for an analysis of adjunct control in terms of sideward movement.

syntactic object illustrated in (308), which is not connected to (307); in other words, the derivation so far involves two unmerged trees:

(308)　[VP pige [PP sto sholio]]　　'went to school'

Assuming, as I proposed above, that the adjunct clause is a defective tense domain, the DP *Mary* cannot have its case valued inside the adjunct clause and hence needs to move out of this domain. At this derivational stage also, the external theta role of the matrix verb needs to be checked. Therefore, we copy *Mary* from the object in (307) and merge it into the matrix Specifier VP position as in (309) (this step illustrates sideward movement), whereby the DP acquires a second theta role.

(309)　[vP i maria [VP pige [PP sto sholio]]]　　[VP trehondas ~~i maria~~]　'running Mary'

We then merge the two syntactic objects and finish the derivation by merging the TP, moving the verb to T and finally moving the DP *Mary* to the Specifier of TP for Case valuation, yielding the complete derivation shown in (310), with the tree structure given in (311):

(310)　[TP i maria [T pige [vP ~~i maria~~ [VP/VP [VP ~~pige~~ [PP sto sholio]] [VP trehondas ~~i maria~~]]]]]

(311)

```
                    TP
                   /  \
             i maria    T'
                       /  \
                      T    vP
                    pige   / \
                      i̶ ̶m̶a̶r̶i̶a̶   v'
                              /  \
                             v    VP
                           p̶i̶g̶e̶   / \
                               VP    VP
                          [p̶i̶g̶e̶ sto sholio]  [trehondas i̶ ̶m̶a̶r̶i̶a̶]
```
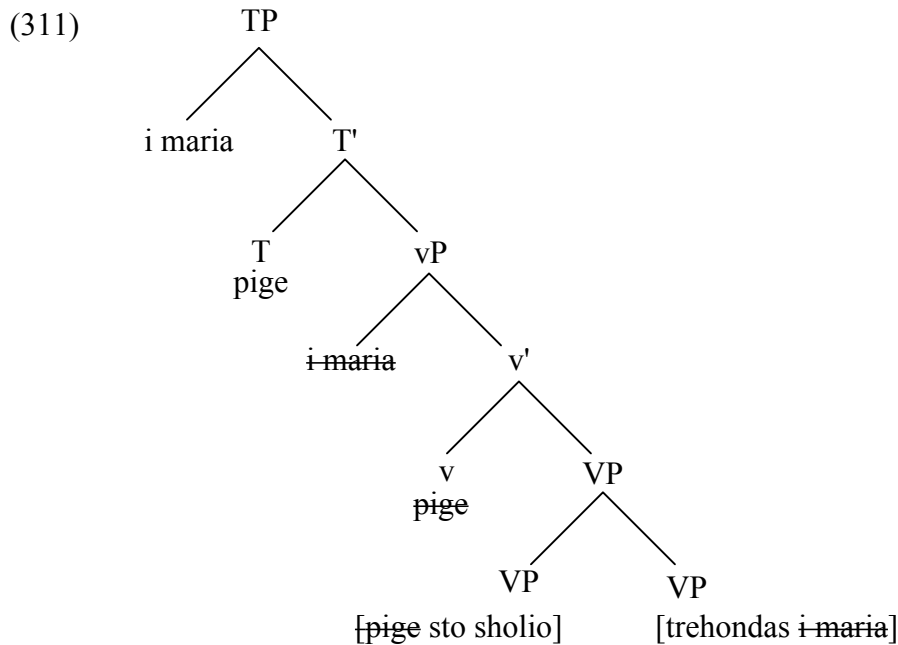
There are two important points to be noted here for the derivation in (310): First, the sideward movement of the DP *Mary* in the step of the derivation illustrated in (309) is what permits this DP to value its case. If the DP had not moved from inside the adjunct to the matrix clause, the derivation would have crashed as the case of the DP could not be valued within the adjunct domain, given its defectiveness with respect to semantic tense and hence impossibility of case valuation. Second, the movement of the DP occurs before the two independently constructed objects (i.e. the adjunct and the matrix clause) merge together, illustrating the instance of sideward movement[91].

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[91] Another important point to note here regarding the derivation exemplified above involves the implications that sideward movement has relative to the notion of 'extension' developed in Chomsky (1993). As Hornstein (1999) explains, adopting arguments developed by Nunes (1995), extension is respected in each step in the derivation of adjunct control which he analyzes as involving sideward movement: more precisely, movement of the DP out of the adjunct to the theta position of the matrix VP, extends the VP. Similarly, the VP is extended when the adjunct is adjoined to the VP. The same effects apply here also for the derivational steps shown in (309) and (310).

Let us now consider how we can derive the subject (only) control interpretation that the manner *V-ondas* adjuncts display. Consider again the example in (312):

(312) i   maria$_i$ ide   to   yani$_j$ [ec$_{i/*j}$ trehondas]
       the Mary.NOM   see.3SG.PAST the John.ACC   running
       'Mary was running and she saw John' '*Mary saw John and John was running'

Unlike (306), the lexical array for (312) includes two DPs, *Mary* and *John*. Similarly to the derivation in (310), we first construct the adjunct phrase, as shown in (313), by merging the verb *trehondas* 'running' and the DP *Mary* which acquires the theta role of this pedicate.

(313)   [$_{VP}$ trehondas i maria]   'running Mary'

Next, we construct the matrix clause: we merge *ide* 'saw' and the DP *John* yielding the syntactic object illustrated in (314), whereby the DP receives the internal theta role of the predicate.

(314)   [$_{VP}$ ide to yanni]   'saw John'

At this point in the derivation, we have used all the lexical items from the lexical array and we have built two distinct, unconnected syntactic objects. At this point also, the external theta role of the matrix predicate needs to be checked. We satisfy this requirement by copying the DP *Mary* and merging it into the matrix Specifier of VP position as in (315) which illustrates the sideward movement of *Mary*.

(315)   [$_{vP}$ i maria [$_{VP}$ ide to yanni]]   [$_{VP}$ trehondas ~~i maria~~]   'running Mary'

Next, we merge the two unconnected objects and finish the derivation similarly to (310) above yielding (316), with the tree structure given in (317).

(316) [TP i maria [T ide [vP ~~i maria~~ [VP/VP [VP ~~ide~~   to   yanni]] [VP trehondas ~~i maria~~]]]]
         the Mary saw   the Mary   saw the John.ACC running
         'Mary saw John running'

(317)

```
                    TP
                   /  \
              i maria   T'
                       /  \
                      T    vP
                     ide   / \
                      i̶ ̶m̶a̶r̶i̶a̶   v'
                              /  \
                             v    VP
                            i̶d̶e̶   / \
                                 VP    VP
                          [i̶d̶e̶ to yanni]  [trehondas i̶ ̶m̶a̶r̶i̶a̶]
```
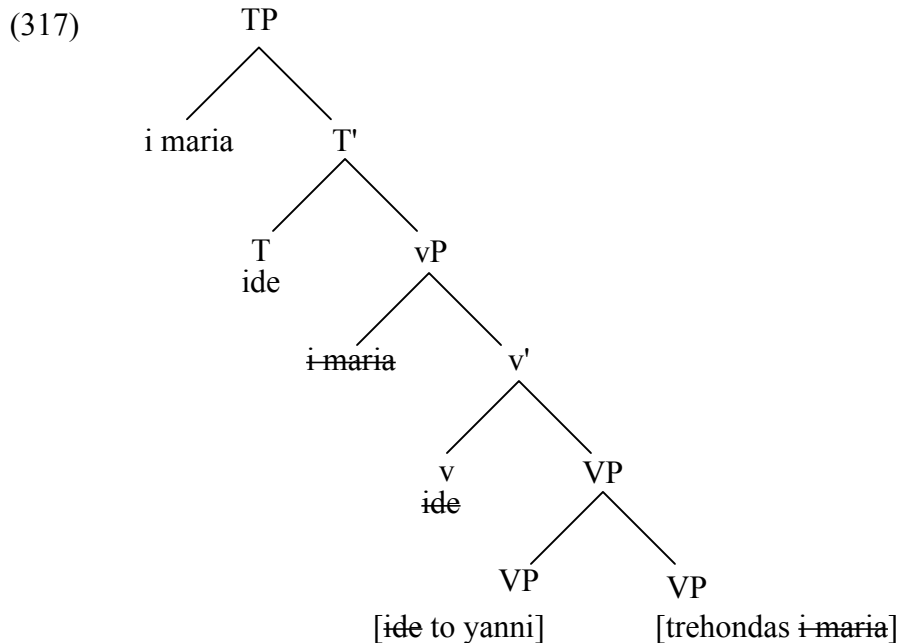
Once again the sideward movement of the DP *Mary* from the adjunct phrase to the matrix clause is what allows the ultimate case valuation of the DP. It is worth pointing out, however, that, as I assumed above, the movement of *Mary* occurs only after *John* has merged with the matrix verb and received its internal theta role. The issue that arises is why *Mary* could not move into this position. Notice that if *Mary* had moved from the adjunct clause into the complement of 'saw', we would have derived an object control configuration, as shown in (318).

(318) [TP o yannis [T ide [vP ~~o yannis~~ [VP/VP [VP ~~ide~~ ti maria]] [VP trehondas ~~i maria~~]]]]

I assume, following Hornstein (1993), that this alternative derivation is ruled out given economy considerations: by copying *Mary* and moving it into the matrix object position,

we would have applied a more costly operation of Copy plus Merge (as Move is defined under this approach) instead of the simpler operation Merge and this would have violated the *Merge over Move* principle (Chomsky 1995)[92]. In other words, economy restricts the application of Move (and, in the case we are considering here, it restricts the application of sideward movement) and so a DP cannot move, if the derivation can proceed without movement, as was the case in the derivation in (316), where another DP was available in the lexical array to merge in the complement position of 'saw'. This economy assumption then blocks movement of *Mary* up until *John* has merged into the object position. Along these lines, we can then derive the subject control interpretation in adjunct control which is traditionally attributed to the Minimal Distance Principle (Rosenbaum 1970).

Another issue that needs to be addressed regarding the derivation in (316) is whether the sideward movement of the DP *Mary* to the external theta position of 'saw' violates the Minimal Link Condition (MLC). Why, in other words, does not the DP *John* in the complement position of 'saw' block the movement of the DP *Mary*? As Hornstein explains, the effects of MLC do not arise here given that the two DPs do not c-command each other nor does the target of movement c-command them both at the point the movement applies. This is so because the DP *John* is in the complement position of the matrix verb and the DP *Mary* is inside the adjunct which is not connected to the matrix clause at this derivational stage, thus movement of *Mary* is not to a c-commanding position at this point. Therefore both DPs are equidistant from the Specifier of the matrix VP and the MLC is not violated. Notice also that if the DP *John* moves to the matrix [Spec, VP]

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[92] See Hornstein (2003) for an alternative explanation of economy that does not appeal to the *Merge over*

instead of *Mary*, the derivation would crash for *Mary* cannot have its case valued inside the domain of the adjunct. Thus, we conclude that the only convergent derivation is the one we have seen above in (316) which correctly yields the subject control interpretation that manner *V-ondas* adjuncts display.

In sum, in this chapter, I have considered the syntactic and semantic properties of *V-ondas* clauses, another domain of the Greek grammar that exhibits Control. After reviewing previous analyses that have been offered regarding the structure of this domain and its interpretive properties, it was shown that we can identify two classes of *V-ondas* clauses with distinct syntactic properties which I have attributed to their internal structural differences. More precisely, I proposed that the *V-ondas* adjuncts that receive a manner interpretation are adverbial VPs displaying subject control whereas the *V-ondas* adjuncts that are associated with a temporal reading are CPs and do not display control.

Finally, I showed that the domain of manner adjuncts has the same deficiency that renders the other domains of the Greek grammar transparent to A-movement, namely they lack semantic tense, i.e. they carry anaphoric tense. Based on this fact, I argued that control in manner adjuncts can be construed as an instance of sideward movement, given the lack of semantic tense that this domain exhibits, whereas the presence of (dependent) semantic tense in temporal adjuncts allows the licensing of overt lexical subjects or pro, despite the absence of overt morphological agreement of the *V-ondas* form. Thus, I concluded that the data from the controlled *V-ondas* adjuncts indicate that absence of morphological

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Move Principle but instead to the idea that sideward movement is more costly than movement within a single object and therefore it should be delayed as long as possible.

agreement is not the crucial factor for the licensing of Control but instead the data support

the contention that Control is established in syntactic domains that lack semantic tense.

CHAPTER 10

On Partial Control and Movement

In the previous chapters, I showed that Control in Greek can be construed as an instance of A-movement out of syntactic domains that lack semantic tense and thus I argued that Control can be derived without maintaining the empty category PRO in the grammar. In this last chapter, I examine one domain of the grammar of English that exhibits a special case of Control, namely Partial Control (PC), which has been argued by Landau to constitute significant empirical evidence against the movement theory of Control (O'Neil 1997; Hornstein 1999, 2001; Boeckx and Hornstein 2003). Hence PC is taken by Landau to be a strong argument for maintaining the empty category PRO of the GB approach in a minimalist theory of the grammar of Control. In the following sections, I review Landau's (2000, 2004) description and theoretical analysis of Partial Control pointing out a number of problematic aspects of his proposal and I explore a minimalist analysis of PC in terms of movement. I argue specifically that PC arises in infinitival complements that contain collective predicates (i.e. *meet, gather*), from a numeration that includes a DP and a null pronoun, i.e. pro. I propose that after Merger of {DP & pro} applies yielding a 'bigger' DP, there is subsequent movement of the inner DP to the matrix clause, with stranding of pro in its first-merged position.

10.1 Properties of Partial Control

Landau (1999, 2000, 2004) proposed that Obligatory Control should be distinguished in two subclasses: Exhaustive Control (EC) shown in (319) (corresponding to the familiar term Obligatory Control) and Partial Control (PC) illustrated in (320):

(319)   John$_i$ tried [PRO$_i$ to leave].

(320)   John$_i$ wanted [PRO$_{i+}$ to meet at 6].

The special subclass of PC is distinct from EC in that the reference of the embedded empty subject (in GB terms, the subject PRO) includes the controller, that is the matrix DP, and some other individual(s) pragmatically determined (illustrated by the subscript [+]). As Landau notes, despite this difference in interpretation, PC shares the same standard properties of Control as EC does; namely, it does not allow arbitrary control (321), long-distance control (322), and strict reading under ellipsis (323): [93]

(321)   * John wanted [PRO$_{arb}$ to meet at 6].

(322)   * Mary$_i$ knew that John hoped [PRO$_{i+}$ to perjure herself].

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[93] Notice, however, that Landau's definition of OC is based on only a subset of the standard, traditional diagnostics for OC that have been extensively used in the literature (Williams 1980, Bouchard 1984, Koster 1984, Hornstein 1999). According to Landau (2000), the other three classic criteria, namely that OC PRO requires a c-commanding antecedent, can not have split antecedents and can not alternate with an overt lexical subject, cannot be used to distinguish OC constructions from NOC ones. As Landau observes, the above requirements on OC PRO do not seem to hold in a number of instances, illustrated below in (i) where the obligatory controller *Mary* fails to c-command PRO, and in (ii) and (iii) where the split antecedents of PRO are both the matrix subject and object.
(i)   Yesterday, it spoiled Mary's$_i$ mood [PRO$_{i/*arb}$ to listen to the news].
(ii)   John$_i$ promised his son$_j$ [PRO$_{i+j}$ to go to the movies together].
(iii)   John$_i$ persuaded Mary$_j$ [PRO$_{i+j}$ to kiss in the library].

(323)   John$_i$ preferred [PRO$_{i+}$ to leave early] and Bill did too.

   (= Bill preferred Bill$_+$ to leave – John can be among the people who should leave early)

However, PC and EC differ crucially in a number of their properties, both syntactic and semantic. First, PC and EC are not the same types of infinitival complements. EC is possible only in infinitival complements of implicative, aspectual and modal verbs (e.g. *manage, start, continue, need, have*) whereas PC is possible only in factive, propositional, desiderative and interrogative complements (e.g. *like, regret, think, say, want, prefer, wonder, ask*) as illustrated in (324) and (325) – (examples are from Landau (2000), pg. 44):

(324)   a. *John told Mary that he managed to meet at 6 today.

   b. John told Mary that he preferred to meet at 6 today.

   c. John told Mary that he didn't know whether to meet at 6 today.

(325)   a. *John told Mary that he had to separate before it's too late.

   b. John told Mary that he intended to separate before it's too late.

   c. John told Mary that he wonders how to separate before it's too late.

Another distinct property of PC is that it allows the controller to be a proper subpart of PRO and is only possible with collective predicates such as *meet*, *gather*, *assemble* (326), or predicates which contain *together* (327) and not with predicates that are inflected for plural (328), or contain plural anaphors (329) (examples are from Landau 2000).

(326)   The chair$_i$ was afraid [PRO$_{i+}$ to **gather** during the strike].

(327)   Mary$_i$ wondered whether [PRO$_{i+}$ to apply **together** for the grant].

(328)   * John knew that Mary hoped [PRO$_{i+}$ to become **members** of the new club].

(329)   * John told Mary that he regretted [PRO$_{i+}$ having talked about **themselves**].

Landau explains this distinctive property of PC, namely the possibility of PC only with lexically collective predicates or with predicates containing *together*, by drawing a distinction between semantic and syntactic plurality. More precisely, he observes that lexically collective predicates (e.g. *meet*, *gather*, *convene*) and predicates that contain *together*, which are semantically plural, can be predicated of syntactically singular subjects, as the example in (330) shows:

(330)   I saw the committee gathering/dispersing.

On the other hand, predicates inflected for plural or predicates that contain plural anaphors must be licensed by a syntactically plural subject, as illustrated by the ungrammaticality of examples (331) and (332):

(331)   * It is impossible for the government to clear themselves/each other of any
        responsibility.

(332)   * I consider the delegation (to be) idiots.

Based on this observation, Landau (2000) concludes that PRO in PC is semantically plural but syntactically singular.

Finally and most crucially for Landau's analysis, PC and EC differ in their tense properties. Landau (2000) argues that PC complements are tensed; they are specified for their own tense. This is evidenced by the possibility of independent temporal adverbials appearing between the matrix and the embedded clause, as the examples in (333) and (334) indicate:

(333) **Yesterday**, John hoped to solve the problem **tomorrow**.

(334) **Yesterday**, John wondered how to solve the problem **tomorrow**.

EC complements (i.e. complements of modal, aspectual and implicative predicates), on the other hand, do not have an independent tense specification; they are untensed and their tense interpretation is dependent on the matrix tense. This property of EC complements is evidenced by their impossibility to be modified by an independent temporal adverbial, as shown in (335), (336) and (337):

(335) * **Yesterday**, John began to solve the problem **tomorrow**.   (Aspectual)

(336) * **Yesterday**, John had to solve the problem **tomorrow**.   (Modal)

(337) * John remembered to lock his door **tomorrow**.   (Implicative)

Thus, for Landau, PC-infinitives show evidence for semantic tense; more precisely, PC infinitives are analyzed as bearing dependent tense and hence carrying a [+T] feature on I/C, similarly to Non-Control Balkan subjunctives (in Landau's term Free-subjunctives). Differently from subjunctives though, the feature specification of Agr on I of infinitives is [-Agr] since infinitives do not show overt morphological agreement.[94] The precise feature analysis of EC and PC infinitives assumed by Landau is shown in (338):[95]

(338) a. **EC**: [-T, -Agr] on I^0 b. **PC**: [+T, -Agr] on I^0
        [-T] on C^0 [+T, (+Agr)] on C^0

---

[94] Recall that for Landau the feature specification of Agr on I is determined on purely morphological grounds: if there is overt agreement morphology, then Agr is [+Agr], which is the case of finite clauses, e.g. indicatives and subjunctives in Balkan languages. When there is no agreement morphology, as is the case of the I head of infinitives, then Agr is specified [-Agr].

10.2 Landau's analysis of PC

In Chapter 4, we saw that for Landau, Control is construed as an instance of the operation *Agree* and the relevant features that take part are [T] and [Agr] on the embedded I and C. Appealing to the same mechanism and the featural combination of I and C heads of infinitives that we saw above, EC is derived in Landau's system, as illustrated in the schema in (339):

(339) $[_{CP}$ DP…T… $[_{CP}$ C $_{[-T]}$ $[_{IP}$ PRO$_{[-R]}$ $[_{I'}$ I $_{[-T, -Agr, -R]}$ $[_{VP}$ t$_{PRO\ [-R]}$ …]]]]]]

         Agree   Agree$_{[+Agr]}$ Agree$_{[-T]}$ Agree$_{[-Agr, -R]}$
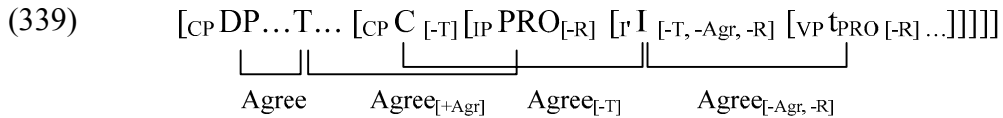
In EC-infinitives, I and PRO enter into *Agree* and thus the feature [-Reference] on I erases under identity with [-R] carried by PRO. Furthermore, PRO checks the [-Agr] feature on I which in turn checks [-T] on C. As required by its [-R] specification, PRO must enter into *Agree* with a matrix DP antecedent. This dependency is achieved in the following way: the matrix T enters into one *Agree* relation with the matrix DP subject and into another *Agree* with PRO. In this way, PRO inherits all the phi-features of the matrix DP subject, including semantic number features, and EC is established.

    Now let us consider the derivation for PC infinitives given in (340):

(340) $[_{CP}$ DP … T... $[_{CP}$ C $_{[+T, +Agr, +R]}$ $[_{IP}$ PRO $_{[-R]}$ $[_{I'}$ I $_{[+T, -Agr, -R]}$ $[_{VP}$ t$_{PRO\ [-R]}$ …]]]]]]

     Agree   Agree   Agree   Agree

   [+Agr, +R][+Agr, +R]   [+T, +/- Agr]   [-Agr, -R]

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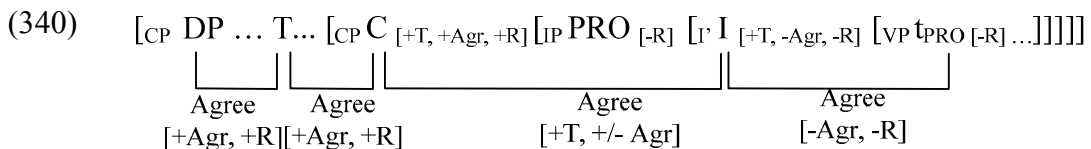
[95] As already noted in Chapter 4, Landau (2004) assumes that [-T] or lack of T on C entails lack of Agr on C whereas [+T] on C entails [+Agr] on C, as is shown below in the case of PC infinitives.

In PC, Landau assumes that the embedded T-Agr moves to C, by virtue of the presence of semantic tense. The embedded I enters two *Agree* relations: one with PRO in which PRO checks off [-R] on I and a second one with C in which the [+T] feature erases.[96] The T-to-C movement prevents *Agree* from being established between the matrix T and PRO. *Agree* applies between the matrix T and the DP and finally C enters a second *Agree* relation with the matrix T which has inherited [+R] from the DP and thus the [+R] on C erases too. We see then that in the case of PC-infinitives, Control is derived via C, unlike the EC-infinitives in which Control is established directly between the matrix T and PRO. What remains to be seen is how we can derive the PC effect, namely that the reference of PRO includes the controller and other individual(s) (i.e. PRO is semantically plural) even when the controller is singular.

Landau (2004) uses the term Mereology (following Sauerland and Elbourne 2002) to refer to the semantic plurality that some DPs have as an inherent property instead of the feature [Semantic Plurality] that he assumed in his earlier (2000) work. The mismatch in [Mer] that is observed between the controller and PRO in PC contexts is in turn related to C through which Control is derived. More precisely, for Landau (2004), C optionally lacks a [Mer] slot and as such the value of [Mer] of the controller with that of PRO can be different. However, Landau points out that this is a property restricted to C and not to all functional heads; lower inflectional heads have a [Mer] slot and must agree on the [Mer] feature with the DP they enter a checking relation with. To summarize, for Landau (2004), EC and PC in infinitival complements follow from the different feature specifications that

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[96] Notice that *Agree* is established although C carries a [+Agr] and I a [-Agr]. Landau points out that this is

the functional heads I and C exhibit. More precisely, EC-infinitives lacking semantic tense, allow PRO to be in a direct dependency with the controller whereas PC-infinitives, being tensed, contain an [Agr] feature on their C head through which the Partial Control of PRO is derived.

One of the most suspicious aspects of Landau's proposal is the licensing of the PC interpretation.[97] As we have seen above, the PC reading that PRO receives does not follow 'naturally' from general properties of the operation *Agree* or from any other syntactic operation or relation that PRO is participating in. Landau appeals to the semantic feature of *Mereology* in order to explain the PC interpretation, a feature whose function in his Control account is not entirely clear but rather purely stipulative in nature. More specifically, it is puzzling why only C can optionally have a [Mer] feature and also unclear what property/ies of C of PC infinitival complements correlate(s) with the availability of the [Mer] feature. Furthermore, Landau strongly argues that PRO is indispensable and should be maintained in a theory of the grammar of Control in order to explain the PC interpretation. However, as we see, PRO alone cannot yield the PC reading without resorting to some kind of stipulation, which in Landau's system is the existence of the Mereology feature. Thus, his argument for maintaining PRO is weakened given the stipulations he requires to account for empirical facts. In the following section, I sketch an alternative analysis of PC in terms of movement and show that PC in English can be disassociated from the empty category PRO and instead can involve an overt DP and a null pronominal (i.e. *pro*).

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possible by taking [+Agr] on C to represent abstract [Agr] and "thus [Agr] on both heads is semantically uninterpretable and phonologically null" (p. 848).
[97] See also Hornstein (2003) for a critique of Landau's (1999) analysis of PC.

10.3 Deriving Partial Control with Movement

Landau has extensively argued against the movement based theory of Control by pointing out, among other empirical and theoretical issues regarding Control and Raising, the existence of the PC phenomenon. In fact, Landau has argued that the PC interpretation that example (320) exhibits, where the reference of the embedded empty subject includes but is not identical to the reference of the controller, cannot be derived unless a 'base-generable' formative like PRO exists in the lexicon. The precise argument he has put forward is that PC is incompatible with the movement approach to control because movement cannot yield a chain with non-identical copies. In what follows, I attempt to show how PC can be derived assuming a movement analysis as in Hornstein (1999, 2001) (see also Rodrigues 2007 for a movement approach to PC to be discussed below).[98]

The specific proposal that I will defend, is that PC does not exist as an independent category of Control. I will propose that PC arises in infinitival complements that contain collective predicates (i.e. *meet, gather*), from a numeration that includes an overt lexical subject, e.g. *John*, and a null pronoun, i.e. pro. I will assume further that, after Merger of {DP & pro} has applied, creating a 'bigger' DP, there is subsequent movement of the inner

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[98] Hornstein (2003), responding to Landau's argument that PC cannot be derived by the movement approach to Control, develops a semantic account of the phenomenon that does not appeal to the operation movement itself: he argues specifically that PC arises in cases where certain matrix predicates impose a meaning postulate on their control complements. The proposed meaning postulate can be summarized as follows: in a configuration [DP Vs [TP to VP]] in case the predicate requires a semantically plural subject (it is a collective predicate e.g. *meet*), then it imposes the following interpretation: [DP Vs [TP *DP and some contextually specified others* to VP]. According to Hornstein, this meaning postulate applies optionally resulting in either EC or PC, and is crucially linked to the lexical properties of predicates, i.e. its application is forced only with verbs like *meet*, yielding the PC reading. Under this approach, PC is not derived in the narrow syntax (i.e. by the movement operation) but by the lexico-semantic properties of predicates, and thus is treated at the semantic component of the grammar.

DP to the matrix clause. According to this hypothesis, the derivation for example (320) (repeated here in (341)) proceeds as follows:

(341)   John wanted [to meet at 6].

The DP and pro are merged together and, as shown in (342), they form a constituent, a single syntactic object which is semantically plural.

(342)   DP

DP   andP
John

and   pro
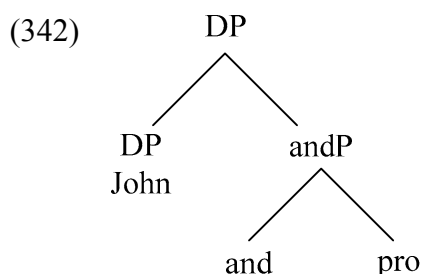
(structure based on Munn's 1993 analysis of coordination)

The resulting constituent is merged with the predicate *meet* (343).

(343)   [VP [DP John pro] meet].

The theta role of *meet* is discharged to the set members {John, pro} similar to (344):

(344)   John and Mary met at 6.

Notice that the theta role of a collective predicate cannot be assigned to just one DP, as shown in (345). Such predicates require semantically plural subjects.

(345)   *John met at 6.

The next steps in the derivation is to merge the VP with the infinitival *to* and further merge the constructed TP with the matrix predicate *want*, as illustrated in (346):

(346)   wanted [TP to [VP [DP John pro] meet]]

Given that infinitival T is phi-defective (Chomsky 1998, 2000), the case of the DP *John* cannot be valued in the Specifier position of embedded T. *John* must raise higher for case. As shown in (347), *John* moves into the theta position of *want* acquiring a second theta role:[99]

(347)   [VP John [wanted [TP to [VP {~~John~~ & pro} meet]]]]

The final step of the derivation involves movement of *John* to the matrix Specifier of TP where its case is valued:

(348)   [TP John [VP ~~John~~ [wanted [TP to [VP {~~John~~ & pro} meet]]]]]

The PC interpretation (i.e. the matrix DP subject being included in the reference of the empty subject of the infinitive) is derived by the movement of *John* to the external theta position of the matrix predicate.

The analysis I just proposed is similar to Kayne's (2002) independently motivated analysis of binding in terms of movement. Kayne proposes that Condition C effects involving pronoun and antecedent can be analyzed in terms of movement. In this approach, an antecedent and a pronoun undergo Merge, as illustrated in (349), and are subsequently separated by Internal Merge of the antecedent DP to the matrix theta position, as shown in (350):

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[99] In Hornstein (1999, 2003), it is assumed that the DP-subject, after merging with the embedded predicate, raises to the embedded Specifier of TP to check the D-feature of the TP (i.e. the EPP). Nevertheless, whether *to* has an EPP feature is an open question; see Epstein & Seely (1999, 2002, 2006) and Epstein, Pires & Seely (2005) for extensive discussion, and for a development of the view that there is no EPP feature (nor an EPP property). Although this step in the derivation in (348) (i.e. whether or not the DP raises to the Specifier of TP for EPP checking) is not crucial for the analysis that I am proposing here for PC infinitives, I follow these authors and assume that *to* checks no features and given that syntactic operations are purposeful, there is no movement to the Specifier of TP but rather one fell swoop from the embedded theta to the matrix theta position.

(349)   thinks [John he] is smart

(350)   John$_i$ thinks [t$_i$ he] is smart.

Although similar in spirit to Kayne's approach, the analysis that I propose here differs in that Kayne assumes a clitic doubling structure for the constituent [John he] (as in Kayne (1972) and Uriagereka (1995)). Instead, I assume a coordinate structure for the constituent [John pro] in order to derive the semantic plurality associated with the PC interpretation. Another crucial difference between Kayne's analysis and my proposal is that during the course of the derivation in (348) above, the DP *John* acquires two theta roles by virtue of moving to a second thematic position. In contrast, Kayne argues that the DP *John* in (350) DOES NOT RECEIVE two theta roles: For Kayne, *John* RECEIVES ONLY the theta role assigned by the matrix verb 'think'. As Kayne explains, the theta role of the lower predicate 'be smart' is assigned to the "larger constituent [John he] (conceivably also to the head *he*)" p. 135. Notice, however, that it is not clear why *John* cannot receive two theta roles. If the pronoun *he* receives the lower theta role, as Kayne suggests, why does the DP *John* which is also a member of the larger constituent, not receive it as well? In other words, what is left unexplained in Kayne's account is what exactly blocks assignment of the theta role of the embedded predicate to the DP *John* which together with *he* has undergone Merge with that predicate.

In the coordinate analysis I proposed above, the DP *John* receives two theta roles by virtue of merging in the lower theta position and then moving into the matrix theta position; the assignment of the theta role of the embedded predicate to both members of the constituent [John pro] yields the PC interpretation. Under the present analysis, the

similarities of PC to Obligatory Control, as noted by Landau, follow straightforwardly from properties of the movement operation. First, long-distance control and strict reading under ellipsis are ruled out by the Minimal Link Condition, an independently motivated locality constraint on movement. Second, arbitrary control is excluded given that movement creates a chain with copies of the DP, i.e. movement leaves in the embedded subject position a copy of the DP *John* which by definition is identical to *John* and thus the constituent [John pro] cannot receive an arbitrary reference.

With that said, let us turn to an important issue raised by the present account, namely the stranding of *pro* in the embedded domain. I have assumed that in the derivation of PC infinitives presented above in (348), it is the overt lexical DP that raises to the matrix clause and not the empty pronoun *pro*. The question that arises is why *pro* cannot move instead of the DP *John* deriving something like (351):

(351)   [$_{TP}$ pro [$_{VP}$ pro [wanted [$_{TP}$ to [$_{VP}$ {John & pro} meet]]]]]

One way to rule out this derivation is to assume that *pro* does not receive case in English and therefore it remains in the embedded domain.[100] Assuming that *pro* exists in English and that *pro* does not receive case, we have an independently motivated explanation for why *pro* is stranded in the embedded domain in PC infinitives: *pro* resists case and thus cannot move together with the DP subject.[101]

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[100] The argument that pro does not receive case in English has been advanced by Epstein (1984) on independent grounds.

[101] Two issues, however, remain to be explained regarding the derivation of PC infinitives I proposed here: first, in the derivation shown in (348), the DP *John* is extracted out of a coordinate structure as shown in (i) violating the Coordinate Structure Constraint (CSC).
(i) [$_{IP}$ John to [$_{VP}$ {~~John~~ and pro} meet]]

An alternative solution to the question of why *pro* remains inside the infinitival complement has been advanced by Rodrigues (2007) who has developed an analysis similar to the one proposed here, arguing that the syntax of PC involves a null pronoun (i.e. *pro*) which adjoins to a DP (as shown in (352)) that itself subsequently moves out stranding the adjoined pronoun in the embedded domain.

(352)
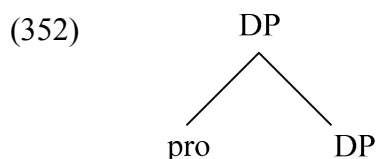
In this work, Rodrigues provided evidence from Portuguese and Spanish showing that PRO does not behave referentially independent of its controller in PC contexts, as Landau's theory predicts. For illustration, consider the PC example from Rodrigues (2007) in (353):

(353) a   vitima   quer   se   encontrar bebada

       the victim.FEM.SG   want.3SG se   meet.INF   **drunk.FEM.SG**

       'The victim wants to meet (with somebody else) drunk'

       Lit: the victim wants that she herself will be drunk during the meeting,

       independently of whether the other participants will be drunk or not.

In this example, the DP 'victim' is semantically masculine but syntactically feminine. However, we do not observe a (syntactic) mismatch in the gender agreement feature between the DP and the embedded empty subject (i.e. PRO in Landau's terms), even though there is a mismatch semantically. Additionally, we do not observe a mismatch in

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A possible solution to this issue could be that the violation of CSC is repaired by ellipsis/deletion following Lasnik's (2000, 2001) 'repair by ellipsis' theory. A second issue which may also be related to the ellipsis repair mechanism is how to rule out (ii):

(ii) *John and pro met.

I leave these issues open for further research.

number, even though, according to Landau, partially controlled PRO is semantically plural. Thus, as noted by Rodrigues, in Spanish and Portuguese, partially controlled PRO does not differ from its controller in semantic number and gender features (contra what Landau's theory predicts).

These data have been taken by Rodrigues as supporting a movement analysis of PC, one in which the DP in (352) moves out of the adjunction structure leaving *pro* stranded in the embedded thematic position. In this way, the agreement phenomena are explained: it is the DP that triggers syntactic agreement on the embedded secondary predicate before it moves out. Two issues that are crucial to her analysis are: i) How does the adjunction process result in the semantic plurality interpretation associated with PC? and ii) Why is *pro* stranded in the embedded domain? Regarding the first issue, Rodrigues assumes that *pro* is an associative plural pronoun similar to the associative morphemes – *tati* in Japanese and –*men* in Mandarin Chinese which, when attached to a DP, yield a plural interpretation of that DP, as illustrated in (354):

(354) Xiao   Qiang-**men**   shenme   shihou   lai?
       Xiao   Qiang.**pl**   what   time   come
       'When are XiaoQiang and others coming?'   (Chinese)

It is worth pointing out that Rodrigues' analysis of *pro* as a null associative morpheme appears suspicious, in that it is motivated just to derive the PC interpretation: this property of *pro* is not evidenced in any other place/domain of the grammar of English, only in PC domains, and does not seem to follow from inherent properties of *pro*.

Turning now to the issue of why *pro* is stranded in the embedded thematic position, Rodrigues assumes that "pro must occur in the scope of a modal" (p. 223), which she

considers to be the future modality associated with the domain of PC infinitives. However, no further explanation is provided as to why this requirement should hold and whether it follows from general properties of the null pronoun. It is not clear, for instance, why *pro* should be restricted in a modal environment and how modality interacts with the licensing and stranding of *pro*.

Therefore, I think that the hypothesis I adopted here, namely that *pro* does not move because *pro* resists case, is preferable in that it accounts for the behavior of *pro* in PC domains by appealing to independent properties of *pro* with no additional assumptions or stipulations. Furthermore, *pro* in the coordinate structure proposed in this section appears to behave like a universal quantifier in that it induces semantic plurality but not syntactic plurality, similar to what we observe in coordinate structures involving universal quantifiers shown in (355):

(355)   John and everybody else is happy.

In sum, if the analysis proposed here is on the right track, we can conclude that a principled explanation of the properties of PC that are attested in English infinitives can be offered by a theory of Control that dispenses with the empty category PRO and instead takes Control to be an instance of A-movement, without losing empirical coverage and without resorting to construction-specific theoretical assumptions, such as for instance the Mereology feature postulated by Landau.

CHAPTER 11

Conclusions

In this dissertation, I have investigated the syntactic properties of three distinct domains of Modern Greek grammar, i.e. i) subjunctive complements, ii) a subclass of what is traditionally referred to as Indicative complements and iii) *V-ondas* adjuncts, focusing on their Control or Non-Control properties. As was pointed out in the introduction, the Control phenomena that are attested in these domains (and were examined here) have received distinct formal analyses in previous approaches to Control in Greek, so my goal was to provide a unifying account for the Control properties that these domains exhibit, more precisely an account based on recent advances of Minimalist methodology.

Building upon insights from other researchers (Varlokosta 1993/1994, Landau 2004), I provided further evidence for the hypothesis that semantic tense plays a crucial role in the licensing of Control. I argued specifically that Control in Greek is licensed in domains which, although distinct with respect to morphological agreement (the domains of complements being morphologically finite whereas the domain of *V-ondas* adjuncts is non-finite), share an underlying grammatical property, i.e. they lack semantic tense. Adopting the view that semantic tense is expressed in the syntax by the feature [T] on I and C heads, I assumed that the Infl of domains which lack semantic tense are specified [-T] and I

further proposed that this tense deficiency results in lack of case valuation in these domains.

Based on these assumptions, I argued that Control in domains of Greek that are defective relative to semantic tense, can be construed as an instance of A-movement of the DP-subject from an embedded clause to a higher one for case valuation, in the spirit of the movement theory of Control developed by O' Neil (1997) and Hornstein (1999 *et seq*.). Conversely, I proposed that the subclasses of these domains that exhibit Non-Control properties show evidence of the presence of semantic tense (i.e. their Infl is specified [+T]) and are hence temporally independent with respect to the matrix or a higher clause tense; therefore nominative case of a DP can be valued/assigned inside the embedded domain, resulting in licensing of a lexical DP-subject or pro, given the pro-drop property of Modern Greek.

Finally, I tried to account for the 'mixed properties' (i.e. Non-Control and Object Control) that temporally dependent subjunctives display by appealing to lexical/semantic restrictions imposed by the selecting predicates on the operation Move, providing thus a possible solution to their non-uniform behavior with respect to Control. One theoretical consequence of my proposed analysis is that the categorical status of a domain, that is being a CP or being a phase as in Chomsky (2001), is not the determining factor for (dis)-allowing movement but rather the transparency of a domain to movement depends on its featural composition with respect to the [+/-] T feature on the I and C heads.

The most interesting outcome of the analysis that I proposed is that we do not need to postulate an empty category in the embedded subject position and thus we can solve the

debate of whether the empty subject is PRO or pro and most importantly avoid further assumptions and stipulations for their licensing in these distinct domains. In fact, we can derive OC in anaphoric/untensed subjunctives, και 'ke' complements and manner *V-ondas* adjuncts, by a single (and independently needed) syntactic operation, i.e. movement. In addition to that, we can account for all the interpretive OC properties that anaphoric/untensed subjunctives and και 'ke' complements display, properties not explained by theories that assume that the empty subject in these domains is pro. In Section, 5.2.2, I showed in detail that all the OC properties that the embedded empty subject displays can be deduced by general restrictions that apply to syntactic operations, specifically the operations Move and Merge, and by an independently needed set of postulates, without generating PRO in the embedded subject position or adopting construction-specific principles such as the V-to-C movement adopted by Varlokosta or the stipulations required by Landau's system.

Another advantage of the proposed movement analysis of Control in Greek is that we can account for the Backward Control pattern that is attested in Greek OC subjunctives and in και 'ke' complements, as I showed in Chapter 8, which is challenging for the theoretical approaches that assume either pro or PRO. Nevertheless, we still need to develop a formal account regarding the choice of copy deletion in Control configurations in order to derive the Forward vs the Backward Control pattern. As I demonstrated in Section 7.3, an Optimality Theory account as proposed by Spyropoulos and Revithiadou (2009) does not appear very promising, therefore the solution to this issue must be sought within

theories of linearization of chains developed in Minimalism (e.g. Nunes 1995, Uriagereka 1998 among others).

I also attempted to provide some evidence from experimental work for the theoretical proposal I developed relative to tense and Control distinctions in subjunctive complements. Based on the results that were presented in Chapter 6 from the experimental study I conducted with Greek adults, I argued that the pragmatics of the discourse context together with the tense properties of the subjunctive complements play a crucial role in the interpretation that adults assign to the embedded empty subject in Non-Control subjunctives. The present study revealed that adults have no restriction in assigning a Non-Control interpretation in both temporally dependent and independent subjunctives given an appropriate pragmatic situation, emphasizing therefore the force of these factors in the syntactic/semantic representations that adults build regarding the interpretation of subjunctive null subjects.

Finally, I believe that the investigation of the Control properties of και 'ke' complements and *V-ondas* adjuncts has provided us with important insights regarding the licensing of Control and raise important theoretical implications. As I showed in Chapter 8, και 'ke' complements are selected by the same classes of predicates that select OC subjunctives (i.e. knowledge, aspectuals, modal and implicative verbs) and this class of complements has the same deficiency that renders subjunctives embedded under the same predicates transparent to movement, that is, they lack semantic tense. First, these empirical observations suggest that the lexical/semantic properties of the selecting predicates determine the properties of their complements with respect to both tense and Control. In

other words, any complement clause that is selected by knowledge, aspectual and implicative predicates, regardless of Mood (indicative vs subjunctive), becomes a 'defective' domain with respect to semantic tense. I take this to be an irreducible property of the selecting predicates.

Second, the empirical data and the Control properties of this domain broaden our understanding about the typology of Control: that is, the relation of Control is typically attested in infinitives and gerunds or in subjunctive complements but, as we have seen here, Control is also evidenced in indicative complements, a domain that is not traditionally associated with Control. We could therefore claim that Control cannot be tied to specific syntactic domains (e.g. infinitives, gerunds or subjunctives) but to specific classes of predicates. Furthermore, the investigation of the Control properties of και 'κε' complements and *V-ondas* adjuncts reveals that Control cannot be tied to morphological agreement: as we have seen here, indicative και 'κε' complements show overt morphological agreement whereas *V-ondas* do not. Yet, the relation of Control is licensed in both domains. What is more, despite the absence of overt morphological agreement in *V-ondas* adjuncts, overt lexical DP subjects and pro are licensed in the subclass of temporal *V-ondas*. I argued that, if we 'look deeper' than the surface form that corresponds to morphological agreement both domains share an underlying property: they both lack semantic tense. Based on this evidence, I proposed that lack of semantic tense results in lack of case valuation, linking thus Case to semantic tense and not to Agreement.

Furthermore, the proposal that Control in indicative και 'ke' complements is also construed as an instance of A-movement, similarly to two other domains of the Greek

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grammar, suggests that Mood is not the determining factor for (dis)allowing A-movement (cf. Polinsky and Potsdam (2006)). Instead, any 'defective' domain in terms of semantic tense regardless of Mood and morphological tense can be transparent to movement. The claim that I put forward regarding the correlation between case and semantic tense, and the disassociation of application of Move from Mood raise important implications for syntactic theory which need to be further explored, so I leave them open for future research.

In conclusion, with this dissertation, I have attempted to examine the syntactic properties of three distinct domains of the Greek grammar and to contribute to the long-standing debate regarding the licensing of Control in grammars that show finite Control. Building on the hypothesis that semantic tense is a crucial factor in the licensing of the Control or Non-Control relation and assuming minimalist methodology to derive the properties of the syntactic domains under investigation, I provided a unifying account of Control in Greek. I hope that the empirical and theoretical implications that this dissertation raises will result in fruitful research in the future and contribute to our better understanding of the theory of Control.

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