TENSE, ASPECT, AND ADVERBIALS

IN MODERN GREEK

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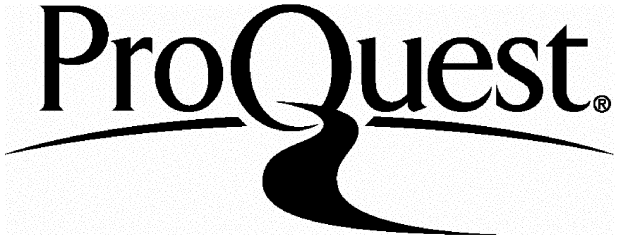

Αφιερώνεται στους γονείς μου.

ABSTRACT

The aim of this thesis is to provide a syntactic analysis of the tense and aspect systems, and of some classes of adverbials in Modern Greek (MG), within the Minimalist Programme (cf. Chomsky (1993, 1995a, 1995b)).

In Chapter 1, I provide a summary of the Minimalist Programme for Linguistic Theory as developed in Chomsky (1993, 1995a, 1995b). I further discuss word-order in MG and I adopt a working hypothesis for the structure of the clause in the language. More specifically, I follow Philippaki-Warburton's (1985) claim that VSO is the basic order and that SVO is some kind of a "derived" order in MG. In minimalist terms, I assume that the verb moves overtly up to the Mood head for licensing. In VSO, the subject occupies its canonical position ([Spec, TP] in minimalist terms), and in SVO, it is in the [Spec, MoodP] position due to a [+theme] feature.

In Chapter 2, I make a brief review of semantic theories of tense in the literature. I consider the neo-Reichenbachian model by Hornstein (1990) in more detail. On the assumption that SRE-representations are composites of SR- and ER-relations, I suggest that the former are primary while the latter are secondary temporal relations. Moreover, I adopt the neo-Reichenbachian model in the representation of the tense system in MG. Next, I propose a mapping mechanism from the semantics to the syntax of tense in MG influenced by Giorgi & Pianesi's (1991) theory of tense syntax. More specifically, I suggest that SR-relations are mapped to the functional head of T1. I also claim that T is responsible for the licensing of the subject in MG. Likewise, I suggest that ER-relations are mapped to the functional head of T2.

In Chapter 3, I discuss the case of deictic temporal adverbs (DTA) in MG. I first examine their intrinsic properties and I review the existing analyses for them in the literature. Influenced by Enç (1986, 1987), I analyse DTA's, in MG, as being the antecedent of tense by restricting its range (they will share the same index). Consequently, they will appear higher than the tense in the structure and they will c-command it. In view of their distribution in the sentence, I propose that DTA's occupy a left or right non-argument specifier of TP, in their typical positioning. I analyse their non-typical positioning as involving topicalisation or focusing of the adverbial by an operation of Move F (attracted by a feature in the relevant head).

In Chapter 4, I examine the distinction between perfective and imperfective viewpoint aspect in MG, in terms of Smith (1991). I investigate the semantic and morphological properties of viewpoint aspect in MG and I suggest that viewpoint aspect is an independent functional category in MG and that it heads an Aspect Phrase in the sense of X-bar theory. Apart from checking the aspectual features of the verb, the aspect head is also responsible for the licensing of the formal features of the object. Moreover, I examine the status of some adverbials in MG that show a sensitivity to the perfective-imperfective specification of the verb. I propose that these adverbials (non-

directionally) select an AspP on the basis of its [± perfective] specification. They appear by Merge as (left or right) non-argument specifiers of AspP, in their typical positioning, and they are topicalised or focused when they display non-typical positioning.

In Chapter 5, I discuss the syntax of "manner" adverbs in MG. I examine their lexical and syntactic properties. I also examine the properties of "subject-oriented" adverbs and I review existing treatments of this phenomenon. I also consider the possibility of adverb incorporation in the language as formulated by Rivero (1992a) and I show that empirical evidence suggests rather for a lexical than a syntactic solution to this issue. On the basis of the distribution of "manner" adverbs in MG, I propose that they should be represented as left or right non-argument specifiers of the Verb Phrase, in their typical positioning. Their non-typical positioning is accounted for in terms of topicalisation or focusing as with temporal and aspectual adverbials. In terms of licensing, I consider "manner" adverbs to be predicates (non-directionally) selecting a VP to which they assign a type of thematic role. For subject-oriented adverbs I propose that they can obtain this interpretation since they are lexically compatible to a [+ human/animate] agent and they take wide scope with respect to the whole sentence.

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TABLE OF CONTENTS

CHAPTER ONE: "INTRODUCTION"

CHAPTER TWO: "TENSE: FROM SEMANTICS TO SYNTAX"

CHAPTER THREE: "DEICTIC TEMPORAL ADVERBIALS"

CHAPTER FOUR: "ASPECT AND RELATED ADVERBS"

CHAPTER ONE

INTRODUCTION

1. Preface

This chapter is an introduction to the general theoretical framework that I have adopted for the conduct of the research and the formulation of the ideas that constitute this thesis. The sections that follow contain, first, some considerations about linguistics and the generative enterprise in general. Further, they briefly introduce the Principles and Parameters theory and the main claims of the Minimalist Programme for linguistic theory which is the framework my thesis is based on. The final sections deal with issues relative to the structure of the clause in Modern Greek (MG) that I assume in my discussion of the syntax of tense, aspect, and adverbials in subsequent chapters.

2. Preliminary Considerations

Linguistics is about explaining the nature of language and the uniqueness of human beings in knowing and acquiring a language. So, any adequate linguistic theory needs to fulfil a bipartite task, first, to offer an explanation for the fact that natural languages are identical at an abstract level, despite their apparent differences, and, second, to allow for variation between different languages, in a principled manner. Generative Grammar is a theory that achieves these tasks by characterising the language knowledge of a native speaker as a formal and finite set of principles and rules which generates the representations underlying all and only the well-formed sentences in a natural language (cf. Chomsky (1965)).

The generative model of Principles and Parameters (cf. Chomsky (1981, 1986a, 1986b, 1991, 1993, 1995a, 1995b)) accounts for the above task by assuming a finite set of principles and a finite set of parameters. The set of universal principles applies to any natural language and is assumed to be innate to human beings, making up what we call Universal Grammar (UG). The set of parameters offers a number of open values whose selection results in the variation attested among natural languages. The fixing of these parametric values, in a particular manner, is assumed to be the process behind language acquisition.

There are two major opinions with respect to which elements are associated with which parameters. The first is the one that associates parameters with the principles of UG (cf. Chomsky (1981, 1986a)). According to this opinion parameters are understood as switches with a finite number of open choices which are determined on the basis of positive experience. An example of such a parameter is the Head Parameter (in X-bar theory) which offers a binary choice of positions for heads with respect to their complements. For instance, English is taken to have the parametric value "head-first" (yielding the order Head - Complement) as opposed to Japanese which is taken to have the parametric value "head-last" (yielding the order Complement - Head). The second opinion about parametric variation is the one developed in Borer (1984) which argues that parameters are associated with the inflectional system of languages. Here parameters are not associated with UG principles but with individual lexical items (encoded in their lexical entries). As Wexler & Manzini (1987) put it, there is empirical evidence (from binding theory) which indicates that different lexical items from the same language may vary in their parameter setting.

A further development of the second opinion approaches parametric variation from the distinction between lexical (substantives) and functional (non-substantives) categories (cf. Chomsky (1991, 1993, 1995b)). Lexical categories are defined on the basis of the feature matrix [±N, ±V] and we understand V(erbs), N(ouns), A(djectives), and P(repositions) as being such

categories.[1] Lexical categories are taken to have fixed properties across languages which are not subject to parametric variation. Functional categories include, among others, the elements C(omplementiser), D(eterminer), Neg(ation), and I(nflection). The category of Inflection is assumed to be a collection of individual functional categories related to the morphology of the verb (cf. the "Split-Infl" hypothesis of Chomsky (1991) and Pollock (1989)). These include T(ense), Agr(eement), Asp(ect), Mood, Voice, etc. Functional categories are taken to have non-fixed (abstract) properties across languages which are subject to parametric variation.

In this thesis I discuss issues concerning the status of the functional categories of T and Asp in the syntax of MG and their contribution to the licensing of some adverbials in the system

3. The Minimalist Programme[2]

3.1 Theoretical Assumptions

The Minimalist Programme for Linguistic Theory (MPLT) is the latest development within the Principles and Parameters theory (cf. Chomsky (1993, 1995a, 1995b)). According to MPLT, language is part of the natural world as a faculty of the human brain. So, language is a system embedded in performance systems responsible for the articulation, interpretation of its expressions, as well as for their reference and other actions on them. The performance systems are grouped into two major categories, the *articulatory-perceptual* (A-P) and the *conceptual-intentional* (C-I) systems. MPLT abandons the levels of D-structure and S-structure assumed in the Government and Binding theory (and earlier approaches; cf. Chomsky (1981)) as being unmotivated. In view of virtual conceptual necessity, it recognises only two linguistic levels of representation, the interface levels A-P and C-I. A-P and C-I provide the instructions to the articulatory-perceptual and conceptual-intentional systems, respectively. In general

terms, the A-P level is taken to be the Phonetic Form (PF) and the C-I is understood as the Logical Form (LF).

A language L is a generative procedure that constructs pairs (π, λ) which are interpreted at the A-P and C-I interfaces. π is a PF-representation and λ is an LF-representation. Both π and λ consist of "legitimate objects" which can be interpreted at their respective levels. If a representation consists only of legitimate objects it is said to satisfy the Principle of Full Interpretation (FI).

A language L consists of two components: a lexicon and a computational system (C_{HL}). The lexicon contains lexical items with their idiosyncratic properties. Some parts of C_{HL} are relevant only to π, these constitute the PF-component. Likewise, some parts of C_{HL} are relevant only to λ, these constitute the LF-component. Some other parts of C_{HL} are relevant to both π and λ, this is the overt syntax. Lexical items enter the computational system which, consequently, generates a set of derivations. A derivation D is said to converge at one of the interface levels if it yields a representation which satisfies FI at this level. In order for a derivation to converge it needs to converge at both interface levels (PF and LF). A derivation D crashes if it does not converge at one of the interface levels. Nevertheless, there are some additional conditions that a convergent derivation D needs to meet. That is, a derivation must be *optimal* in terms of some natural economy conditions. These include: locality of movement, no "superfluous steps" in a computation etc. So, a convergent derivation that does not meet these economy conditions is blocked.[3] In addition to that, the systems that receive and use the information provided by C_{HL} also impose a set of conditions, the so-called *bare output conditions*, which enable them to convert linguistic information into some other form which can be used by these external systems.

MPLT requires that a computation C_{HL} which derives a convergent pair (π, λ) is subject to minimalist conditions. MPLT does not allow any

improper concepts, conditions or entities to enter the system. This will ensure that language will meet a condition of *inclusiveness* in that the interfaces will consist of nothing else than "arrangements of lexical properties".

3.2 The Computational Component

Apart from the fact that a pair (π, λ) must satisfy the output conditions that we saw above, π and λ must also be compatible with each other in that they are based on the same lexical choices. C_{HL} is understood as mapping an array A of lexical choices to the pair (π, λ). The array A indicates the lexical choices and how many times each choice is selected in the formation of the pair (π, λ). Moreover, a *numeration* N is a set of pairs (LI, *i*) where LI is a lexical item and *i* represents the number of times that this LI is selected. So, an array A is (at least) a numeration N which is mapped to (π, λ) by C_{HL}. C_{HL} selects an item from the numeration N and reduces its index *i* by 1 and then it continues with the computations; this operation is called *Select*. The well-formedness requirement here is that all indices *i* of lexical items must have been reduced to 0 for a derivation to proceed.

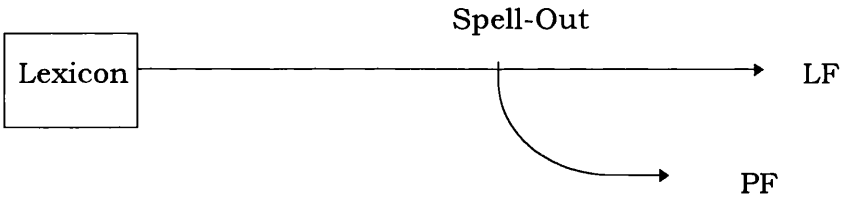
C_{HL} operations recursively construct syntactic objects (SO) by selecting items in the numeration N and combining them with syntactic objects formed by previous operations. The ultimate goal of these operations is to construct a single syntactic object by exhaustive combinations of pairs of syntactic objects. The operation that takes the pair of syntactic objects (SO_i, SO_j) and forms out of them the new syntactic object SO_{ij} is called *Merge*.[4]

Each member of the pair (π, λ) is differently constituted since there is material in π which is not interpretable at LF and there is material in λ which is not interpretable at PF. MPLT assumes that a computation splits into two parts, the one part proceeds to the formation of λ and the other

part to the formation of π, and that there is no interaction between the parts of the computation. It is further assumed that any operation can apply at any point in the computation to λ, but this is not the case with the computation to π.

MPLT actually assumes that at some point in the computation from N to LF there is an operation called *Spell-Out* which applies to the structure formed and separates all elements relevant to PF. The remainder of the structure is mapped to LF by operations similar to those applying before Spell-Out, while the PF-relevant structure is mapped to PF by different types of operations. Neither PF nor LF can have access to the Lexicon after the Spell-Out point. The part of C_{HL} before the application of Spell-Out is called the *overt component*, the part that proceeds with the computation to LF is called the *covert component*, and the part that proceeds with the computation to PF is called the *phonological component*.[5] So, according to the MPLT the structure of our grammar will look like in the schema below:

(1)



3.3 The Lexicon

Each lexical item is stored in the lexicon with its lexical entry consisting of a set of features. These include phonological, semantic, thematic, and categorial features that are idiosyncratic for the particular lexical item (intrinsic features). As soon as a particular lexical item enters the numeration, and before it is selected for the derivation, it receives a set of other features like ϕ-features, Case, Tense etc. (formal features). These features follow from principles of UG and not from the idiosyncratic properties of the particular lexical item. So, it follows that a selected lexical

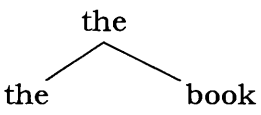
item enters the derivation bearing a complete set of intrinsic and formal features. Apart from lexical categories, the lexicon is assumed also to contain the functional categories, which have a series of their own intrinsic features.

3.4 Phrase Structure

As we saw earlier, C_{HL} selects an item from the numeration N and combines it with other syntactic objects by the operation Merge to form larger syntactic objects. In abstract terms, Merge combines two objects α and β to form the new object K. K is nothing else than a set γ containing the set $\{\alpha,\beta\}$, K has the form $\{\gamma\ \{\alpha,\beta\}\}$ where γ is its *label* and α and β are its constituents. In the form $\{\gamma\ \{\alpha,\beta\}\}$ γ is either α or β meaning that either α or β is the *head* which *projects* K.

Apart from lexical features and existing syntactic objects, no other elements are allowed in the phrase structure representation. In minimalist terms, phrase structure is assumed to be "bare". Consequently, the minimalist system does not recognise elements like indices, or terms like X^{max}, X' or X^0 as entities. So, the expression *the book* will not be assumed to be a DP resulting from a head D taking an NP-complement. Instead of assuming that the categorial feature of a lexical item projects, MPLT postulates that it is the lexical item itself that has this property. So the expression *the book* will have the following structure:

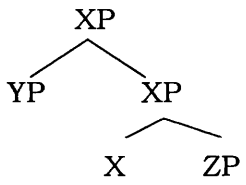
(2)



So, all X-bar theory mechanisms are abandoned as not essentially necessary. However, for the purposes of exposition alone, I will continue to use the X-bar notation in this thesis, bearing in mind that all labels correspond to the respective lexical items.

The system continues to use the structural terms *complement* and *specifier* in order to define configurational relations of the head. So, in the following structure:

(3)



the head X enters in the *head-complement* relation with its complement ZP and in the *specifier-head* relation with its specifier YP.

A further innovation of MPLT is that it abandons adjunction as a structural relation between two maximal categories XP and YP. It maintains however that a category X (or a feature) can adjoin to some category Y. Moreover, multiple specifiers are allowed to occur within the domain of an XP.[6] Specifiers are distinguished in terms of the familiar A/A'-distinction. Argument specifiers are taken to accommodate arguments for licensing reasons, while non-argument specifiers are taken to accommodate other lexical material including adverbials.

3.5 Checking Theory and Move

As we saw earlier, MPLT assumes that the morphological properties of lexical items take the form of features. A lexical item enters the derivation bearing a set of lexical features (both intrinsic and formal). Formal features are related to inflectional morphology and encode a specific relation with other items that participate in a derivation. In order for a derivation to meet the requirements of FI, formal features need to be checked against the corresponding ones borne by the relevant functional heads. In other words, this is the mechanism that formally licenses such lexical items in the syntax. The operation is called *Feature Checking* and is assumed to take place under specifier-head agreement.

Features are classified with respect to their being [± interpretable]. Features that are [+ interpretable] are checked and remain in the derivation till they receive a proper interpretation at LF. Those features that are [- interpretable] are checked and may be deleted if they are not further accessible by C_{HL}.

In order for a feature to be checked it needs to move to the specifier position of a functional category after being attracted by a matching feature in the head of that category. Whether this movement will be overt or covert depends on the [± strong] characteristic of the relevant features; a [+ strong] feature forces overt movement while a [- strong] feature requires covert movement. The distinction [± strong] is said to be responsible for the word-order variation between e.g. English and French whereby the former displays an S-Adv-V-O order while the latter displays an S-V-Adv-O order. Assuming a common hierarchical position for the adverbial (i.e. adjoined to VP), the PF position of V results from covert V-movement in English, due to [- strong] Inflection-features, and from overt V-movement in French, due to [+ strong] Inflection features.

MPLT takes movement as having the form of an operation *Attract/Move F*, where F is a variable ranging over formal features. The operation Attract/Move F is restricted to features which need to satisfy their morphological properties, as required by the Last Resort condition given below:

(4) **Last Resort**
Move-F raises F to target K only if F enters into a checking relation with a sublabel of K.

where a sublabel is a feature of the head H of K. Moreover, the operation Attract/Move F is subject to a locality condition, called the Minimal Link Condition, which ensures that a legitimate operation (according to (4)) is only allowed to cover the shortest distance possible:

(5) **Minimal Link Condition**
α can raise to target K only if there is no legitimate operation Move β targeting K, where β is closer to K.

The operation Attract/Move F assumes that only formal features really need to move for checking purposes while the lexical items to which these features belong stay in their "base" positions. However, there are several cases where formal features take along their lexical items when moving to a checking position, this is a type of pied-piping operation. Pied-piping of lexical material is not necessary for feature checking but it is required for convergence by output conditions in the phonological component (in most cases).[7]

3.6 Functional Categories

It is obvious from what has been said so far that functional categories play an important role in the conception of language, in minimalist terms. MPLT recognises three functional categories, namely T(ense), C(omplementiser), and D(eterminer). All three contain interpretable features and hence they have the property of providing instructions either at LF or PF or even at both interfaces. MPLT abandons earlier assumptions that Agr(eement) is also a functional category in view of the fact that it lacks any interpretable features and so it is not needed for interface considerations. As a consequence of the abandonment of Agr projections (i.e. AGR_S and AGR_O), the subject-DP is assumed to be licensed in the argument-specifier of TP where its features are checked against those borne by T. Likewise, the object-DP is assumed to satisfy its licensing requirements within a VP-shell *à la* Larson (1988).

As will become clearer in Chapter 4 of this thesis, I will assume that we can view object-DP licensing as a parallel operation to subject-DP. In other words, we should allow for an additional category in the inventory of functional categories that MPLT recognises which will be taken to be the licenser of object-DP. I believe that Asp(ect) (i.e. viewpoint aspect in terms of

Smith (1991)) is a functional category in view of the fact that it contains interpretable features linked to the morphology of the verb and so it can be thought of as providing instructions at the LF interface, at least. So, the formal features of object-DP will move (or will be attracted) to the argument-specifier of AspP for checking reasons.

3.7 A Note on Morphology

Concluding my discussion about MPLT it is important to say a few things about the part of the system concerned with Morphology, the so-called Morphological Component (MC). The actual structure and exact functions and operations of this component are currently a matter of great controversy, so, I will simply make some assumptions here for the purposes of my work.

There are three major approaches to morphology in the literature. The first is the a-morphous or affixless theory developed by Beard (1966, 1991), Aronoff (1976, 1992), and importantly by Anderson (1992). The central claim of this theory is that only stems of the lexical categories (N, V, A) are morphological entities (i.e. sets of semantic and phonological features compatible with each other). According to this view, affixes are nothing but the by-product of word-formation rules which are sensitive to the features associated with lexical categories.

The second is the lexicalist theory of morphology proposed, mainly, by Lieber (1992). According to this theory both affixes and stems are morphological entities that come in the form of lexical entries where sound and meaning are combined yielding the words which are inserted and operate in the syntax.

The third alternative is the theory of distributed morphology (DM) proposed by Halle & Marantz (1993). This approach to morphology is a

combination of elements from both the a-morphous and the lexicalist theories mentioned above. In other words, DM combines the idea of the a-morphous approach whereby terminal elements that appear in syntactic structures are separated from their phonological realisation, with the idea of the lexicalist approach whereby the phonological realisation of those terminal elements in the syntax is governed by lexical entries which relate sets of morphological features to sets of phonological features.

Recall that the main claim of MPLT that I adopted earlier in this chapter is that words enter a syntactic derivation already bearing a set of morphological features. The syntactic mechanism is checking (evaluating) those features and feeds the respective interface levels with well-formed structures. That is to say, syntax is not involved in the building of inflected words by head-to-head movement and other similar operations, instead words are formed in the lexicon.

It is clear from what I have said above that the theory of morphology that best matches MPLT in its current version is the lexicalist approach. This is the theory I will adopt for the purposes of the present work. More specifically, I will assume that all the features of an inflected word come in the form of an unordered set. Through the checking mechanism these features are checked one by one against those borne by the relevant functional head to which they move and adjoin. In terms of order, features are checked in the order in which they were affixed to the stem in the lexicon, so, the innermost features (corresponding to the innermost affixes) are checked first.

Given the purposes of this thesis, my assumptions about morphology constitute just a working hypothesis that matches the minimalist programme in the best possible way. I believe further research is needed in order to establish a satisfactory model of the morphological component.

4. Modern Greek: The Structure of the Clause

Having presented the general theoretical framework adopted in this thesis, I need to make a series of assumptions about the structure of the clause in MG before I proceed with the discussion of the particular issues concerning this work. These assumptions will merely provide a working hypothesis for formulating my claims about the syntax of tense, aspect, and adverbials in MG. To this extent they should not be taken to constitute a complete theory of MG clause structure.

4.1 Word-order

MG displays a relatively free-word order pattern, as it appears to allow all possible permutations of the elements S(ubject), V(erb), and O(bject).[8] Nevertheless, SVO and VSO are considered to be "very natural and structurally (no clitics) and intonationally unmarked" patterns in the language (Philippaki-Warburton (1985: 121)). As a matter of fact, these are the main patterns that will concern me here, for the purposes of this thesis.

The traditional assumption among scholars has been that MG is a typical SVO language (cf. Greenberg (1963) or Lightfoot (1981)). Philippaki-Warburton (1982, 1985) reconsiders this issue and suggests that this is not at all the case. In particular for an SVO sentence, she argues that it is pragmatically affected in MG if compared to a corresponding VSO one. By "pragmatically affected" Philippaki-Warburton means here that an SVO sentence contains the division between the pragmatic categories of *theme* followed by the pragmatic category of *rheme* (adopting the terminology of the School of Prague; cf. Firbas (1964)).[9] On these grounds, SVO sentences are thematic structures with the subject as theme preceding V-O with neutral intonation. Meanwhile, VSO sentences are the least pragmatically affected as they do not show the opposition between theme-rheme on the assumption that they only contain new information. Concluding from this

and further evidence, Philippaki-Warburton claims that VSO is the basic order in MG and that SVO is a derived order with the subject not occupying its usual syntactic position.[10]

4.2 *Pro*-drop and the Distinction between SVO and VSO

Another well-known property of MG is that it can have finite sentences without an overt subject. In this respect, a language like MG (or Spanish, Italian, Portuguese, Hindi etc.) is known as a null-subject or a *pro* drop language, in Government and Binding Theory terms. The assumption behind this is that a (little) *pro* argument occupies the canonical position of the subject licensed by the rich AGR properties found in such languages.

Philippaki-Warburton's claim about VSO being a basic order and SVO being a derived order has been followed and extended by several people in the MG literature. Tsimpli (1990) captures the above claim by arguing that in VSO the subject is in its canonical position (Specifier of AGRP) while in SVO the subject is a base-generated topic left-adjoined to the clausal projection (CP in this case) coindexed with a *pro* argument in the canonical subject position (cf. Rizzi (1982, 1986)). Alexiadou (1994) proposes that in SVO the subject is in the specifier position of a Topic Phrase (on top of IP; cf. Agouraki (1993)), while she takes it that in VSO the subject is in its basic position [Spec, VP] (following Tsimpli's suggestion). Alexiadou assumes that in both SVO and VSO orders the canonical subject position [Spec, AGR_SP] is occupied by *pro* which functions as a referential entity in the former case and as an expletive in the latter case.

4.3 The Distinction between Thematisation and Topicalisation

It follows from what I have said so far that the key factor in the distinction between VSO and SVO is the actual function of the subject. Philippaki-

Warburton (1985) makes clear that the subject in SVO does not occupy the standard position for subjects but rather a derived position. This has the effect of the subject being considered a theme as opposed to the V-O constituent which is considered as the rheme.

Let me remind you that the analyses mentioned above claim that the subject in SVO is taken to be a base-generated topic, whatever the structure assumed. This solution is based on Chomsky's (1977) suggestion whereby topics are base-generated as sisters of the S' node (i.e. in [Spec, CP]) by the PS-rule: S'' → TOP S'.

I believe it is crucial here to differentiate pure topicalisation from thematisation (in Philippaki-Warburton's terms). On the one hand, topicalisation appears to involve some sort of displacement (by base-generation or movement) of a constituent from its original position to the front of a sentence accompanied by some prosodic effect (such as an intonation pause).[11] On the other hand, thematisation is not a genuine displacement operation but it is some sort of pragmatic strategy that has the effect of interpreting the subject of a sentence as a theme as opposed to a rheme.

In the derivation of the (basic) orders VSO and SVO in MG, the subject is linked to three structural positions (excluding positions held after A'-movement). The first is the thematic position in [Spec, VP] where the subject satisfies the selectional properties of the verb.[12] The second is the licensing (Case or canonical) position in [Spec, TP] (or [Spec, AGRSP]) where the subject moves to check its Case and ϕ-features. The third position, only relevant to SVO, is some position [Spec, XP] (or XP-adjunct) linked to a theme interpretation; that is by appearing there the subject is interpreted as a theme. Clearly, from the above positions, [Spec, TP] corresponds to Philippaki-Warburton's "standard" position and the mysterious [Spec, XP] or XP-adjunct corresponds to her "derived" position.

Philippaki-Warburton's observation about the function of the subject in SVO can motivate an alternative syntactic account of topicalisation, in my opinion. Taking into consideration the fact that S in SVO has (solely) the pragmatic effect of being interpreted as a theme and that no other effects occur, I would like to suggest that this is due to some feature [+ theme], borne by the subject, which obtains such an interpretation at the LF interface. I will assume that this feature is checked in the specifier position of a Mood phrase which, I will take it, corresponds to Philippaki-Warburton's "derived" position. As we will see next, the verb is also linked to this phrase in order to satisfy its morphological requirements.

4.4 Mood Phrase in M.Greek

Despite the fact that MPLT only countenances three functional categories (see Section 3.6), the postulation of a Mood category is supported by the fact that MG realises an overt morphological distinction between Indicative, Subjunctive (and Imperative) mood. The distinction between Indicative and Subjunctive is realised by the presence of the subjunctive particle *na* which always appears immediately before the verb, unless mediated by the object clitic pronoun:

(6) (a) θélo o Jánis *na* fái to biskóto.
want-1S the-Yanis-NOM SUBJ eat the-biscuit-ACC
"I want Yanis to eat the biscuit".

(b) θélo o Jánis *na* to fái
want-1S the-Yanis-NOM SUBJ eat it-ACC
"I want Yanis to eat it".

(c) *θélo *na* o Jánis fái to biskóto.
want-1S SUBJ the-Yanis-NOM eat the-biscuit-ACC

Several people have claimed that Mood is a functional category and that *na* is the morphological realisation of a feature [+ subjunctive] contained in the Mood head (cf. Philippaki-Warburton (1990), Drachman (1991), Rivero

(1990, 1992b), Terzi (1992), Tsimpli (1990) and Alexiadou (1994); cf. Agouraki (1993) who treats *na* as a complementiser).

I wish to follow this idea and claim that the verb is inserted by Merge carrying a collection of inflectional features. These include the [mood], [tense] and [aspect] features which are checked by overt movement and adjunction to the relevant functional heads (cf. Chapters 2 and 4). So, the verb is expected to move (overtly) to the Mood head for checking purposes. I will follow the standard assumption that the phrasal projection of Mood is situated before TP in the structure, as shown below (cf. also Section 3.6 above):

(7) ... [$_{MoodP}$ Mood [$_{TP}$ T [$_{AspP}$ Asp [$_{VP}$ V ...]]]]

Bearing all this in mind, I will keep to the suggestion that the VSO-SVO distinction is obtained by the subject occupying different positions in each case. I will follow Philippaki-Warburton (1985) and Tsimpli (1990), among others, and I will assume that, in VSO, the subject is in its canonical position which I will take to be the [Spec, TP], according to MPLT. The subject has moved there following its formal features for checking purposes.

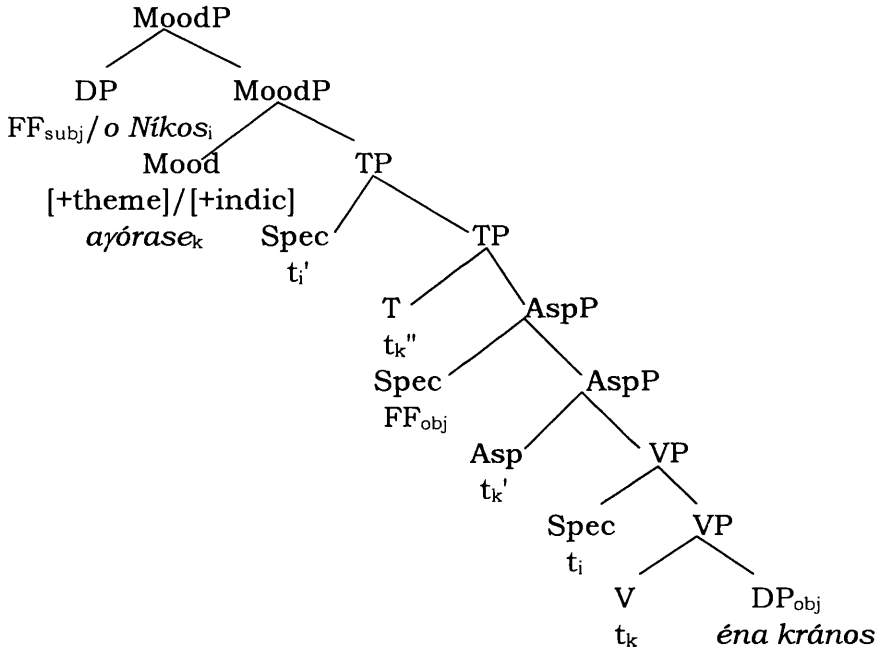
As I said above, I will assume that in SVO the subject is in the [Spec, MoodP] position. I will consider this as an A-position and I will claim that a subject-DP can only move to this position if it bears a feature [+ theme] provided by the lexicon. Therefore, this feature must be checked against a matching one in the Mood head under Spec-head agreement, in satisfaction of FI. Similar suggestions about the subject appearing in the [Spec, MoodP] have been made by other people, on independent grounds. Similarly to my suggestion, Drachman & Klidi (1992) argue that in SVO the subject appears in this position and obtains a "topic" interpretation. Pollock (1993) makes a similar suggestion for English; assuming in a sentence like: *John will probably not phone at 5* that the subject *John* is in [Spec, MoodP] and the modal *will* is in the head position.

Let us now see an example that will illustrate the account I have suggested above for the distinction between VSO and SVO in MG. Let us first consider the following SVO sentence:

(8) O Níkos aγórase éna krános.
the-Nikos-NOM bought-3S one-helmet-ACC
"Nikos bought a helmet"

Assuming the schema in (7) above I will suggest that this SVO sentence will have the following structure:

(9)



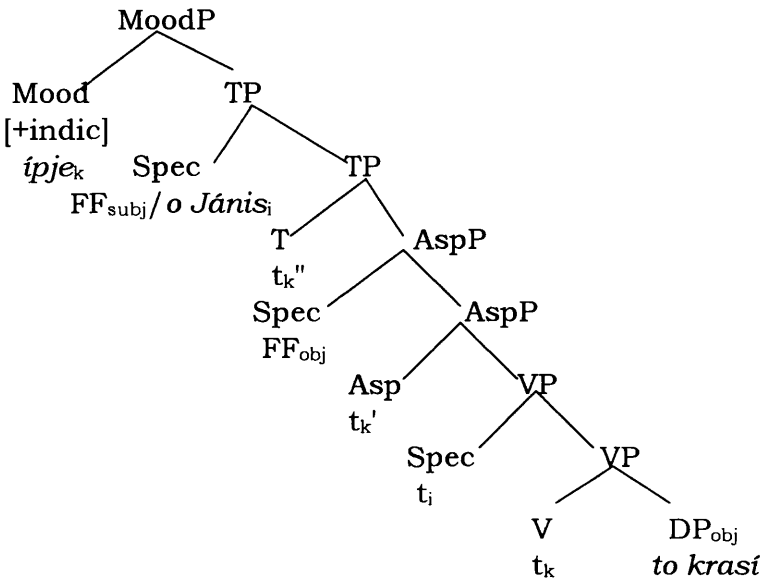
The subject-DP *o Níkos* is pied-piped by its features from its thematic position [Spec, VP] to [Spec, TP] where Case and ϕ-features are licensed. Finally, it is carried along to [Spec, MoodP] where its [+theme] feature is checked against the matching one in the head Mood. Through this feature the subject is interpreted at LF as a theme, in the sense of Philippaki-Warburton (1985). The verb *aγórase* moves overtly from its "base" position to Asp (to check its aspectual features), then to T (to check its tense features), and it terminates in Mood where it checks its mood feature [+ indicative]. The formal features of the object DP *to krános* move from within VP to [Spec, AspP] for licensing while the DP itself remains in its original position.

A VSO sentence like that in (10) below illustrates the basic word-order pattern in MG:

(10) Ípje o Jánis to krasí.
drank-3S the-Yanis-NOM the-wine-ACC
"Yanis drank the wine"

The sentence will have the following structure:

(11)



Here the subject is pied-piped up to the [Spec, TP] position where its formal features are licensed. The verb moves overtly for feature checking up to the Mood position and the formal features of the object-DP are checked in [Spec, AspP] without pied-piping the lexical item. Comparing this VSO-structure with the SVO-structure given earlier in (9) we observe that the actual difference lies in the fact that the subject in SVO has to check an additional feature. This difference is reflected both in terms of linear order and in terms of the LF-interpretation yielded in each case.

As a concluding remark to this section, I believe that the account I have suggested above accounts for Philippaki-Warburton's (1985) observations in an elegant manner in minimalist terms. In other words, it does not invoke any additional mechanisms like coindexation nor does it introduce any new functional categories without motivation as is the case

with previous analyses. It is important to note, however, that my account fails to give an answer to a very basic question.[13] That is, is there a real relation of the subject to Mood that could justify this type of dependency between them? A possible suggestion for an answer to this would be to examine the properties, say, of the imperative mood that appear to block the realisation of an overt subject, across languages. Nevertheless, I do not have a concrete answer to this question and I leave this problem open for future investigation. For the purposes of this work however, I will keep using the above account as a working hypothesis.

5. Conclusions

In this chapter I have provided an introduction to the theoretical framework that I am going to use in this thesis. In Section 2, I sketched the basic claims of the Principles and Parameters theory. In Section 3, I discussed in more detail the Minimalist Programme, as proposed in Chomsky (1993, 1995a, 1995b). In Section 4, I examined the structure of the clause in MG and I provided a minimalist analysis which (tentatively) accounts for the observations of Philippaki-Warburton (1985) about word-order variation in MG. I will use this analysis of the MG clause as a working hypothesis for the purposes of this thesis.

Endnotes

1 Notice that some Prepositions are taken to be functional categories. Moreover, Adverbs are not included in the inventory of lexical categories as they cannot obtain values of the [±N, ±V] matrix, according to Stowell (1981). For the purposes of this thesis I will assume that adverbs are indeed lexical categories.

2 Note that while I adopt the minimalist programme for the main exegesis of my treatment, I regularly use pre-minimalist ideas and notation when I discuss the work of others.

3 Chomsky (1995b) assumes that these economy conditions need to apply only to convergent derivations.

4 The operations *Select* and *Merge* are fundamental for a derivation and they are assumed to be costless so they are not subject to the economy and convergence conditions that I mentioned earlier.

5 The part of the computation from Spell-Out to PF is assumed to be subject to the module of Morphology which constructs word units, in the usual sense of the term, which are further submitted to a series of phonological processes which eliminate any elements not interpretable at PF.

6 A language chooses how many specifiers a head can have. In most cases, only one argument specifier and up to two non-argument specifiers can be found.

7 That is, to ensure pronounceability of formal features at PF.

8 In some cases, a particular pattern can only be made possible by the presence of an object clitic or by moving either the subject or the object.

9 Theme is defined as the part of the sentence that shows the weakest communicative dynamism, by adding little (or no) extra information to what has been already communicated in the discourse. Rheme, on the other hand, represents the part of the sentence that shows the strongest communicative dynamism, by adding extra information to what has been already communicated.

10 It is important to note that the claim that SVO is a derived order does not invalidate the fact that SVO is the most useful, natural, and frequent word-order in the language.

11 My assumption, in this thesis, will be that topicalisation is an instance of A'-movement to the [Spec, CP] in the sense of van Riemsdijk & Williams (1986) (cf. Chapter 2).

12 Throughout this thesis I am assuming the VP-internal hypothesis for the "external" argument of the verb (cf. Kuroda (1985), Kitagawa (1986), and Koopman & Sportiche (1991)).

13 Importantly, neither Drachman & Klidi (1992) nor Pollock (1993) give a solution to this problem either.

CHAPTER TWO

TENSE: FROM SEMANTICS TO SYNTAX

1. Preface[1]

The purpose of this chapter is to discuss some issues concerning the syntax of Tense in MG.[2] In Section 2, I make a brief review of existing semantic theories of tense and I discuss the neo-Reichenbachian theory in more detail. In Section 3, I propose some minor adjustments to the neo-Reichenbachian theory, without introducing any new theoretical concepts or devices to it. I also present the Tense system of M.Greek and I apply my version of the neo-Reichenbachian semantic theory to it. In Section 4 I review some theories of mapping from tense semantics to Tense syntax and I propose a mapping mechanism for M.Greek. Finally, in Section 5 I consider the relation of Tense and Case.

1.1 The Notion of Tense

Tense is traditionally defined as the grammaticalisation of the temporal location of an event relative to the time of utterance (or narration). In these terms, tense is assumed to be a deictic category (with similarities to pronouns).[3] Most of the languages of the world realise tense through morphological means. So, languages like English, French, German or Modern Greek either mark Tense on the verbal stem or use supportive modal/auxiliary verbs or particles in order to do so. However, there are some languages that lack any temporal morphemes for tense realisation. So, languages like Mandarin Chinese, Burmese or Hopi (Uto-Aztec, Arizona) appear to lack any grammatical system for expressing location in time. Alternatively, they use either aspect and mood, or pragmatic principles, or else deictic temporal adverbials in order to express tense.[4]

In general, we distinguish two types of tense, absolute and relative tense. Absolute tense takes the present moment as its deictic point. Relative tense takes some point of time in the discourse (not always the present moment) as its deictic point. Examples of absolute tenses are the past or the future. Past perfect or future perfect are viewed as relative tenses

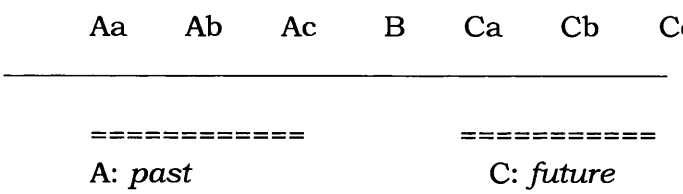
2. Semantic Theories of Tense

In this section I will briefly mention some major semantic theories of tense in chronological order.

2.1 Jespersen (1924, 1931)

Jespersen (1931) makes an important distinction between time and tense. He considers time as being independent of language, and tense as varying from language to language. For Jespersen the different tenses are themselves primitives. His theory is unidimensional. In other words, he views tense as having only one dimension represented by a straight line. Consider the diagram below:

(1)



The system recognises three main divisions, namely, *present* (B), *past* (A) and *future* (C). Accordingly, it recognises the following subdivisions: Aa (*before past*: Past Perfect), Ab (*past*: Simple Past), Ac (*after past*: quasi-Conditional), B (*present*: Simple Present), Ca (*before future*: Future Perfect), Cb (*future*: Simple Future), and Cc (*after future*: quasi-Conditional). Additionally, Jespersen defines some other time relations that involve extra-

time implications. These are the prospective and the retrospective relations. So, Present Perfect, for him, is defined as retrospective present and Proximate Future (i.e. to be about to do something) as the prospective present.

Jespersen's theory appears to be quite strong and *ad hoc*; there is a relative freedom in introducing new devices and symbols in order to accommodate temporal relations. Consequently, this affects the explanatory power of his theory. Furthermore, Jespersen's theory has problems with the representation of complex tenses. He attempts, not successfully, to represent them via the prospective-retrospective distinction of temporal relations. Moreover, although he is aware of the close connection between the Present and the Present Perfect, he cannot express their distinction (cf. Reichenbach (1947)). So, he can only express the distinction between Simple Past and Imperfect in terms of time reference, an arguably wrong prediction. Finally, his theory cannot "comprise all ... tenses that are actually found in languages" (Jespersen (1924: 257)). So, his theory fails in both descriptive and explanatory adequacy.

2.2 Reichenbach (1947)

Bearing in mind Jespersen's theory's inadequacies, Reichenbach (1947) proposes a multidimensional (or three-parameter) theory of tense. He also recognises a time line. However, for him tenses are not primitives. For Reichenbach tenses are expressed by the relations that hold between S (the time of speech), E (the time of the event[5] or state of affairs) and R (the reference point). S, E, and R are the primitives of this theory. There are three relations that hold between the three points; to "precede", to "follow" or to "coincide".[6] These assumptions enable the system to produce all possible tenses in terms of three primitives and three relations.

In Reichenbach's system tenses are systematised. The relation of R to E determines whether a tense will be relative or absolute. Coincidence of R and E will yield an absolute tense, non-coincidence will yield a relative tense. This means that his system can account for the difference between Simple Past and Perfect. In the former, R will precede S and E will coincide with R; in the latter, R will coincide with S and E will precede R. The inventory of possible tenses of the Reichenbachian model is as given below:

(2)

Representation	*Tense*
E_R_S	Past Perfect
E,R_S	Simple Past
R_E_S } R_S,E } R_S_E }	Future in Past
E_S,R	Present Perfect
S,R,E	Present
S,R_E	Simple Future
S_R,E	- " -
S_E_R } S,E_R } E_S_R }	Future Perfect
S_R_E	(Posterior Future)

The reference point R proves to be useful in two cases for Reichenbach's theory. The first, as we saw, had to do with the distinction between absolute and relative tenses. The second concerns the role of temporal adverbials. According to Reichenbach, temporal adverbials are linked to the reference time R and not to the event time E. So, their appearance depends on the relation of R to E or to S. For instance, past time adverbials co-occur with the conditional (given that R precedes E) or present time adverbials co-occur with the present perfect (given that R is coincident with S).

The major problem with Reichenbach's theory is that it is too strong. One of its serious consequences is that the Future Perfect comes with three

different SRE-representations. However, no language provides evidence for such three-way ambiguity, as Comrie (1981, 1985) points out. For Comrie the problem lies in the fact that Reichenbach imposes ordering relations between all three time points S, R, and E. For him, the Future Perfect does not state anything about the relationship between S and E. Thus, he opts for "pairwise" ordering relations between S and R, and E and R.[7]

2.3 Comrie (1981, 1985)

Comrie (1981, 1985) argues for a theory of tense based on the Reichenbachian model sketched above. He specifies the present moment as S (the moment of speech). Furthermore, he specifies a time point or interval occupied by the situation to be located in time as E (moment of event). Finally, he specifies the relation between S and E as *before*, *after*, and *simultaneous*. So, absolute tenses are represented as follows:

(3) Present: E *simultaneous* S
Past: E *before* S
Future: E *after* S[8]

Comrie makes use of the Reichenbachian reference point R in order to represent relative tenses. Relative tenses for him are abstract entities, they are relations of the E and R points:

(4) Relative Present: E *simultaneous* R
Relative Past: E *before* R
Relative Future: E *after* R

In these cases R is assumed to be non-anchored (i.e. it is not located in time with respect to any deictic point such as S).

Complex (relative) tenses such as Past Perfect are called Combined Absolute- Relative Tenses. This is because they combine the relations

between E and R, and R and S. In this respect, there is no direct relation between E and S. R is taken to be the mediation point between E and S. This holds for all combined absolute-relative tenses. This way Comrie expresses the intuition whereby a situation is located relative to a reference point and the reference point is located relative to the moment of speech.

As we saw in the previous section, Future Perfect posed problems for the Reichenbachian system. Comrie's suggestion was to represent the tense as the composition of E/R and S/R relations in order to avoid ambiguity and vagueness. In other words, Future Perfect should be represented as the conjunction of the relation E *before* R and the relation R *after* S. Pairwise ordering of S/R and E/R points is generalised to hold for the representation of all tenses.

2.4 Hornstein (1990)

Along with Comrie (1981, 1985), Hornstein (1990) is one of the main supporters of the Reichenbachian model of tense representation.[9] The difference between the two is that Hornstein offers a more articulated semantic theory, the neo-Reichenbachian model. In addition to that, Hornstein argues for a theory of mapping of the semantics of tense onto the syntax of Tense. Before proceeding that far let me discuss in more detail the main points of the semantic part of his theory.

2.4.1 SRE-points, Relationships and Basic Tense Structures

Hornstein adopts the three Reichenbachian points of time. First, he defines S as the moment of speech. S is a deictic element anchored by the time of utterance. Second, he defines E as the event time. E designates a punctual event. Finally, R is defined as the reference point. The role of R is to mediate the relationship between S and E (cf. Comrie (1985)).

The three time points S, R, and E are considered as primitives. A time line determines their ordering relationships. If a point *x* is situated to the left of some other point *y*, then *x* is *before y*. If *x* is situated to the right of *y*, then *x* is *after y*. Finally, if *x* is situated where *y* is situated, then *x* is *contemporaneous* with *y*. These are the three relationships that the neo-Reichenbachian model recognises between the primitive points. For Hornstein contemporaneity involves extrinsic ordering of the contemporaneous points, so, "E,R" is a different relationship to "R,E" and a given language chooses either the former or the latter to express contemporaneity. In a nutshell, this theory proposes an extension to the Reichenbachian model in that tenses are ordered linearly and interpretively.

The neo-Reichenbachian system differs from its ancestor in the way SRE-points are related to each other. In other words, it only recognises direct relationships between S and R, and E and R. There is no direct relationship between S and E. Their relation is said to be derivative; hence the role of R as mediator. This is exactly what Comrie (1981, 1985) meant by "pairwise ordering" as we saw in the previous section.

For Hornstein, both S/R and E/R relationships are purely temporal in nature. That is to say, his system is only concerned with the module of tense. However, he recognises that tense is related to aspect. He defines tense as locating the events that sentences represent in time, and aspect as specifying the internal "temporal contour" of the event. I shall come back later to this matter.

Based on Reichenbach's tense inventory given in (2), Hornstein provides representations for the six basic tenses in English which he labels "Basic Tense Structures" (BTS). These are given below (Hornstein (1990: 15):

(5)

S,R,E	present
E,R__S	past
S__R,E	future
E__S,R	present perfect
E__R__S	past perfect
S__E__R	future perfect

2.4.2 Derived Tense Structures

BTSs are considered as the feeding structures for deriving more complex tense structures, the so-called "Derived Tense Structures" (DTS). The derivation from BTSs to DTSs operates under the following definitions (Hornstein (1990: 15)):

(6) (a) X associates with Y means that X is separated from Y by a comma.

(b) BTSs are preserved iff
  (i) No points are associated in DTS that are not associated in BTS.
  (ii) The linear order of points in DTS is the same as that in BTS.

(c) **Constraint on DTS:** DTS must preserve BTS.

Temporal adverbials are elements that can trigger such a derivation. So in a sentence like:

(7) Mary arrived yesterday.

The BTS for the Past tense of the sentence is E,R__S. The deictic adverbial *yesterday* is assumed to modify the R point. Modification of the E point is possible in cases of temporal ambiguity.[10] However, temporal adverbials in general are not allowed to modify S in this model. So, in (7) the adverbial triggers the alteration of the BTS by potentially moving "R and E around". The actual derivation is shown below:

(8) E,R__S —yesterday→ E,R__S
|
yesterday

This derivation shows no overt alteration (rearrangement) of R and E points in the BTS. This is expected as the temporal specification of the adverbial coincides with that of the tense. The BTS will be the same as the DTS since adverbial modification applied vacuously here. But let us see a case where indeed the adverbial rearranges the R/E points in the BTS.[11] Consider the following sentence:

(9) Mary is arriving tomorrow.

The tense of the predicate is Present. The BTS for Present is S,R,E. The presence of the future reference adverbial *tomorrow* gives a future interpretation for the whole sentence. This is predicted by this system as the BTS is altered accordingly by the adverbial. This is shown in the derivation below:

(10) S,R,E —tomorrow→ S__R,E
|
tomorrow

The derivation might be taken to be problematic because the relationship of S/R has been altered. This is not the case though since the definitions in (6) forbid association of points but not dissociation of points. Clearly, the resulting DTS reflects the obtained interpretation for the Present tense here. Finally, let us see how the system predicts a mismatch in the reference of the tense and that of the adverbial. The following ungrammatical sentence combines Past Perfect and the future deictic *tomorrow*:

(11) *Mary had arrived tomorrow.

Given that the BTS for Past Perfect is E__R__S the derivation proceeds as follows:

(12) E__R__S —tomorrow→ *E__S__R
|
tomorrow

The DTS yielded by the derivation is problematic as it does not preserve the linear order of the points in the BTS. This violates clause (ii) of (6b).

Another way of deriving DTSs is by using temporal connectives, that is, words that are able to connect two clauses of distinct temporal reference.[12] Temporal connectives are words like *after, before, when, while,* etc. The derivation of such DTSs is governed by the following rule (Hornstein (1990: 43)):

(13) (a) **Rule for Temporal Connectives (RTC)**
In (13b) below write the BTS of TNS_2 under the BTS of TNS_1. Associate the S points. Associate the R points by moving R_2 to R_1, placing E_2 accordingly. The movement of R_2 to R_1 must obey the Constraint on Derived Tense Structures (CDTS).

(b) $[_S \ldots TNS_1 \ldots [_{adjunct} TC [_S \ldots TNS_2 \ldots]]$, where TC is a temporal connective.

Let me take a concrete example in order to illustrate this mechanism of the neo-Reichenbachian model. Consider the sentence below:

(14) Mary will leave before Fred sings.

TNS_1 is Future (S__R,E) and TNS_2 is Present (S,R,E), they are linked by the connective *before.* The derivation of the DTS is as given below:

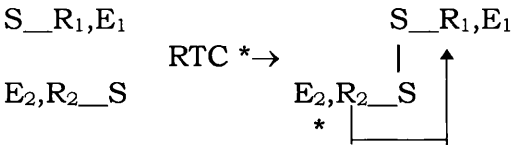
(15) $S\_\_R_1,E_1$ RTC→ $S\_\_R_1,E_1$
| |
S,R_2,E_2 $S\_\_R_2,E_2$

This is a legitimate derivation since all clauses of CDTS have been preserved. But let us see how the system crosses out ungrammatical sentences like:

(16) *Mary will leave before Fred sang.

Here TNS_1 is S__R,E while TNS_2 is E,R__S, which appears to create the problem. The derivation is shown below:

(17)



The RTC cannot apply here without violating the CDTS. Moving R_2 to associate with R_1 is illicit as the order in the BTS will be altered. So this is an ill formed DTS.

2.4.3 Possible Tenses: Analysability of Basic Tense Structures

According to the modified Reichenbachian model and its assumptions, a finite number of twenty-four basic tenses is available for natural languages to select.[13] The number of possible tenses is determined by the existence of the R point, by the linearity assumption on SRE-representations, and by the fact that tenses are combinations of the three S, R, and E points through "," or "__" relationships (i.e. quintuples).

The neo-Reichenbachian model claims that the number of possible tenses should be reduced to a number more realistic for language acquisition. In order to do this, one or more of the above factors that determine this number should be abandoned. Thus, either the R point, or the linear order is abandoned, or else SRE-representations are not viewed as combinations of the three points but as conjunctions of two pairwise orderings (cf. Comrie (1985)).

Whether the R point should be abandoned or not, I shall not discuss here given the scope of this thesis. I will discuss the question of linear

ordering in the next section. Here I will consider the analysability of SRE-representations. However, to facilitate the discussion, I will just state here that in terms of linear ordering the system accepts two types of ordering for the SRE-points, the intrinsic and extrinsic ordering relations. So, the relation "x__y" is (temporally) distinct from "y__x" (intrinsic relation); likewise the relation "x,y" is (non-temporally) distinct from "y,x" (extrinsic relation).

According to the neo-Reichenbachian model BTSs are not primitives. They are further analysed as compositions of an SR-relation and an ER-relation. Recall that this was also suggested by Comrie (1981, 1985) in view of the interpretation of the Future Perfect (cf. Section 2.3). In the same vein, Hornstein argues that the SE-relation in some cases needs to remain unspecified and this includes the case of the Future Perfect. In addition to that recall that the model does not recognise any direct relation between S and E, hence the postulation of the R primitive.

The actual claim goes as follows. BTSs (nearly all) are the compositions of an SR-relation and an ER-relation. Composition is symbolised by "O". BTSs of absolute tenses will be analysed as follows:

(18) Present: (S,R) O (R,E) = (S,R,E)

Future: (S__R) O (R,E) = (S__R,E)

Past: (R__S) O (R,E) = (E,R__S)[14]

If we agree on analysing BTSs as the composition of ordered SR/ER-pairs, and we accept that BTSs are both intrinsically and extrinsically ordered, then we are able to reduce the number of possible tenses dramatically (i.e. from twenty-four to sixteen).

The next question that needs to be answered is whether S and E will be related at all. Of course S and E are indirectly related to each other. The only case where this is impossible, according to Comrie and Hornstein, is the Future Perfect. If we assume that BTSs are primitives then Future

Perfect will come with four separate BTSs. This might suggest that the tense is four-way ambiguous. But no language seems to provide evidence for such ambiguity. So, the proposal is to treat the Future Perfect as having the "vague" BTS form (S__R) O (E__R). Therefore, the SE-relation will not be determined for the Future Perfect; it will be left vague. This fact constitutes strong evidence for analysing BTSs as the composition of SR and ER-pairs.[15]

2.4.4 Intrinsic and Extrinsic Ordering of SRE-points

According to Hornstein, SRE points can be either *intrinsically* or *extrinsically* ordered to each other. By *intrinsic* ordering he means that the linear ordering mirrors their temporal interpretation. *Extrinsic* ordering is linear ordering of the points independently of their temporal interpretation.[16] He calls "weakly ordered" the theory that accepts only the existence of intrinsic order. Likewise, a theory that accepts the existence of both intrinsic and extrinsic orderings is called a "strongly ordered" theory.

Intrinsic ordering appears to be straightforward in that it reflects temporal interpretation. So, given the system used here, if the described event is in the past with respect to the present moment then the point representing the event, call it *x*, should be positioned to the left of the point that represents the moment of speech, call it *y*, separated by a line. Thus, the points *x* and *y* in the relationship "x_y" will be taken to be intrinsically ordered.

Difficulties arise as to the extrinsic ordering that applies to the cases of contemporaneity. Recall that when two points are contemporaneous, they are represented as separated by a comma: " x,y ". The question is then, whether we can claim that *x* and *y* are ordered to each other? Apparently, they are not intrinsically ordered since the interpretation of the tense represented is not altered if we turn the points around. That is, the

relationships "x,y " and "y,x" are temporally equivalent. According to the neo-Reichenbachian theory, a "strongly ordered" theory, extrinsic order exists but it does not have any significance for temporal interpretation. So, let us take the BTS "E,R__S" of the Simple Past as an example (cf. (5)). The R and S points are intrinsically ordered with respect to each other: R precedes S and some temporal interpretation is reflected. The E and R points, however, are extrinsically ordered: E is contemporaneous with R and *vice versa*, no temporal interpretation is mirrored here. Therefore, we can reverse the extrinsic order of E and R, maintain the intrinsic order of R and S and have the BTS "R,E__S" as the representation for Simple Past. This is possible for this theory. The only restriction imposed is that a given language must choose a BTS of the available two, either "E,R__S" or "R,E__S", so as to represent its Simple Past tense.[17]

Hornstein argues for the "strongly ordered" theory providing evidence from multiple adverbials facts. Consider the set of examples given in (19) below (Hornstein (1990: 104):

(19) (a) Yesterday, John left for Paris a week ago.[18]

(b) *A week ago, John left for Paris yesterday.

The ungrammaticality of (19b) can be explained in terms of "strong ordering". That is, if we assume extrinsic ordering the BTS of the Simple Past will strictly be either E,R__S or R,E__S. Let us see how the multiple adverbials apply to the BTS in order to yield the DTS for (19a&b) in (20a&b). Recall that the CDTS given in (6), earlier, must be respected:

(20) (a) E,R__S —a week ago, yesterday→ E__R__S[19]

| |

a week ago yesterday

(b) E,R__S —a week ago, yesterday→ *R__E__S

| |

a week ago yesterday

(20a) respects the CDTS as the ordering of the points is not altered and the dissociation of E and R is legitimate. (20b) is problematic as adverbial modification violated the BTS order of E and R. The same results are obtained if we assume that the BTS for Simple Past is R,E__S:

(21) (a) R,E__S —a week ago, yesterday→ *E__R__S
| |
a week ago yesterday

(b) R,E__S —a week ago, yesterday→ R__E__S
| |
a week ago yesterday

(21a) is ill-formed and (21b) well-formed for obvious reasons. This way, the system treats the acceptability of (19a) and the unacceptability of (19b). According to Hornstein, if we accepted the "weakly ordered" theory then both representations for the Simple Past would be available and the ungrammaticality would not be explained. So, these facts seem to suggest that the "strongly ordered" theory is preferable and that the Simple Past has the structure E,R__S which is different from R,E__S.[20] Therefore, in the neo-Reichenbachian theory, SRE-representations are extrinsically ordered.

A final point that needs to be clarified here has to do with the language mechanism that decides on how to compose a BTS out of the pairs of SR and ER relations. For instance, the composed BTS for the Present tense is "S,R,E" derived from "(S,R) O (R,E)". However, it seems arbitrary to reject the other compositional possibilities "S,E,R" or "E,R,S" or "R,S,E" without justification. Hornstein postulates a principle that is claimed to regulate the inventory of possible tenses and resolve any linear-ordering ambiguities such as that with the Present tense. The principle reads as follows (Hornstein (1990: 113):[21]

(22) In a given BTS, if linear order is not intrinsically determined, assume that the linear order of RE is identical to the linear order of SR.

This is an identity principle meaning that wherever we have the ER-points extrinsically ordered (i.e. related with a comma) they will obtain the same order as that of the SR-points. If S is to the left of R in the one pair, R will be to the left of E in the other pair. So, in the SR-relation, R is dependent on S; in the ER-relation, E is dependent on R.

2.4.5 Universal Tense Inventory

The neo-Reichenbachian model proposes an inventory of eleven possible tenses for natural language as given below (Hornstein (1990: 117-8)):

(23)				
	Present	:	(S,R) O (R,E) = S,R,E	(i)
			(R,S) O (E,R) = E,R,S	(ii)
	Past	:	(R_S) O (R,E) = E,R_S	
	Future	:	(S_R) O (R,E) = S_R,E	
	Present Perfect	:	(S,R) O (E_R) = E_S,R	(i)
			(R,S) O (E_R) = E_R,S	(ii)
	Future Perfect	:	(S_R) O (E_R)	
	Past Perfect	:	(R_S) O (E_R) = E_R_S	
	Future in Past	:	(R_S) O (R_E)	
	Proximate Future	:	(S,R) O (R_E) = S,R_E	(i)
			(R,S) O (R_E) = R,S_E	(ii)[22]

According to Hornstein, the above number of possible tenses is now much more realistic in view of the logical problem of language acquisition. This was made possible by three factors. First, by highlighting the importance of the R point; second, by assuming that tenses are compositional entities; and, third, by proposing the identity principle in (22) above that is said to regulate ordering and mapping.

3. Neo-Reichenbachian Theory and Tense in M.Greek

In this section I will consider the Tense system of M.Greek and I will apply the neo-Reichenbachian model to it. I will make some suggestions that will

improve the composition of BTSs and will reconsider the exact nature of ER-relations, at no extra theoretical cost.

3.1 Future Perfect: Primary and Secondary SRE-relations

Recall from previous discussion that Future Perfect has always been a problem for the Reichenbachian model in all its versions. Reichenbach (1947) provided three different SRE-representations for it (S__E__R; S,E__R; E__S__R; cf. the inventory in (2)). Comrie (1981, 1985) reacted to this on the basis that there is no language that displays a three-way ambiguity in interpreting the Future Perfect. In view of this he proposed that the SRE-representation for the Future Perfect should be the conjunction of an SR and an ER-representation. Consequently, the SE-relationship would not be expressed but left vague. Hornstein (1990) proceeds in the same spirit and argues that the Future Perfect is the only tense that cannot have a composed BTS.[23] All other tenses would have BTSs that are the result of the composition of an SR and an ER-relation.

Future Perfect according to both Comrie and Hornstein is represented by the following composition procedure:

(24) (S__R) O (E__R)

The procedure above can yield four possible Basic Tense Structures: S__E__R; S,E__R; E__S__R; and E,S__R. These possibilities lead to four possible SE-relationships. So, the SE-relation here is said to be vague and the system should not determine it.

As stated by Tzartzanos (1947), Future Perfect in MG is clearly interpreted as describing a situation which will have taken place and be completed in the future; it is often understood as the Present Perfect of the Future. Following Tzartzanos's definition along with native speakers'

intuitions, I claim that the only interpretation that this tense can have in MG is that a given situation will come to a completion some time after the moment of Speech and will be a completed situation at that moment. This moment in the future is either left implicit (and is recovered through the context) or is overtly specified by a time adverbial. Consider the following example (Tzartzanos (1947: 279)):

(25) Stis pénde θa éxume ftási stin korfí tu vunú.
at-the five FUT have-1P arrived at-the top of-the mountain-GEN
"At 5 we will have arrived at the top of the mountain."

According to the speaker of (25), we have not reached the top of the mountain yet even if we have already started to climb. We will reach it some time after the moment of Speech, either before 5 o'clock or exactly at 5 o'clock.[24] In case we had reached the top of the mountain already at the time of utterance then the speaker would use the Present or Past Perfect and not the Future Perfect. In other words, it is not possible to obtain an interpretation in MG whereby a situation expressed in the Future Perfect will come to a completion either before or simultaneously with the time of utterance, as claimed by Comrie (1985), among others, for English.[25] Following a similar suggestion by Hornstein (1977) for English, I will assume that Future Perfect in MG has future time reference presenting a completed situation in the future. So, in neo-Reichenbachian terms, I claim that the relation of the Speech time (S) and of the Event time (E) can be clearly and unambiguously defined by the former (indirectly) preceding the latter as with all other future tenses.

In addition to this, I believe that the neo-Reichenbachian system itself can produce a single SRE-representation for the Future Perfect if we stress its ordering properties. In my opinion, the result of the composition procedure in (24) can only have two possible composed BTSs: S__E__R and E__S__R and not four. The reason for this can be found in the assumptions of the neo-Reichenbachian theory themselves. Recall that this is a "strongly ordered" theory and that it allows both intrinsic and extrinsic orderings of

the SRE-points. In (24) both composites are intrinsically ordered (i.e. S__R and E__R); no one is extrinsically ordered (i.e. separated by a comma). So, we cannot have BTSs for the Future Perfect where SRE-points are extrinsically ordered. That is, the type of ordering within each composite is always preserved in the resulting BTS. This is easily observed if we consider Hornstein's inventory in (23) above. Therefore, the BTS-candidates S,E__R and E,S__R for Future Perfect should be abandoned.

We are now left with two possible representations for the Future Perfect, namely S__E__R and E__S__R. I believe that we can reduce them to just one possibility, namely S__E__R . The reduction follows from the theoretical principles of the neo-Reichenbachian model if we apply them cautiously. First, in a given language, each tense can have just one SRE-representation and choice is only allowed crosslinguistically. Second, the system can regulate in a principled way how SR and ER-relations are conjoined to form BTSs for each tense on the basis of the principle in (22). From that principle we can understand that the ER-relation imitates the SR-relation in terms of ordering. The ER-relation will have the same order as that of the SR-relation. So, the SR-relation serves as the basis for the ER-relation. In view of this, I would like to suggest that, in general, the SR-relation is the primary relation and the ER-relation is the secondary relation.

The primary relation fixes the limits of the composed representation (i.e. S__R or R__S). The secondary relation is fitted into the structure respecting the limits set by the primary relation. Let me exemplify this by the Future Perfect which created the problem. Given (24) and my suggestions that SR is the primary relation and ER the secondary relation the composition of the Basic Tense Structure for the Future Perfect is as follows:

(26) (S__R) O (E__R) = S__E__R

I insist on providing the composed SRE-representation for the Future Perfect because I believe that the system needs to be uniform for all tenses for practical reasons, with no exception. That is, such "completed" BTS-forms are extensively used in accounting for complex tense structures (with temporal connectives), for adverbial modification (deriving DTSs), and in the analysis of "Sequence of Tense" phenomena (e.g. temporal shift of the embedded clause).

In addition to this, there is empirical support for the claim that (26) is the correct representation for the Future Perfect tense in MG. Let me consider a complex sentence that involves two clauses linked by the temporal connective *ótan* (when) in MG:

(27) I María θa éxi fiji *ótan* θa érθi o Jánis.
the-Maria-NOM FUT have-3S leave-PERF when FUT come-3S the Janis-NOM
"Maria will have left when Janis comes"

According to the neo-Reichenbachian model the interpretation of (27) follows from the linkage of the BTSs of the first and second predicates. This will yield the Derived Tense Structure for (27). The linkage is governed by the Constraint on DTS (given in (6)) and the Rule for Temporal Connectives (given in (13)). For (27) the BTSs are S__E_1__R_1 and S__R_2,E_2 for the first and second predicate respectively. The Rule for Temporal Connectives applies as follows:

(28) S__E_1__R_1 RTC→ S__E_1__R_1
| |
S__R_2,E_2 S_____R_2,E_2

(28) is a well-formed DTS, preserving the CDTS. E_2, of the second predicate, is associated with R_1 and consequently it is interpreted as taking place after E_1 of the first predicate; this is the desired interpretation.[26]

The system of deriving BTSs, I suggested above, applies to all possible tenses without exception. If we consider the Universal Tense

Inventory in (23), in all cases the SR-relation sets the limits of the tense structure and the ER-relation fits into them, with no exception. The system also ensures that the extrinsic or intrinsic ordering of the pairwise relations, are preserved in the BTSs, a requirement that was very clearly expressed *only* for the derivation of the DTSs in Hornstein's system. Finally, I believe, that by highlighting the importance of the extrinsic ordering in ER-relations I provide additional support for why the R-point is also necessary in simple tenses.

3.2 The Typology of Tenses in M.Greek

MG displays both absolute (or simple) and relative (or complex) Tenses. This is regardless of Voice or Mood. I will assume that these Tenses are either past or non-past. The following table is a graphical presentation of the MG Tense inventory as it applies to the transitive verb *líno* (untie or solve) in the Active Voice and Indicative Mood (see Triantafyllidis (1941), Tzartzanos (1946), Warburton (1970), Mackridge (1985), Joseph & Philippaki-Warburton (1987) among others): [27]

(29)

No	TENSE NAME	EXAMPLE *lín-o*	TYPE	REFERENCE	ASPECT[28]
1	Imperfect	*é-lin-a*	simple	past	imperfective
2	Aorist	*é-lis-a*	simple	past	perfective
3	Present Perfect	*éx-o lísi*	complex	past	perfective
4	Past Perfect	*íx-a lísi*	complex	past	perfective
5	Present	*lín-o*	simple	non-past	imperfective
6	Fut. Iter./Progr.	*θa lín-o*	simple	non-past	imperfective
7	Future	*θa lís-o*	simple	non-past	perfective
8	Future Perfect	*θa éx-o lís-i*	complex	non-past	perfective

The above table includes all "real" tenses in MG. Clearly, variety in tenses is obtained through aspectual distinctions (i.e. the contrast between perfective and imperfective aspect). So, Imperfect and Aorist are equivalent in their temporal interpretation, they both locate an event prior to the moment of

utterance. The same holds for the Future and the Future Iterative/Progressive; both locate an event after the moment of utterance.

3.3 MG Tenses as SRE-representations

Following the neo-Reichenbachian model as developed in Hornstein (1990) and discussed in the previous sections of this chapter, I will represent MG tenses as relations of S, R and E points:

(30) **Tense Inventory for Modern Greek**

Present	:	(S,R) O (R,E) = S,R,E
Aorist-Imperfect	:	(R_S) O (E,R) = E,R_S
Future-Fut.It./Prog.	:	(S_R) O (E,R) = S_E,R
Present Perfect	:	(S,R) O (E_R) = E_S,R
Future Perfect	:	(S_R) O (E_R) = S_E_R
Past Perfect	:	(R_S) O (E_R) = E_R_S

The above table assumes that the Imperfect will have the same SRE-representation as the Aorist and that the Future Iter./Progr. will have the same representation as the Simple Future. This follows Hornstein's assumptions that they do not differ in temporal terms, despite the fact that they are distinguished in aspectual terms. I will continue to assume that this is correct given that the system in its present state does not account for aspect, at least explicitly. It would be interesting for the neo-Reichenbachian system to be able to highlight such an important distinction between these tenses. Such an attempt would need special research beyond the scope of this thesis. However, in the sections that follow I make a first attempt to express such an idea at an elementary level.

3.4 SR and ER-relations: Temporal and Aspectual Properties

The purpose of this section is to discuss the properties of SR and ER-relations. More specifically, I wish to claim that ER-relations encode both temporal and aspectual properties.

For the discussion to be more clear, I need to define what I mean by aspectual properties and aspect, anticipating my discussion in Chapter 4. I will follow Smith (1991) who states that Aspect is the presentation of the internal structure of the event, while tense locates that event in time. Smith distinguishes two types of Aspect, namely Situation Aspect and Viewpoint Aspect. Situation Aspect refers to the lexical properties of a verb and its arguments, classifying verbs as states, processes or activities (following the Aristotelian classification, cf. Vendler (1967)). Viewpoint Aspect refers to grammatical properties of a morpheme that is part of the verb or verb phrase, distinguishing between Perfective and Imperfective Viewpoint Aspect.[29]

Here I will solely deal with Viewpoint aspect and how it is encoded in ER-relations. In order to do so, I need to reconsider Hornstein's claim about the compositionality of Basic Tense Structures; distinguishing between SR-relations and ER-relations.

Hornstein provides convincing evidence for splitting Reichenbachian SRE-quintuples into conjunctions of SR and ER. But what is the real difference between SR and ER-relations, and what is it that each of the relations expresses? For Hornstein, SR is a temporal relation and ER is a perfective aspect relation.

I agree that the SR-relation is temporal. Given the non-existence of an SE-relation, it shows how R (reference time) is located in time with reference to some deictic point S. Thus, R expresses location in time by occupying different linear positions with respect to the anchor S. Tense can either be

Present, Past or Future. In Present the event is located as contemporaneous with the moment of communication; in Past the event is located as prior to the moment of communication; in Future the event is located after the moment of communication. These are the three relations that tense can express, nothing else. This is also believed by Comrie (1985) in his definition of absolute tense: absolute tense is real tense, relative tense is absolute tense plus some extra non-temporal information. In addition to that, this is also shown in Hornstein's Universal Tense Inventory. For instance, compare the BTSs for Past and Future which are completely opposite tenses:

(31) Past : (R_S) O (R,E) = R,E_S

Future : (S_R) O (R,E) = S_R,E

It is obvious that they are only differentiated in terms of the SR-relation while they share the same ER-relation.

Let me now consider the ER-relation. For Comrie (1985) it is an abstract relation that can only express abstract tense entities (his relative tenses). For Hornstein it is the relation that corresponds to [+perfective], so the auxiliary *have* in English (Hornstein (1990: 113, 169)). Both points of view, I think, mean that the ER-relation is not only a temporal relation. If we follow what Hornstein believes about ER then we can generalise his claim that ER has also (viewpoint) aspectual properties (see also Johnson (1981) for the same conclusion). Let us not forget that the auxiliary *have* (in English) contributes to the formation of complex tenses. I believe that the presence of *have* is the realisation of both temporal and aspectual properties, by expressing anteriority. So, future research needs to redetermine the actual content of the ER-relation in order to express viewpoint aspect. For my purposes I will simply assume that the ER-relation encodes both temporal and aspectual properties.

4. The Mapping from the Semantics to the Syntax of Tense

In this section, I will discuss a mechanism for mapping tense from semantics to syntax in MG based on the neo-Reichenbachian theory of tense as discussed in the previous sections. First, in Sections 4.1 and 4.2 I will review some (non-minimalist) syntactic theories of tense which follow the Reichenbachian theory of tense, namely those by Hornstein (1990) and Giorgi & Pianesi (1991). Second, in Section 4.3 on the basis of these theories, I will make a theoretical proposal for the syntax of Tense in MG. Finally, in Section 4.4, I will briefly discuss the role of Tense in the Case-licensing of clause subjects in MG.

4.1 Hornstein (1990)

In previous sections of this chapter I have examined the main points of Hornstein's semantic theory of tense that was based on Reichenbach (1947). Here I will look at his proposal about the mapping of tense semantics into the syntax.

In general, tense in this framework is neither an operator (cf. Prior (1967), Montague (1974)) nor a pronominal-like element (cf. Partee (1973, 1984)). Here, tense is viewed as an adverbial. According to Hornstein, adverbs do not bind, neither do they have scope. So, tenses do not enter into relations with other tenses or other elements in terms of binding or scope. A tense element can only be interpreted in the domain that it governs.[30]

Hornstein's view that tenses are adverbs is based on observations like the following: first, that tenses typically mark verbs and are modified by adverbs, and second, that in diachronic terms, tenses typically derive from adverbials, from free morphemes to bound morphemes.

Hornstein claims that the tense structures constructed under his model must be represented (in English) by specific morphemes. On the assumption that BTSs for English are composed of an SR and an ER-relation, he proposes the following mapping rules from morphemes to Tenses (Hornstein (1990: 111-2):

(32) (a) (i) present morpheme: associate S and R: S,R
(ii) past morpheme: R removed to left of S: R_S
(iii) future morpheme: R removed to right of S: S_R

(b) (i) +*have*: E removed to left of R: E_R
(ii) -*have*: E and R associated: E,R or R,E

Given that BTSs are composed of two relations, the mapping from morphemes to Tense structures can be separated into an SR and an ER-part. The mapping rules shown in (32) above are governed by the identity principle I adapted in (22) earlier. Below I give both clauses of the principle:

(33) (a) In a given BTS, if linear order is not intrinsically determined, assume that the linear order of RE is identical to the linear order of SR.

(b) Morphemes unambiguously determine unique mappings.

I have already talked about the first clause of the principle. The second clause of the above principle simply ensures that a given morpheme determines one and only one order in the BTSs.[31] For instance, the English auxiliary *have* will fix the relation E_R in any Tense structure it might participate in.

The mapping between Tense structure and morphology will differ from language to language. However, some assumptions hold universally. That is, finite clauses will have all SRE-relations. Non-finite clauses will have just the ER-relations.

4.2 Giorgi & Pianesi (1991)

Giorgi & Pianesi (1991) propose a theory that relates the semantics of tense and the syntax of verbs under a set of mapping constraints. As an application of their theory, they offer an analysis of the Tense and verb systems of Italian and Classical Latin.

According to Giorgi & Pianesi's theory tenses are represented by SRE-relationships and Tense morphemes are assumed to head their own phrasal projection (in the sense of the Split-Infl hypothesis, Chomsky (1991), Pollock (1989) among others).

Following the neo-Reichenbachian model, SRE-relations are viewed as compositions of SR and ER-relations. Tense morphemes instantiate SR and ER-relations. Giorgi & Pianesi assume that SR-relations are realised by T1 morphemes and ER-relations by T2 morphemes, where T1 and T2 are heads that project their own maximal projections in terms of X-bar theory. T1 and T2 occurrence is governed by the following principle:

(34) **Biunique Mapping Principle**
Temporal morphemes and T-relations are in biunique correspondence.

(34) is an improved version of Hornstein's mapping principle given in (33b). It captures the fact that not only do morphemes correspond to SRE-relations (as Hornstein's principle only does), but also that SRE-relations correspond to morphemes. To this extent, it establishes a bi-directional mapping between temporal relations and temporal morphemes. The occurrence or non-occurrence of the T1 and T2 morphemes depends on the presence or absence of the corresponding morpheme in the structure.

The morphemes T1 and T2 head their own syntactic categories, T1P and T2P respectively. Giorgi & Pianesi claim that T1 and T2 are lexical and

not functional categories.[32] They have the property of assigning a "T-role" to an *event* position (VP complement) under government.[33] They also propose the following criterion (reminiscent of the θ-criterion) to regulate the T-role assignment (Giorgi & Pianesi (1991: 8):

(35) **T-Criterion:** Every T-role must be uniquely assigned to an event position.

More specifically, the T-role identifies the event position of the verb (in the sense of Higginbotham (1985)) with the temporal interpretation carried by Tense. T-heads for Giorgi & Pianesi are always accompanied by AGR nodes (but not *vice versa*) with which they are compatible in features.[34] So, T1 is only compatible with AGR1 as both have [+V; -N] features (verbal) ; T2 is only compatible with AGR2 as both have [+V; +N] features (adjectival).[35]

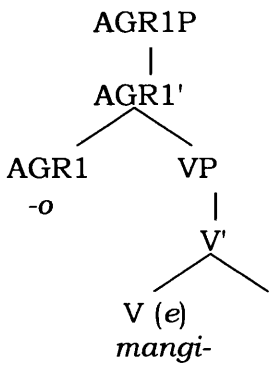
The following schema shows the structure for a complex (relative) Tense like Past Perfect (e.g. *ebbi mangiato* (I had eaten)) in Italian (Giorgi & Pianesi (1991: 7):

(36) $[_{AGR1P}$ AGR1 $[_{T1P}$ $[_{T1}$ <S/R>] $[_{VP}$ V $[_{AGR2P}$ AGR2 $[_{T2P}$ $[_{T2}$ <R/E>] $[_{VP}$ V ...]]]]]]]

The lower VP is headed by the main verb (e.g. *mangiato*) and the higher VP is headed by a (suitable) auxiliary verb (e.g. *avere*). For Giorgi & Pianesi, auxiliary verbs do not contribute to the temporal interpretation of the predicate and therefore they are not conceived in terms of SRE-points; auxiliaries participate in a derivation for syntactic reasons alone.[36] The distinction between AGR1P and AGR2P is to be understood as that between AGRsP and AGRoP. Both AGR1 and AGR2 heads are taken to be functional categories, as standardly assumed in the literature (cf. Li (1990) among others). AGR1 is related to the subject bearing common ϕ- and Case-features with it. AGR2 is similarly related to the object and is responsible for participial agreement wherever obtainable (Chomsky (1991, 1993), Kayne (1989, 1993)).

As far as lexicalisation of SR and ER-relations is concerned, Giorgi & Pianesi claim that the relation of contemporaneity (i.e. points separated by a comma) is never lexicalised in a language. Consequently, no corresponding T-head appears in the structure and no T-marking takes place (in the sense of the T-criterion in (35)). Obviously, for Giorgi & Pianesi, the Present Tense is never realised by T-morphemes, whereas other simple tenses like Past or Future only lexicalise one of the two SRE-relations (i.e. SR-relation realised as T1). The following tree shows the representation for the Italian form *mangio* (I eat) in Present Tense (Giorgi & Pianesi (1991: 12):

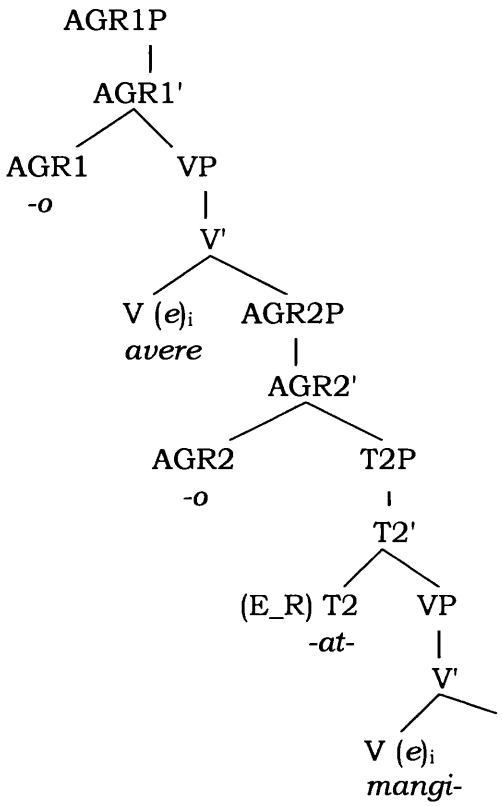
(37)



According to Giorgi & Pianesi, this claim for the Italian Present is generalised to other languages like English, French, Greek, Spanish, etc. In other words, the relations (S,R) and (E,R) will never be morphologically and syntactically realised in any language.

Giorgi & Pianesi also propose a structure for Present Perfect. Given that this tense is composed of an (S,R) and an (E_R) relation, only the ER-relation will be manifested as a T2 head. So, the form *ho mangiato* (I have eaten) will have the following representation (Giorgi & Pianesi (1991: 14)):

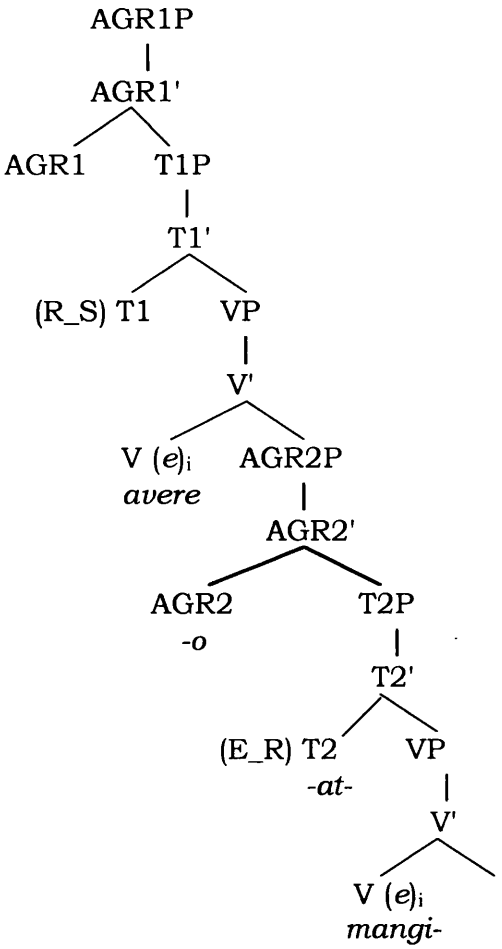
(38)



The occurrence of the agreement heads AGR1 and AGR2 is obligatory for morphological reasons (see endnote 34). Furthermore, the presence of some auxiliary *avere* (have) is dictated by the morphological requirements of AGR1 (i.e. of the bound morpheme *-o*).

The other two complex tenses, Past Perfect and Future Perfect will realise both T-heads since both SR and ER-relations are non-contemporaneous. The following structure illustrates the Past Perfect form *ebbi mangiato* (I had eaten) in Italian (Giorgi & Pianesi (1991: 15):

(39)



Here both T-relations are lexicalised. The auxiliary here satisfies both the morphological requirements of AGR2 and the selectional properties of T1. Finally, the remaining (simple) tenses, Simple Past and Simple Future will only lexicalise the SR-relation as T1 (and AGR1P) given that the ER-relation is contemporaneous.

Giorgi & Pianesi also discuss the tenses of Latin. They assume that it is a head-final language. The ordering of the morphemes in the Latin verb for the simple tenses is similar to that in Italian. So, the syntactic structure of the corresponding tenses will be the same. Thus, the Present will only realise the complex [V1 + AGR1][37]; the Simple Past[38] and the Simple Future will realise [V1 + T1 + AGR1].

Present Perfect in Latin is different from that in languages like Italian or in languages like English; it is realised as a non-complex Tense (i.e. it

does not use an auxiliary). Given that the semantic representation for Present Perfect is (S,R) O (E_R), only the T2 morpheme will be manifested. For Giorgi & Pianesi the difference between the Italian and Latin verb systems lies in the fact that T2 is adjectival in Italian but verbal in Latin. So, T2 will be compatible with AGR1 (also verbal) in Latin. Consequently, no auxiliary verb will occur here. So, perfect tenses in Latin will realise the complex [V2 + T2 +AGR1]. Regarding the other perfect tenses, Past Perfect and Future Perfect, both T1 and T2 are lexicalised. They map non-contemporaneous SR and ER-relations. Let us take the Past Perfect form *laudaveram* (I had praised). The form is analysed as *lauda-v-er-am*, the complex morpheme *er-am* is an incorporated past tense auxiliary (past tense of the verb "to be"), so it is the realisation of T1 (being R_S). T2 is realised as the morpheme *-v-*. In a nutshell, the active Past and Future Perfect tenses will realise the complex [V2 + T2 + V1 + AGR1]. AGR2 will not be realised given that T2 is verbal and not adjectival.[39] Finally, the fact that the auxiliary is able to incorporate follows directly from the non-occurrence of AGR2 as an intervening functional category.

4.3 The Syntax of Tense in M.Greek from a Neo-Reichenbachian Perspective

4.3.1 Designing the Mapping Mechanism

Tense is deictic with respect to some given interval which is understood as the Speech time (in most of the cases). Following Hornstein (1990), Giorgi & Pianesi (1991), I will assume that all temporal relations (i.e. *after*, *before*, or *simultaneous*) between the time that the event took place and the time of speech are semantic entities that can be represented as SRE-relations in the neo-Reichenbachian sense. I will assume that these relations are mapped onto syntax as features and are spelled out as Tense morphemes at PF, subject to linguistic variation. Verbs are assumed to take a *time* argument along with their ordinary arguments; this *time* argument is saturated by tense.

In the spirit of Giorgi & Pianesi (1991), I wish to claim that the SR and ER-relations are mapped into features borne by appropriate functional categories. Moreover, there is no mapping of temporal points to morphemes, as Hornstein (1990) suggests,[40] but mapping of temporal relations to features. The mapping is to be understood as a two-way relation from features to relations and *vice versa* and not as one-way relation as Hornstein claims (see (32b)). The mapping is governed by the following condition which is an adaptation of Giorgi & Pianesi's Biunique Mapping Principle (cf. (33) above):

(40) **Mapping Condition**
SRE-relations and the relevant features are in biunique correspondence.

(40) states that for a particular SRE-relation, there is one and only one constellation of features φ that corresponds to it and that for a constellation of features φ there is one and only one SRE-relation that corresponds to it.

The next decision to be made is which functional categories will bear the features in the syntactic representation. Notice that I will not introduce any new categories.[41] I will agree with Hornstein (1990) in that the (split) projection of Inflection handles temporal relations. In the spirit of Giorgi & Pianesi's proposal, I will assume that temporal features (i.e. past, present, future) are contained in a T1P projection headed by T1 and that other features (i.e. anteriority, perfectivity etc.) are contained in a T2P projection headed by T2. Having in mind what I suggested earlier, I will assume that SR-relations are mapped into temporal features (under T1) and ER-relations are mapped into temporal and aspectual features (under T2; see also Belletti (1990)). Following Giorgi & Pianesi, I will not establish any relation between the verb projection (VP) and any member of the SRE-relations as Hornstein does. Furthermore, I will claim that both T1 and T2 are functional heads (see Belletti (1990), Ouhalla (1991), and Gelderen (1993) among others). The features contained in T1 and T2 are realised as morphemes on verbs (main/auxiliary) at PF. Hence, I will disagree with Giorgi & Pianesi's (and

Zagona's (1990)) claims that these categories have lexical status with thematic-like properties handled by a T-criterion. Another point where I wish to disagree with Giorgi & Pianesi is the optionality of T1 and/or T2 appearing in the structure depending on particular temporal relations. Instead, I will assume that both T1 and T2 appear in the syntactic representation in all cases.

Another point that I need to make here is on the distinction between simple and complex tenses. In most languages, simple tense manifestation is on the verb (both Tense and aspect morphemes appear on the verb stem). Complex tense manifestation is on both an auxiliary verb and the main verb (Tense morphemes appear on the auxiliary and aspect morphemes on the main verb). I will follow Kayne (1993), among others, and I will suggest that auxiliaries are semantically vacuous and they just play a syntactic role; they should be considered as being eventless. Auxiliaries like *have* differ from main verbs in another respect too; in morphologically rich languages like MG, they show no aspectual morphology.[42] Consequently, I wish to disagree with Hornstein and Giorgi & Pianesi who claim that ER-relations (i.e. E_R) are mapped into a *have*-auxiliary and that auxiliaries possess or inherit an event position. In other words, ER-relations are realised by the occurrence of both the auxiliary and the main verb in its participial form and that the presence of the auxiliary is triggered by the fact that the verb is in a finite form.[43] As far as phrasal structure is concerned three alternatives come to mind, either that the auxiliary is inserted, at some point, in order to support Tense features not supported by the main verb, or that it heads its own category (say another VP), or else that it occupies the position of the light "v" in a Larsonian VP. At this point, I will leave this an open question.

As a concluding remark to this section I wish to say a few words about the order of T1 and T2 in the structure. Following Kayne (1994) and Chomsky (1993, 1995b), I will assume that the order is [$_{T1P}$ T1 [$_{T2P}$ T2 VP]] and that this holds universally. Finally, in view of the fact that T1 and T2 are functional categories and of the elimination of AGR projections in the

minimalist programme (Chomsky (1995b)), for independent reasons, the *ad hoc* presence of AGR put forward by Giorgi & Pianesi can be abandoned.

4.3.2 An Application: Tense Syntax in M.Greek

Here, I will apply the version of neo-Reichenbachian syntax I proposed in the previous section, to the Tense system of M.Greek. To facilitate the discussion, let me first say a few things about the morphological characteristics of the finite verb in MG.

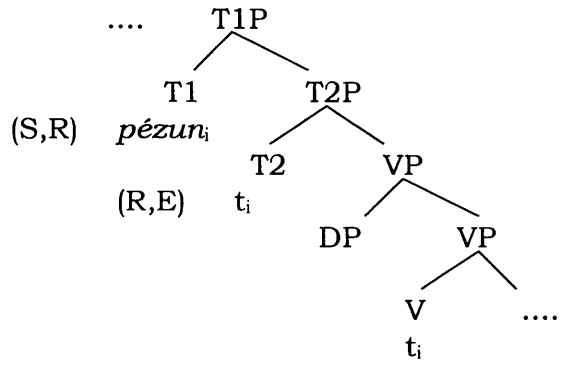
MG verbs, in their finite form, are morphologically marked for Tense, aspect and subject agreement. In general, Present Tense has a zero morpheme. Past Tenses have either a suffix and/or an infix. Future Tenses use a particle (unbound morpheme). In complex Tenses the auxiliary bears either a present or past or future morpheme and the main verb is in an untensed perfective form. Usually, Perfective aspect is expressed by a sigmatic morpheme (i.e. -s-) while Imperfective aspect is signalled by an asigmatic morpheme (i.e. non -s-).

However, the morphophonological patterns of the language are not always that straightforward.[44] There are cases where a verb has two different stems depending on aspect. For example, the verb *to eat* has the stem *-fa(γ)-* for perfective aspect and the stem *-tro(γ)-* for imperfective aspect. Furthermore, tense also has alternative morphological realisations. Past Tense (Aorist or Imperfect) appears as a prefix (augment) *e-* substituted or accompanied by an infix (between the aspectual and the agreement morpheme).[45] For example, the first person plural of the Present of the verb *to play* is *péz-u-me* (we play/we are playing) but the Imperfect is *péz-a-me* (we were playing) differing in the infix *-a-*. Meanwhile, the third person plural of Imperfect has two alternative forms either *é-pezan* (they were playing) or *pézan-e.* Unlike Past, Future tenses are very systematic. They are formed by the particle *θa* and the perfective or imperfective stem of the verb.

Let me now proceed with the application of the mapping mechanism to the MG tense. In order to do so I will assume the Tense Inventory for M.Greek tenses I proposed in (29). Recall that Present tense is represented as the composition (S,R) O (R,E) = S,R,E. The relation (S,R) will be instantiated as T1 and the (R,E) relation as T2. The sentence in (41a) illustrates the Present tense and has the structure in (41b):

(41) (a) Ta peðjá pézun xartiá ston kípo.
the-children-NOM play-3P cards-ACC in-the-garden
"The children are playing cards in the garden."

(b)

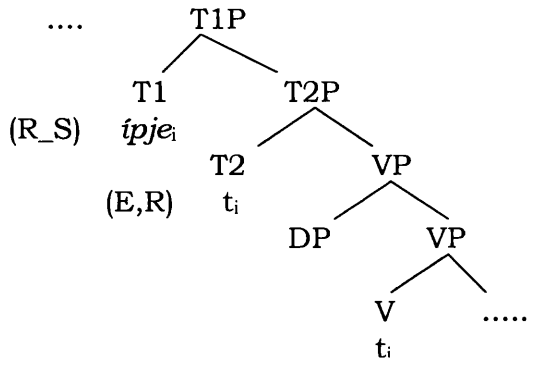


The verb form *pézun* "to play" in (41a) consists of the stem *-pe-*, the imperfective aspect morpheme *-z-* and the agreement morpheme *-un*. Present tense is signalled by a zero morpheme (assumed to be a suffix). The temporal relation S,R,E is mapped onto a set of temporal and aspectual features characteristic of the Present tense in MG (i.e. non-past and imperfective). The T1 head is also assumed to handle subject-agreement and other ϕ-features.

Next I will consider the realisation of the SRE-representation for the Aorist given in (29) earlier. The sentence in (42a) and the structure in (42b) illustrate this tense:

(42) (a) I María ípje éna potíri kókino krasí.
The-Maria-NOM drank one glass red wine-ACC
"Maria drank a glass of red wine"

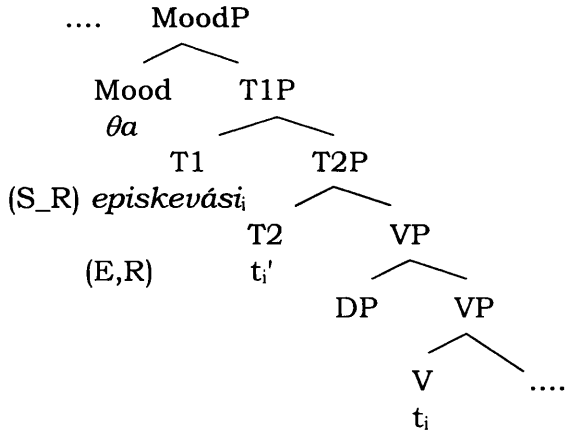
(b)



Let me now proceed with the Simple Future. In morphological terms, Future in MG is marked by the particle *θa* along with the inflected form of the verb. Given the modal characteristics of *θa*, I will assume that it does not appear under T1 but instead as heading a Mood Phrase.[46] Consider the example in (43) below:

(43) (a) O Spíros θa episkevási ta ixía tu aftokinítu mu.
the-Spiros-NOM FUT mend-PERF the-speakers-ACC of-my car
"Spiros will repair my car's speakers"

(b)



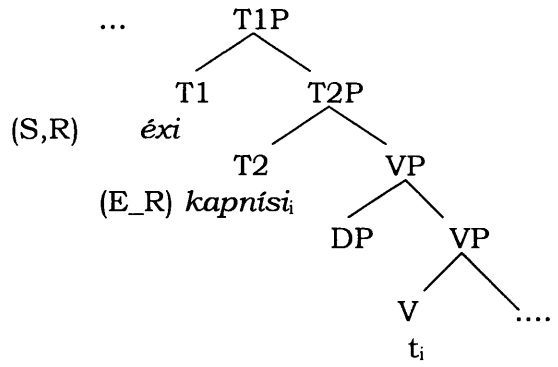
So far I have provided syntactic representations for the simple tenses. Their characteristic is that the points in the ER-relation appear only in extrinsic ordering (i.e. separated by a comma).

This is not the case with complex tenses. Here the ER-points are intrinsically ordered to each other, E precedes R. As for the reverse order, that is R preceding E, it is found with the Future in Past tenses as suggested in Hornstein (1990) and it can be taken to convey an irrealis

interpretation. As I said earlier, in Section 3.4, the E_R relation is mapped as the perfective aspect morpheme on the main verb along with the appearance of the auxiliary *have* (see also Hornstein (1990) and Giorgi & Pianesi (1991)). I will assume that the auxiliary *éxo* (have) is inserted in T1.[47] So, the representation of Present Perfect will be as in (44) below:

(44) (a) I María éxi kapnísi tría pakéta tsiγára méxri tóra.
the-Maria-NOM has smoked-PERF three boxes cigarettes till now
"Maria has smoked sixty cigarettes till now"

(b)

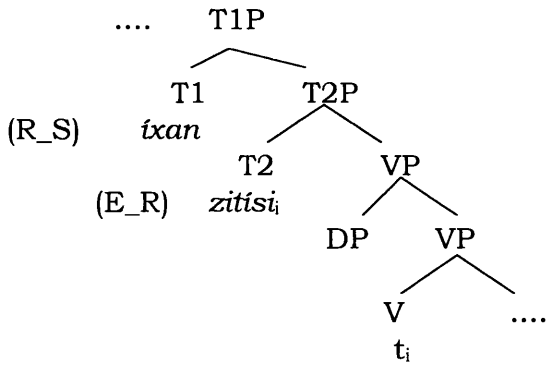


The sentence in (44a) means that Maria has completed "the action of smoking sixty cigarettes" a little while ago, highlighting the completeness of the event. Note, however, that Present Perfect in MG does not have the meaning of the Aorist as it does in languages like French or German. That is to say, in French a situation expressed in the Simple Past (*Passé Simple*) can also be expressed in Present Perfect (*Passé Composé*) with absolutely no change in meaning.[48] This is not the case in MG as Present Perfect and Aorist are not interchangeable.

Past Perfect is the next Tense to consider. It is another complex tense with the auxiliary bearing Tense and agreement features and the main verb with aspect features. Consider the example in (45) as an illustration:

(45) (a) I náftes íxan zitísi áδja apó tin proiγúmeni δeftéra.
the-sailors-NOM had-3S asked-PERF leave from the previous Monday
"The sailors had asked for leave since last Monday"

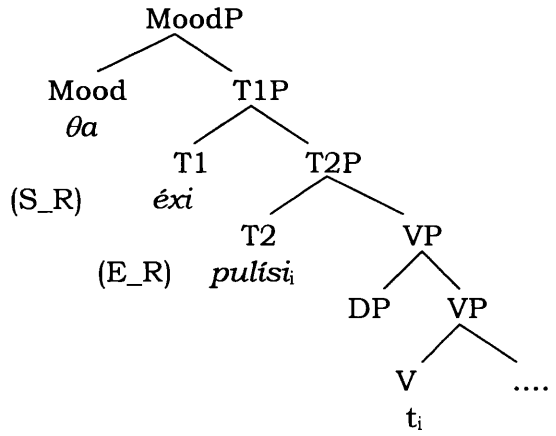
(b)



Comparing (44b) with (45b) we can see that the only difference lies in the temporal interpretation (as expressed by the SR-relation). Finally, let me give the structural representation for the Future Perfect. The sentence in (46a) has the structure in (46b):

(46) (a) O mesítis θa éxi pulísi to δjamérisma méxri ta Xristújena.
the-agent-NOM FUT have-3S sold-PERF the-flat-ACC till the Christmas
"The agent will have sold the flat by Christmas"

(b)



This concludes the application of the neo-Reichenbachian system to the syntax of MG Tense. Concluding this chapter, I will discuss the role of Tense in the licensing of clause subjects.

4.4 Tense and Case[49]

In this section I will discuss the role of Tense in the Case licensing of clause subjects in MG. I will argue that it is Tense that is responsible for Nominative Case on subjects and not some other functional head; to this extent I will follow Chomsky (1995). Case features are [- interpretable] so they must be checked/deleted for the derivation to converge. These features are strong and attract the corresponding formal features of the subject DP to move in order to be checked/deleted. The whole operation involves "pied-piping" of the subject DP for PF convergence (cf. Chapter 1 for the details).

In the minimalist approach of Chomsky (1993) clause structure included the functional projections of subject and object agreement, AGRsP and AGRoP respectively. The role of AGRo was to check the Case and φ-features of the direct object in its Specifier position. Correspondingly, the role of AGRs was to check the φ-features of the subject in its Specifier position. The Case features of the subject were also checked in [Spec, AGRs] in virtue of the fact that the T-head (T1 in my terms) had incorporated to AGRs taking the relevant features with it. So, the assumed Specifier position of TP is not used at all in the derivation and was practically available as an option in the building of a tree structure.[50]

Alexiadou (1994) exploits the availability of [Spec, TP] and proposes that it serves as the checking position for temporal adverbials. That is, these adverbials pass from this position at some point of the derivation in order to check their features.[51] Furthermore, she argues that clause subjects check their Case features in [Spec, AGRs] on the basis of evidence from gerund constructions in MG. Gerund constructions in MG lack any Tense or agreement morphology; they are just marked for imperfective aspect. Consider her example below (Alexiadou (1994: 145)):

(47) Jelóndas i María síkose to vivlío
laughing the-Mary-NOM picked up the-book-ACC
"Mary picked up the book laughing"

She argues that the subject *i Maria* in (47) receives Nominative Case by the (non-finite) gerund in that position despite the gerund's lack of Tense morphology. However, if this was the case then the finite verb *síkose* would be able to license its own subject. But this is impossible as (48) below shows:

(48) (a) *Jelóndas i María, o Jánis síkose to vivlío.

(b) *Jelóndas i María, síkose o Jánis to vivlío.

(c) *Jelóndas i María, síkose to vivlío o Jánis

This means that the sentence in (47) has just one subject *i María* Case-licensed by the finite verb *síkose*. I believe that in (47) both the gerund and the DP occupy non-base positions as a result of movement. I will assume that (49) below is the structure underlying (47):

(49) $[_{TP}$ I María$_i$ $[_T$ síkose$_k$ $[_{VP}[_{VP}$ t_i t_k to vivlío] $[_{TP}$ PRO jelóndas]]

The gerund clause functions as an adverbial to the VP. Furthermore, the PRO-subject of the gerund is controlled by the matrix subject *i Maria* (see also Philippaki-Warburton & Catsimali (1995)).

Let me now consider some data from MG that suggest that indeed Agreement is not responsible for the licensing of subjects in MG. In order to do so I will borrow Iatridou's (1993) line of argumentation. Consider the following complex sentences. (50a), (50b), and (50c) contain an embedded subject in Accusative while (50d), (50e), and (50f) contain an embedded subject in Nominative:

(50) (a) Vlépo ton Spíro na kóvi ksíla
see-1S the-Spiros-ACC cut-3S wood
"I see Spiros cut wood"

(b) Vázo tis kopéles na kóvun ksíla
put-1S the-girls-ACC cut-3P wood
"I am making the girls cut wood"

(c) Fandázome tus ksilokópus na kóvun ksíla
imagine-1S the-lumberjacks-ACC cut-3P wood
"I imagine the lumberjacks cutting wood"

(d) Elpízo o Spíros na kóvi ksíla
hope-1S the-Spiros-NOM cut-3S wood
"I hope Spiros cuts wood"

(e) Ine δinatón i kopéles na kóvun ksíla ?
is-3S possible the-girls-NOM cut-3P wood
"Is it possible that the girls cut wood"

(f) Provlépo i ksilokópi na kóvun ksíla
predict-1S the-lumberjacks-NOM cut-3P wood
"I predict that the lumberjacks are cutting wood".

The examples above show that embedded subjects can either bear Accusative (50a, 50b & 50c) or Nominative Case (50d, 50e & 50f).[52] This is so despite the fact that in all cases above the embedded predicates are marked for subject agreement. Thus, it seems that agreement is not a Case-assigning property. This is further strengthened by the examples in (51):

(51) (a) *íδa/vlépo ton Spíro na ékove ksíla
saw/see-1S the-Spiros-ACC PAST-cut-3S wood

(b) *évala/vázo tis kopéles na ékovan ksíla
PAST/put-1S the-girls-ACC PAST-cut-3P wood

(c) *fandástika/fandázome tus ksilokópus na ékovan ksíla
imagined/imagine-1S the-lumberjacks-ACC PAST-cut-3P wood

(d) Elpízo o Spíros na ékopse ksíla
hope-1S the-Spiros-NOM PAST-cut-3S wood
"I hope Spiros cut wood"

(e) Ine δinatón i kopéles na ékopsan ksíla ?
is-3S possible the-girls-NOM PAST-cut-3P wood
"Is it possible that the girls cut wood"

(f) Provlépo i ksilokópi na ékopsan ksíla
predict-1S the-lumberjacks-NOM PAST-cut-3P wood
"I predict that the lumberjacks have cut wood".

On the one hand, the sentences in (51a, 51b & 51c) show that, in this type of embedding, Past tense is impossible in the subordinate clause even if the matrix predicate is also in Past. This proves that the inflection of the embedded clause is marked as [-TNS] and so it is unable to Case-license its subject; hence the Accusative Case. On the other hand, sentences (51d, 51e & 51f) show that Past is possible in these subordinate clauses. So, the inflection of the embedded clause is [+TNS] and therefore able to Case-license its subject; hence the Nominative Case.

It follows from what I have said above that, for MG, there is a clear correlation between Tense and Nominative Case and a clear dissociation between Agreement and Nominative Case. This argues against Alexiadou's claim about AGRsP being the Case-assigner for clause subjects. Given recent proposals about the abandonment of the agreement categories, the Specifier of TP (or [Spec, T1P]) should be the position where the subject Case-features are checked/deleted.[53]

This section concludes my discussion of the semantics and syntax of tense in MG. On the basis of what I assumed, adopted or proposed above about tense, in the next chapter I will consider the syntax of a class of temporal adverbials, the so called deictic temporal adverbials.

5. Conclusions

In Sections 1 and 2, I considered tense from a semantic view. I briefly reviewed the (semantic) theories of tense by Jespersen (1924, 1931), Reichenbach (1947), and Comrie (1981, 1985). I discussed Hornstein's (1990) neo-Reichenbachian model in more detail. More specifically, I examined the analysability of SRE-representations, the notions of intrinsic and extrinsic ordering in SRE-relations and the resulting universal tense inventory. In Section 3, I discussed the Tense system in MG. Subsequently,

I provided SRE-representations for MG tense. I suggested that tenses can be represented more systematically if we view SR-relations as primary and ER-relations as secondary. Moreover, I suggested that SR-relations have temporal properties and that ER-relations have both temporal and aspectual properties. In Section 4, I discussed the mapping from semantics to syntax of tense. I reviewed the syntactic theories of Tense by Hornstein (1990) and Giorgi & Pianesi (1991). Based on these theories, I proposed a mapping mechanism which I applied to the MG Tense syntax. I also discussed some issues concerning the relation of Tense and Case in MG.

Endnotes

1 To avoid confusion, I will write tense with a small *t* to mean semantic tense and with a capital *T* to mean morphological and/or syntactic tense. In addition to this, in the examples provided throughout this thesis, all adverbials appear in italics so as to notify the reader about their presence and specific linear position in the sentence.

2 The primary purpose of this chapter is not to exhaust all syntactic issues concerning tense; I will restrict the discussion to tense in main clauses. Hence, I prefer not to enter the area of temporal interpretation in complex clauses and the handling of Sequence-of-Tense phenomena. For discussion of these issues see Ladusaw (1977), Kamp (1979), Dowty (1979), Comrie (1985), Hornstein (1990), and Stowell (1993) among others.

3 Klein (1994) gives a slightly different definition of tense. For him, tense expresses a relation between the time of utterance and some time for which the speaker wants to make an assertion.

4 Comrie (1985), Binnick (1991), Klein (1994) among others, offer extensive information on tense systems of the world languages.

5 The term *event* here refers to the situation described by the verb. It is not to be confused with that used in the study of the aspectual properties of verbs, in terms of theories by Vendler (1967), Davidson (1980) or Higginbotham (1985).

6 Coincidence is symbolised by a comma "," while non-coincidence (i.e. to precede or to follow) is symbolised by a horizontal line "__".

7 See also Vikner (1985) for discussion of SRE-points and the Future Perfect. Vikner also claims that Perfect tenses are not single tenses but complexes of two simple tense predicates (cf. also Zagona (1990) and Stowell (1993) for a similar conclusion).

8 E is written first and S second with the assumption that E is a variable located in terms of the fixed point S.

9 Other supporters of some version of the Reichenbachian model include Vikner (1985), McGilvray (1974, 1991), Smith (1978, 1981), and Klein (1994).

10 For example, in a sentence like the following:

(i) John had left *at 3pm.*

the leaving of John took place either some time before 3pm (so the adverbial modifies E) or exactly at 3pm (so the adverbial modifies R). Note that this

goes against Reichenbach's claims about temporal adverbials (cf. Section 2.2).

11 Recall that rearrangement of R/E points must preserve the definitions given in (6).

12 Temporal connectives connect an adjunct clause headed by the connective to a matrix clause.

13 The inventory of "possible tenses" is given below:

(i)	Present:	S,R,E; S,E,R; R,S,E; R,E,S; E,S,R; E,R,S
	Past:	E,R__S; R,E__S
	Future:	S__R,E; S__E,R
	Present Perfect:	E__S,R; E__R,S
	Past Perfect:	E__R__S
	Future Perfect:	S__E__R; S,E__R; E__S__R; E,S__R
	Distant Future:	S__R__E
	Future in Past:	R__S,E; R__E,S; R__S__E; R__E__S
	Proxim. Future:	S,R__E; R,S__E

14 This SRE-representation is given by Hornstein and it is wrong with the assumption that a language chooses an extrinsic order for contemporaneous relations. That is, the contemporaneity relation of E and R must be "E,R" for the BTS to be "E,R__S" and not "R,E".

15 Hornstein provides further evidence for the analysability of BTSs with the aim of maintaining S and E unrelated. See Hornstein (1990: 110-1) for the details.

16 The terms extrinsic *vs* intrinsic are not used here as in rule-based theories.

17 The same extrinsic order of E and R must be maintained for all other tenses of the given language. In other words, a language cannot combine both orders.

18 Unlike Hornstein's judgement this sentence appears to be unacceptable for many speakers of English (Neil Smith p.c.).

19 It is not clear to me what mechanism assigns the adverbial *a week ago* to E and the adverbial *yesterday* to R and not *vice versa.* It seems to me that the combination of the adverbials *a week ago* and *yesterday* constitute a complex adverbial.

20 Exactly the same argument holds for the Future, whose BTS is strictly S__R,E. Present is also a "strongly ordered" tense. Hornstein provides evidence from the fact that Present can only be modified by present or future reference adverbials (e.g. *right now, tomorrow,* etc.) and not by past

reference adverbials since the BTS order of the SRE-points would be rearranged violating CDTS.

21 Note that this principle includes a second clause that regulates the mapping from SRE relations to morphemes. I will leave it aside for the moment; I will discuss it, in detail, in Section 4 where I will examine the mapping mechanism to syntax.

22 These numbers indicate that a given language must choose either option (i) or (ii) and cannot combine both. Furthermore, this dictates that the number of possible tenses for a single language is eight.

23 Actually in his inventory there are two tenses that are not assigned composed BTSs, Future Perfect and Future in Past.

24 Notice that this ambiguity results from the adverbial used and not from the nature of Future Perfect; I will only consider the latter here.

25 Notice that Hornstein (1977) argues in favour of a single interpretation for Future Perfect in English.

26 If we test the other representation for the Future Perfect, namely E_S_R, the result will be also that E2 will be located after E1:

(i) E_1_S_R —RTC→ E_1_S_R
S_R,E_2 | |
S__R_E_2

However, there are two reasons for abandoning it. First, it does not respect the preponderance of the SR to the ER-relation discussed in the text. Second, E_1 appears to precede the S-point in the resulting DTS; this is not the correct representation for future reference.

27 MG also possesses three types of Future in Past which I am not including here. They are formed with the future (modal) particle *θα* and the tense form: (a) of the Imperfect; (b) of the Aorist; and (c) of the Past Perfect. The question that arises here is whether these are tenses or just modal forms. In any case I will not touch upon this question here.

28 Traditionally, there is a tripartite distinction on grammatical aspect: perfective, imperfective and perfect. I will take that in morphological terms we only distinguish perfective or imperfective morphology. Perfect interpretation is obtained compositionally by the presence of the auxiliary and the perfective participle. See my discussion on aspect in Chapter 4.

29 Smith distinguishes a third type of Viewpoint aspect, the so-called Neutral aspect. In her terms, Imperfective allows open readings and Perfective closed readings while Neutral aspect allows both readings. The vagueness in the interpretation of Neutral aspect is clarified by contextual

information. Smith claims that the Simple Future in French is of Neutral Viewpoint aspect.

30 Hornstein assumes the following definition of government:

> A governs B iff all maximal projections that dominate A dominate B, and if A governs B then A governs the head of B.

(domination is by all parts of a maximal projection).

31 It is important to note that this mechanism does not operate the other way round, that is from BTSs to morphemes.

32 See also Zagona (1988) and Guéron & Hoekstra (1989) for a similar suggestion.

33 See also Davidson (1980) and Higginbotham (1985, 1994) for postulating an extra *event* argument position for predicates.

34 Giorgi & Pianesi follow here an idea by Li (1990) whereby functional categories block incorporation of morphemes and hence they define word boundaries. On their assumption that T-nodes are lexical categories, the word boundaries of the verb are not defined and so they are forced to assume the presence of AGR (functional category) for this purpose.

35 Notice that the actual specification differs from language to language (for example Latin T2 will be compatible with AGR1).

36 For Giorgi & Pianesi auxiliaries inherit the "event specification" of the main verb.

37 This order reflects the head-final status of Latin (from left to right).

38 Latin has also an Imperfect tense which for Giorgi & Pianesi "is equivalent" to the Simple Past. So, it will be represented as (R_S) O (E,R) = E,R_S and it will lexicalise as the Simple Past. However, this solution invalidates "biuniqueness". I believe that Imperfect, at least, needs to be represented differently from Simple Past by better understanding ER-relations (see also Section 3.4 of this chapter).

39 The corresponding passive tenses are complex forms of the type "auxiliary + participle". Given the presence of the participle, AGR2 will occur.

40 The same is claimed by Thomson (1994).

41 For instance Stowell (1993) tries to show the ordering of times in the syntax by introducing a series of new functional categories (Zeit-Phrases) in order to make use of the predictions of Control theory. There are several

inconsistencies concerning the role and function of ZP. That is in some cases the event-ZP is situated in [Spec, VP] and in some other cases as adjunction to VP without any justification.

42 Interestingly, the main verb (possessive) *have* also lacks aspectual morphology.

43 Notice here that my assumptions about complex tenses go against Stowell's (1993) analysis. Stowell's system is forced to introduce complicated mechanisms in order to explain a simple phenomenon. However, all complications disappear if we view complex tenses as the combination of tense on the auxiliary and of anteriority/perfectivity on the main verb. In addition to this, Stowell treats English participle endings *-en* as a Past morpheme without justification. I believe that *-en* expresses telicity (perfectivity), an aspectual property, and that it is morphologically distinct from Past tense. This is clear if we compare the past form of *to be* as *was/were* with its perfective form *been.*

44 See Joseph & Smirniotopoulos (1993) for objections regarding the exact affixation procedure in MG. They claim that the affixation is not a syntactic (via head-to-head movement) but a lexical procedure (arguing against Rivero (1990)). However, this does not affect the assumptions of the minimalist programme which abandons affixation in favour of feature checking. See Chapter 4 for some discussion.

45 Each conjugation class has its own infix. So, for instance, verbs like *ktip-ó* (hit) will have the infix *-us-* for the Imperfect (→ *ktip-ús-a*) and *-is-* for the Aorist (→ *ktip-is-a*) with parallel shift of the accent from the penultimate to the antepenultimate syllable. Discussion of the verbal morphology and other related issues can be found in Triantafyllidis (1941), Tzartzanos (1946), Warburton (1970), Mackridge (1985), Joseph & Philippaki-Warburton (1987) among many others.

46 Mood Phrase can also be headed by the subjunctive particle *na.* Hence, the incompatibility of *na-θa* discussed by Drachman (1991) and Rivero (1992b). Alternatively, Philippaki-Warburton (1994) claims that *θa* heads its own projection, a Future Phrase. In any case, it seems that *θa* is understood as originating outside TP. (but see Tsimpli (1990) who claims that *θa* heads TP). Recall from Chapter 1 that I assume that MoodP hosts the subject-DP in SVO constructions.

47 To this extent I disagree with Giorgi & Pianesi (1991) who assume that the auxiliary heads its own VP. See Chapter 4 for some discussion on auxiliaries in MG.

48 As a consequence, *Passé Composé* is replacing little by little all uses of the "literary" *Passé Simple.*

49 For an extensive study of Case in MG see Catsimali (1990).

50 See Bobaljik & Jonas (1993), among others, who argue that Case must be checked in [Spec, TP].

51 Till Chapter 3, I will assume that Alexiadou is correct in assuming that temporal adverbials have features to check (i.e. that temporal adverbials have L-features in the sense of Chomsky (1993)).

52 MG lacks any [-T, -AGR] infinitives like those found, say, in English. There is a periphrastic construction, namely [*na* + verb-AGRs], which is taken to be an infinitival in these terms. So, the examples in (51a, b & c) are assumed to be ECM constructions.

53 Notice that Chomsky's (1995b) framework allows for more than one Specifier. However, this does not mean that the status of all specifiers of a phrase XP will be the same. That is, there should be a distinction between licensing specifiers hosting argument material and non-licensing specifiers hosting non-argument material (i.e. traditional adjuncts; see also Laenzlinger (1993)).

CHAPTER THREE

DEICTIC TEMPORAL ADVERBIALS

1. Preface

In this chapter I will investigate the semantic and syntactic nature of deictic temporal adverbials in M.Greek in view of the proposals about tense made in Chapter 2. Specifically, in Section 2, I will examine some of the semantic properties of deictic temporal adverbials (DTA). In Section 3, I will make a brief review of two existing theories about DTAs. In Section 4, I will present a theory of DTAs in MG taking into consideration their syntactic behaviour in the language. There I will also critically review an alternative theory for DTAs in MG proposed in Alexiadou (1994). Finally, in Section 5, I will discuss the problem of direct object/adverb asymmetries and I will speculate about a solution for it.

2. The Properties of Deictic Temporal Adverbials

In general, DTAs can be understood as referring to time intervals relative to the time of speech. In the sections that follow I will examine some of the DTAs properties individually.

2.1 Denotation and Relation with Tense

In semantic terms, a DTA like *tomorrow* refers to the time interval of twenty-four hours, namely the interval of a day, which follows the interval that contains the speech time. Similarly, the DTA *yesterday* refers to the interval that precedes the interval containing the speech time. Another DTA like *last week* refers to the time interval of seven days which precedes the interval (of

a week) containing the speech time. Correspondingly, a DTA like *next Tuesday* refers to the time interval of the day named Tuesday (conceived as following Monday and preceding Wednesday) which follows the interval (of a day) that contains the time of speech.[1]

In these terms, tense is also assumed to refer to some interval that is possibly unspecified and the role of the temporal adverbial is to specify that interval.[2] As an example from MG, consider (1) below:

(1) (a) O Spíros éfije.
the-Peter-NOM PAST-leave-3S
"Spiros left"

(b) O Spíros éfije *xθes/tin perasméni vδomáδa.*
the-Peter-NOM PAST-leave-3S yesterday / the last week
"Spiros left yesterday/last week".

In (1a) the past tense refers to some unspecified interval prior to the speech time. This interval can, possibly, be specified by recourse to the context (see Partee (1973)). In (1b) too the past tense refers to the same unspecified interval prior to the speech time like in (1a). However, here things are different, the "past" interval is specified by the deictic adverbials *xθes* (yesterday) or *tin perasméni vδomáδa* (last week) contained in the clause. More specifically, the DTA *xθes* restricts the "past" interval to the frame of the twenty-four hour interval (i.e. one day) which is just prior to the one-day interval containing the time of speech. Likewise the DTA *tin perasméni vδomáδa* restricts the past time interval denoted by the verb to the seven-day interval which precedes the seven-day interval containing the speech time.

The situation is somehow different with the DTA *símera* (today). Despite the fact that it refers to a time interval of twenty-four hours, that interval contains or "surrounds" the speech point. So, the interval of *símera* is not located prior or after the speech time as with the DTAs we saw earlier. Let us see the example in (2) below:

(2) O Spiros éfije/févji/θa fiji *símera.*
the-Spiros-NOM PAST-leave-3S/PRES-leave-3S/FUT leave-3S today
"Spiros left/is leaving/will leave today".

The adverbial *símera* tolerates either the Past the Present or the Future tense as is shown by the available options in (2). Each of the resulting sentences in (2) is true at some unspecified subinterval within the interval denoted by *símera.* The choice of either Past, Present, or Future is linked to the choice of appropriate subintervals within the interval of *símera.* Specification of these subintervals can be done, for instance, by the use of clock adverbials. Consider the sentence in (3) below:

(3) O Spiros θa fiji *símera stis eptá to vráδi.*
the-Spiros-NOM FUT leave-3S today at-the seven the evening
"Spiros will leave *today at 7pm*".

The sentence in (3) is true at the interval denoted by the deictic *símera* which surrounds the speech point and contains a subinterval denoted by the future tense. This subinterval is after the speech time and is specified by the point adverbial *stis eptá to vráδi.*[3]

In a nutshell, the observations I have made just above mean that a DTA like *yesterday, tomorrow, last week,* or *next Tuesday* denotes an interval that is contained within the past or the future. On the contrary, the DTA *today* denotes an interval that overlaps with that of past or future. For instance, when we use past tense with *today,* the interval of the DTA will still be "running", so to say, at the time of speech.

2.2 Temporal Sensitivity

DTAs are sensitive to the temporal specification of the predicate they modify and so they are only compatible with those tenses that denote the same time. Smith (1981) explains this in that time reference consists of a tense and a temporal adverbial which must be able to combine to establish the

time reference of a sentence. When tense and temporal adverbial are incompatible then no time reference is obtained. Let us see this property of DTAs in more detail.

We saw earlier that the DTAs *xθes* (yesterday) or *tin perasméni vδomáδa* (last week) refer to an interval preceding the interval that contains the speech time. In virtue of this property, *xθes* and *tin perasméni vδomáδa* are only compatible with a past time reference. This is shown in the following examples:

(4) (a) O Spíros éfije *xθes/tin perasméni vδomáδa.*
the-Spiros-NOM PAST-leave-3S yesterday/the last week AORIST
"Spiros left yesterday/last week."

(b) *O Spíros févji *xθes/tin perasméni vδomáδa.*
the-Spiros-NOM PRES-leave-3S yesterday/the last week PRESENT

(c) *O Spíros θa fiji *xθes/tin perasméni vδomáδa.*
the-Spiros-NOM FUT leave-3S yesterday/the last week FUTURE

(4a) is the only grammatical sentence since the Aorist has a past time reference. (4b&c) are both ungrammatical since their temporal specifications are different to that of the DTAs *xθes* (yesterday) and *tin perasméni vδomáδa* (last week).

The deictics *ávrio* (tomorrow) and *tin epómeni Tríti* (next Tuesday) refer to an interval following the interval of speech time. So, *ávrio* and *tin epómeni Tríti* will only be compatible with future time reference. Consider the following examples:

(5) (a) *O Spíros éfije *ávrio/tin epómeni Tríti.*
the-Spiros-NOM PAST-leave-3S tomorrow/the next Tuesday AORIST

(b) O Spíros févji *ávrio/tin epómeni Tríti.*
the-Spiros-NOM PRES-leave-3S tomorrow/the next Tuesday PRESENT
"Spiros is leaving tomorrow/next Tuesday"

(c) O Spíros θa fiji *ávrio/tin epómeni Tríti.*
the-Spiros-NOM FUT leave-3S tomorrow/next Tuesday FUTURE
"Spiros will leave tomorrow/next Tuesday".

The tense of (5a) is of past time reference and thus it is incompatible with the DTAs *ávrio* and *tin epómeni Tríti*. (5c) contains a simple future tense which has, arguably, future time reference. Similarly, (5b) contains a simple present which in MG can also have a future time reference.[4] Thus, in both (5b&c) the DTAs are compatible with the time reference of the tenses and so the sentences are grammatical.

The DTA *símera* (today) has no compatibility restrictions by itself; recourse to discourse information is necessary for determining its time reference. This is clearly shown in the following examples where *símera* combines with all tenses regardless of their time reference:

(6) (a) O Jánis írθe *símera.*
the-Yanis-NOM PAST-come-3S today
"Yanis came today"

(b) O Jánis érxete *símera.*
the-Yanis-NOM PRES-come-3S today
"Yanis is coming today"

(c) O Jánis θa érθi *simera.*
the-Yanis-NOM FUT come-3S today
"Yanis will come today"

In (6a) the DTA *símera* (today) combined with past time reference, while in (6b&c) it combined with future time reference. It follows then that *símera* is not sensitive to the temporal specification of the predicate it modifies, unlike the other DTAs we saw above.[5]

2.3 Referentiality

It is well known that referentiality is a property of nouns. DTAs are also understood as referential (Enç (1987)). As we saw earlier, they refer to a time interval. Ordinary nouns, however, are understood as referring to individuals or properties, to this extent, DTAs differ from ordinary nouns (cf. Partee (1973)).

DTAs, apart from their adverbial use, can also function as ordinary nominals. Consider the following examples:

(7) (a) Ja tus néus *to ávrio* íne avéveo.
for the-young-PL the-tomorrow-NOM be-3S uncertain
"Tomorrow is uncertain for the young people".

(b) Se kamiá dekarjá xrónja θa nostalγúme *to xθes.*
in some ten years FUT sigh-1PL the-yesterday-ACC
"In some ten years we will sigh for yesterday".

(c) *Tin proiγúmeni vδomáδa* δen θa tin ksexáso poté.
the-previous-week-ACC NEG FUT it-ACC forget never
"I will never forget last week."

In (7a) the expression *to ávrio* has no temporal contribution to the sentence. Here it functions as the external argument of the copula *íne* (be). It bears Nominative Case which is not morphologically overt. Sentence (7b) also contains a DTA, the expression *to xθes* which, here, does not function as a temporal expression but as the internal argument of the verb bearing (covert) Accusative Case.[6] The expression *xθes* here is non-temporal and this is supported by the fact that the tense of the predicate is Future, hence incompatible with a "past" DTA like *xθes.* Finally, in (7c) the past-time adverbial *tin proiγúmeni vδomáδa* (last week) is used here as an ordinary argument; the tense of the verb is future and not past. The property of DTAs to function as ordinary arguments of the verb shows that they are nominal expressions and, so, inherently referential.

3. Theories for Temporal Adverbials

In this section I will make a brief presentation of two existing theories about Temporal Adverbials (TAdv) and their relation with tense. In Section 3.1 I will consider Enç's (1986, 1987) theory of temporal expressions and in Section 3.2 I will present Hornstein's (1990) account of TAdvs within the neo-Reichenbachian system.[7]

3.1 Enç (1986, 1987)

Enç (1986, 1987) treats expressions like *yesterday* or *Monday* as temporal NPs given their obvious temporal function and the nominal properties we saw in Section 2 above. For Enç, such temporal NPs bear the distinctive feature [+temp] and so they are distinguished from other NPs.

Furthermore, temporal NPs like *yesterday* are assumed to denote intervals just like tenses. The relation between TAdvs and tenses is that of inclusion. More specifically, Enç claims that the denotation of tense will be included in the denotation of the TAdv. She expresses this relation technically as a relation of broad antecedence following Partee's (1973) insight that adverbials are the antecedents of tense. In following Partee, Enç stresses the necessary distinction between pure antecedence (referential identity relation between nominals) and broad antecedence (inclusion relation between temporal expressions).

In order to express broad antecedence Enç introduces a system of indices. She assumes that all temporal expressions bear a pair of indices. The first index identifies the referent and the second establishes the link to other referents. Each expression bears a pair of indices. The first index of the pair determines the referent of the bearing expression. The second index of the pair determines the inclusion relation (if any). So, if two expressions are coreferential they agree in both indices. If two expressions share a

second index the one is included in the other. Temporal expressions are interpreted in a sequence dependent on syntax. Making use of the c-command relation, an expression α is interpreted before another expression β when α c-commands β. Having in mind the notion of broad antecedence, when two temporal expressions share the second index the denotation of the lower expression will be included in the denotation of the higher.[8]

TAdvs are assumed to be licensed in virtue of the two indices they bear. In other words TAdvs are not licensed as arguments of the verb in any case. Furthermore, Enç suggests that there are no semantic rules for the interpretation of TAdvs. Her suggestion is based on the observation that TAdvs do not constitute a semantic or syntactic natural class, when compared to NPs or PPs. In a way, TAdvs must always have a second index identical to that of the tense in order for their interpretation to be related to that of the predicate.[9] In structural terms, this relation is represented by the adverbial being generated as sister of Infl' thus c-commanding Infl. So, the adverbial will now be the antecedent of tense and so the interval of tense will be included in that of the adverbial.

3.2 Hornstein (1990)

Hornstein (1990) proposes that TAdvs modify a sentence by anchoring onto the R point of the Basic Tense Structure (BTS) of a tense. This leads to the derivation of the Derived Tense Structure (DTS) of that tense, obeying the Constraint on Derived Tense Structures (recall the discussion in Section 2.4.2 of Chapter 2). Consider again examples (4) and (5), the neo-Reichenbachian system treats them in the following way. The representations in (8) correspond to the examples in (4) and those in (9) to (5):

(8) (a) E,R_S —xθes/tin perasméni vδomáδa→ E,R_S
|
xθes/tin perasméni vδomáδa

(b) S,R,E —xθes/tin perasméni vδomáδa→ *E,R_S
|
xθes/tin perasméni vδomáδa

(c) S_E,R —xθes/tin perasméni vδomáδa→ *E,R_S
|
xθes/tin perasméni vδomáδa

(9) (a) E,R_S —ávrio/tin epómeni Tríti→ *S_R,E
|
ávrio/tin epómeni Tríti

(b) S,R,E —ávrio/tin epómeni Tríti→ S_R,E
|
ávrio/tin epómeni Tríti

(c) S_R,E —ávrio/tin epómeni Tríti→ S_R,E
|
ávrio/tin epómeni Tríti

(8a) represents a well formed DTS and that is also shown by the grammaticality of the corresponding sentence. More specifically, here the DTAs *xθes* (yesterday) or *tin perasméni vδomáδa* (last week) are associated to the R point of the given BTS. This association has the result of shifting the tense structure, yielding a DTS. In (8a) the shift is vacuous. In (8b) we have a non-vacuous shift of the BTS by the association of the DTAs *xθes/tin perasméni vδomáδa*; this violates both clauses of CDTS. In (8c) the DTA shifts the BTS non-vacuously; this too violates the second clause of CDTS on linear order. The ill formedness of the representations in (8b&c) also predicts the ungrammaticality of the corresponding sentences. In (9a) the association of the DTAs *ávrio* (tomorrow) or *tin epómeni Tríti* (next Tuesday) yields an ill formed DTS since the linear order of the BTS is altered and so CDTS is not preserved. This is reflected by the ungrammaticality of the corresponding sentence. In (9b) the DTA shifts the BTS vacuously and results in a well-formed DTS preserving CDTS. Likewise, in (9c) the shift of the BTS is non-vacuous but the resulting DTS is well-formed since dissociation is permitted by CDTS. This captures the idea that Present tense

can have future time reference. Both (9b&c) predict the grammaticality of the corresponding sentences.

4. A Theory for Deictic Temporal Adverbials in MG

In this section I will propose a theory that will account for the syntax of DTAs in MG. In Section 4.1, I will suggest some theoretical points about DTAs bearing in mind the insights of existing theories I presented in the previous section. In Section 4.2 I will consider the distribution of DTAs in the MG clause. Furthermore, in Section 4.3 I will propose a syntactic analysis for the MG facts. In Section 4.4, I will present and discuss Alexiadou's (1994) theory for TAdvs in MG.

4.1 Main Theoretical Points

I will follow Partee (1973, 1984) and Enç (1986, 1987) in treating DTAs as referential expressions. Given that DTAs are temporal expressions I will assume that they do not refer to individuals but to time intervals instead (see Dowty (1979) and Enç (1987)).

Furthermore, following the insights of Partee, Dowty and Enç I wish to claim that TAdvs should be viewed as antecedents of tense, in the broad sense of the notion (cf. Partee (1984) and Enç (1987)). In other words an inclusion relation holds between DTAs and tense.

On the assumption that a verb has (or may have) a time argument in its argument structure, tense saturates the time argument (compare Higginbotham (1985) and Kratzer (1988)). The combination of tense and TAdv (DTA in our case) establishes the temporal reference of the sentence (Smith (1981)). In case a sentence does not contain a TAdv the tense will refer to an unspecified interval.

When a TAdv is present the tense will acquire the index of the temporal adverbial (coindexation) and its interval will be specified. In other words the interval of tense will be restricted. This is how a temporal adverbial is licensed in a structure. Coindexation is to be understood here as coreference, not in terms of identity (as with pronouns) but in terms of inclusion. Recall that in Enç's terms an inclusion relation holds between the TAdv and tense whereby the denotation of tense is included in the denotation of the TAdv. I take it that tense's denotation is much broader than that of TAdvs. That is, for instance, the denotation of past could not possibly be included within the denotation of, say, *yesterday* which is much more narrow. Therefore, I will disagree with Enç on this and claim that the denotation of TAdv is included within the denotation of tense.[10] This results in the range of tense being restricted by the TAdv. In these terms, the TAdv is the antecedent of tense since it restricts its range.

I will follow Enç (1987) and I will express this relation syntactically by positing that the temporal expression that restricts the range of another temporal expression must appear higher in the structure. Thus, I will assume that TAdvs appear higher in the structure than tense (i.e. its structural realisation). Furthermore, the TAdv will c-command the syntactic head of tense.

As far as SRE-representations of tense are concerned, Hornstein's (1990) system requires that the TAdv associates to either R or E with which I agree. However, he also requires that this association shifts the BTS of the tense. I do not believe that the TAdv can alter the structure of tense, at least in the way adopted by the neo-Reichenbachian system; its function is to specify the interval of tense.

A final word needs to be said about the incompatibility of some Vendlerian verb classes with TAdvs as Kratzer (1988) and Stowell (1993), among others, report. This is shown in the following example:

(10) O θíos mu ítan polí psilós (*/!*xθés*)
the-uncle-NOM of-me was very tall yesterday
"My uncle was very tall (*/!yesterday)."

I think that this restriction can be thought of in terms of S-selection (Pesetsky (1982)). It depends on the semantics of the time argument (e.g. interval-denoting or not) of the given verb whether or not a TAdv (which is interval-denoting) would be allowed to appear. Certainly this does not mean that the verb selects the TAdv; recall that in nearly all cases TAdvs are optional constituents of a sentence.[11]

4.2 Distribution in the Clause

Having set the main points for a theory of DTAs in MG, my next task will be to investigate the distribution of the DTAs under discussion in the MG clause.

As discussed in Chapter 1, MG displays a relatively free word-order. In other words all permutations of S, V and O are permitted. Two of them, SVO and VSO are considered as the most basic as they do not involve any constituent dislocation. I will focus my interest on the SVO order which is considered the most frequent order in the language.[12] Let us take an example so as to see the DTA distribution (see Section 1 of the Appendix for detailed illustration). Consider the following sentence with the ditransitive verb *δíno* (give) and the DTA *tin perasméni vδomáδa* (last week):

(11) (a) O Níkos éδose ta leftá ston Spíro *tin perasméni vδomáδa.*
the-Nikos-NOM PAST-give-3S the-money-ACC to-the Spiros the last week
"Nikos gave the money to Spiros last week."

(b) *O Níkos éδose ta leftá *tin perasméni vδomáδa* ston Spíro.
the-Nikos-NOM PAST-give-3S the-money-ACC the last week to-the Spiros

(c) O Níkos éδose *tin perasméni vδomáδa* ta leftá ston Spíro.
the-Nikos-NOM PAST-give-3S the last week the-money-ACC to-the Spiros
"Nikos gave the money to Spiros last week."

(d) *O Níkos *tin perasméni vδomáδa* éδose ta leftá ston Spíro.
the-Nikos-NOM the last week PAST-give-3S the-money-ACC to-the Spiros

(e) **Tin perasméni vδomáδa* o Níkos éδose ta leftá ston Spíro.
the last week the-Nikos-NOM PAST-give-3S the-money-ACC to-the Spiros

The DTA *tin perasméni vδomáδa* can only occupy the final position of the sentence, as in (11a) above, or the position between the verb and the direct object, as in (11c) above. I will call these two positions *typical* as they have neutral intonation and all major constituents (ie. S, V, O, and IO) are in their normal positions.[13] The positioning illustrated in (11b) above is impossible. The sentences in (11d&e), however, can become grammatical if we apply to them phonological effects like intonation pause or focal stress appropriately. Consider their grammatical counterparts:

(12) (a) O Níkos, *TIN PERASMENI VδOMAδA* éδose ta leftá ston Spíro.
the-Nikos-NOM the last week PAST-give-3S the-money-ACC to-the Spiros
"Nikos gave the money to Spiros LAST WEEK."

(b) *Tin perasméni vδomáδa*, o Níkos éδose ta leftá ston Spíro.
the-Nikos-NOM the last week PAST-give-3S the-money-ACC to-the Spiros
"Nikos gave the money to Spiros last week."

In (12a) all constituents have the same linear order as in (11d). However, there is an intonation pause, between the subject *o Nikos* and the DTA, and focal stress on the DTA *tin perasméni vδomáδa*. These two effects make (12a) grammatical. Similarly, (12b) has the same linear order as (11e). (12b) is grammatical because of the intonation pause between the DTA and the subject. I will call these two positions *non-typical* as they involve additional phonological effects.

Let us now check the distribution of another DTA that of *ávrio* (tomorrow). Consider the following example:

(13) (a) I María θa stíli to sxéδio ston tipoγráfo *ávrio*.
the-Maria-NOM FUT send-3S the-drawing-ACC to-the-printer tomorrow
"Maria will send the drawing to the printer tomorrow".

(b) *I María θa stíli to sxéδio *ávrio* ston tipoγráfo.
the-Maria-NOM FUT send-3S the-drawing-ACC tomorrow to-the-printer

(c) I María θa stíli *ávrio* to sxéδio ston tipoγráfo.
the-Maria-NOM FUT send-3S tomorrow the-drawing-ACC to-the-printer
"Maria will send the drawing to the printer tomorrow"

(d) *I María *ávrio* θa stíli to sxéδio ston tipoγráfo.
the-Maria-NOM tomorrow FUT send-3S the-drawing-ACC to-the-printer

(e) **Avrio* i María θa stíli to sxéδio ston tipoγráfo.
tomorrow the-Maria-NOM FUT send-3S the-drawing-ACC to-the-printer

As expected, the DTA *ávrio* has the same distribution as *tin perasméni vδomáδa* as shown in the examples in (13) above despite their semantic differentiation. That is, only the sentence-final and the postverbal position are available for DTAs. Recall that these are typical positions as they do not involve any phonological effects. Here too the positioning exemplified in (13d&e) is acceptable if we apply intonation pause and/or focal stress. Consider the following examples:

(14) (a) I María, *AVRIO* θa stíli to sxéδio ston tipoγráfo.
the-Maria-NOM tomorrow FUT send-3S the-drawing-ACC to-the-printer
"Maria will send the drawing to the printer TOMORROW"

(b) *Avrio*, i María θa stíli to sxéδio ston tipoγráfo.
tomorrow the-Maria-NOM FUT send-3S the-drawing-ACC to-the-printer
"Maria will send the drawing to the printer tomorrow"

(14a&b) exemplify once again the two non-typical positions of the DTAs. Let me now check whether the DTA *símera* (today), that differs in semantics from the other DTAs I considered, will display the same distribution:

(15) (a) O Níkos pái ti mixaní sto sinerjío *símera.*
the-Nikos-NOM PRES-take-3S the-motorbike-ACC to-the-garage today
"Nikos will take the motorbike to the garage today"

(b) *O Níkos pái ti mixaní *símera* sto sinerjío.
the-Nikos-NOM PRES-take-3S the-motorbike-ACC today to-the-garage

(c) O Níkos pái *símera* ti mixaní sto sinerjío.
the-Nikos-NOM PRES-take-3S today the-motorbike-ACC to-the-garage
"Nikos will take the motorbike to the garage today"

(d) *O Níkos *símera* pái ti mixaní sto sinerjío.
the-Nikos-NOM today PRES-take-3S the-motorbike-ACC to-the-garage

(d') O Níkos, *SIMERA* pái ti mixaní sto sinerjío.
the-Nikos-NOM today PRES-take-3S the-motorbike-ACC to-the-garage
"Nikos will take the motorbike to the garage TODAY"

(e) **Símera* o Níkos pái ti mixaní sto sinerjío.
today the-Nikos-NOM PRES-take-3S the-motorbike-ACC to-the-garage

(e') *Símera*, o Níkos pái ti mixaní sto sinerjío.
today the-Nikos-NOM PRES-take-3S the-motorbike-ACC to-the-garage
"Nikos will take the motorbike to the garage today"

The examples in (15) above show the typical and non-typical positioning of the DTA *símera*; obviously it is the same as that of the other DTAs.

Another property, that I should mention here, is that only one DTA can occur per sentence:

(16) (a) I María θa epistrépsi *ávrio*
the-Maria-NOM FUT return-3S tomorrow
"Maria will come back tomorrow".

(b) *I María tha epistrépsi *ávrio símera.*
the-Maria-NOM FUT return-3S tomorrow today

By (16b) we can see that two DTAs are not permissible in a single sentence. This is so despite the compatibility of both DTAs *ávrio* and *símera* with the time reference of the future tense. Certainly, combinations of a DTA and a clock adverbial (for interval specification purposes) are permissible:

(17) (a) O Níkos éstile éna faks *xθes stis enjá.*
the-Nikos-NOM PAST-send-3S one-fax-ACC yesterday at-the-nine
"Nikos sent a fax yesterday at nine".

(b) O Níkos éstile *xθes stis enjá* éna faks.
the-Nikos-NOM PAST-send-3S yesterday at-the-nine one-fax-ACC
"Nikos sent a fax yesterday at nine".

(c) *O Níkos éstile *xθes* éna faks *stis enjá.*
the-Nikos-NOM PAST-send-3S yesterday at-the-nine one-fax-ACC

However, observe that the DTA-clock TAdv combination behaves like a unit (complex adverbial). That is, its members cannot be separated, this is shown by the ungrammaticality of (17c).

Summarising, in this section I examined the distribution of DTAs in the MG clause (in the SVO order). I found that they have two typical positions, namely sentence finally and postverbally, and two non-typical positions, namely after the subject and sentence initially. Furthermore, I found that only one DTA is permitted per sentence. If a DTA is combined with a clock adverbial then they behave as an inseparable unit. My next task will be to propose an analysis that will account for the elementary data I presented here.

4.3 Structural Positions of DTAs in the MG Clause

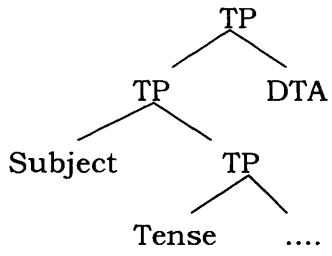
On the basis of the structure of the MG clause proposed in Chapter 1, my next task is to determine the structural positions of the DTAs. In Section 4.2 I examined the distribution of DTAs and I found that they have two typical and two non-typical positions. I will discuss each position separately.

4.3.1 Sentence-final Position

This is the most preferred position for DTAs in MG (see Tzartzanos (1946) and Nacas (1987) among others). Recall that I called it typical in virtue of the fact that it is neutral in phonological terms. In other words, the DTA in this position is assumed to occur by merge and not by movement. I will assume that adverbials in general may appear in more than one position by merge unlike arguments (see for instance Chomsky (1986b, 1993, 1995b)). In addition to that, adverbials have not any licensing features to check since they are adjuncts (occupying non-L-related positions in the sense of Chomsky (1993); see also Thompson (1994) for a similar conclusion).

Recall that earlier (Section 4.1) I claimed that DTAs restrict the range of tense; this is expressed structurally by the DTAs appearing higher than tense. Taking this into consideration, I will assume that DTAs, in this case, must appear within the syntactic projection of tense (i.e. TP). This is not a new idea, it has been proposed by several people like Dresher (1976), Hornstein & Weinberg (1981), Bennis & Hoekstra (1989), and McCloskey (1992) among others. Furthermore, given that a syntactic head like T has both argument and non-argument specifiers, I will assume that DTAs occupy by Merge the non-argument specifier. In addition to that, I will assume that non-argument specifiers can be either to the left or to the right. So, I will claim that the DTAs' sentence-final position is structurally represented by the DTA being inserted by Merge in the non-argument specifier of T to the right:

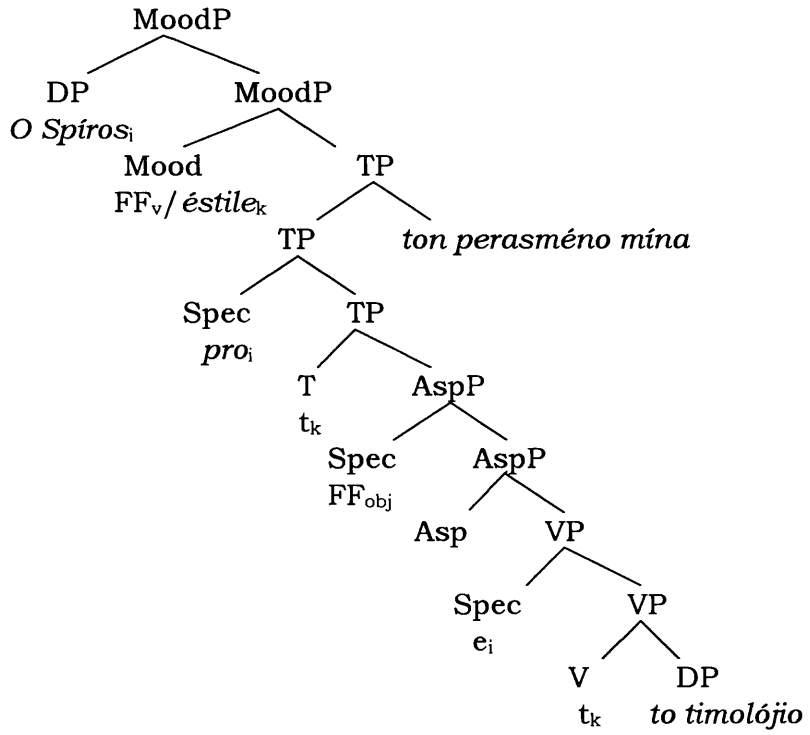
(18)



As is shown by (18) above, the DTA is structurally higher than tense as I suggested earlier. (19) below illustrates an SVO sentence with a DTA:

(19) (a) O Spíros éstile to timolójio *ton perasméno mína.*
the-Spiros-NOM PAST-send-3S the-invoice-ACC the last month
"Spiros sent the invoice last month".

(b)

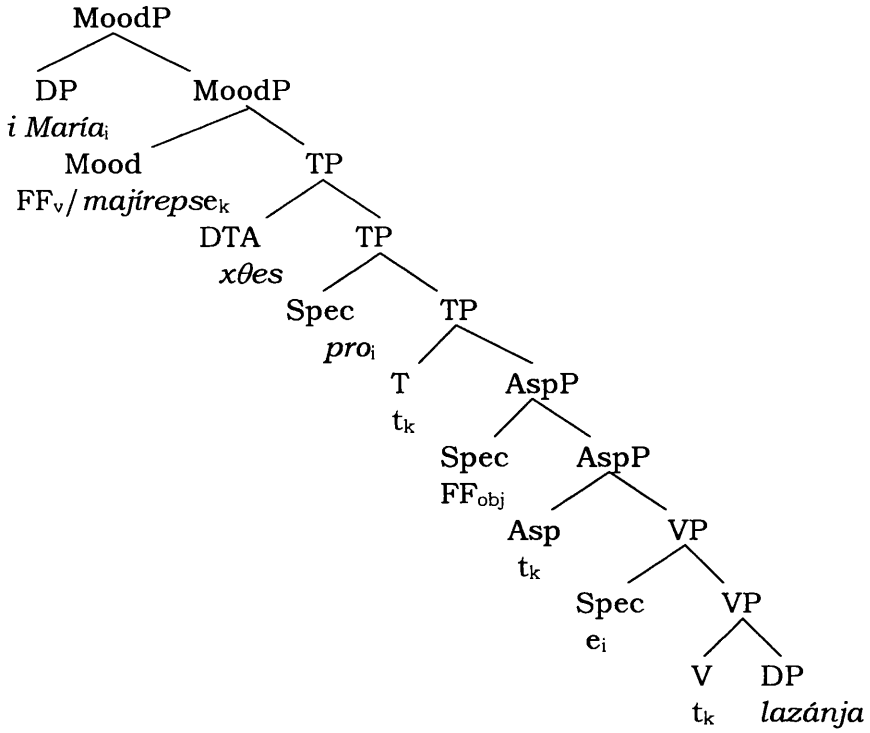


4.3.2 Post-verbal Position

This is the second typical position of DTAs in MG that I found earlier. The DTA appears here after the verb, in linear order terms. However, there is no semantic differentiation between this and the sentence-final position (i.e. they have identical scope). Nevertheless, this position is preferred to the sentence-final one in case there is heavy material towards the end of the sentence. This is the case, say, of ditransitive verbs where a DP and a PP separate the DTA from the sentence. In view of all this, I will assume that the post-verbal position is represented by the DTA occupying a left non-argument specifier of TP. The following example illustrates the analysis:

(20) (a) I María majírepse *xθes* lazánja.
the-Maria-NOM PAST-cook-3S yesterday lasagne-ACC
"Maria cooked lasagne yesterday"

(b)



4.3.3 Post-subject Position

This is the first of the two non-typical positions of DTAs in MG that we saw earlier in Section 4.2. Here, the DTA appears after the subject, obligatorily separated by an intonation pause and bearing focal stress (see examples (12a), (14a), and (15d')). I will assume that in this case the subject DP is topicalised (by movement) and the DTA is focused (also by movement).[14]

The combination of both a topic and a focus is possible in MG. This is shown by the example in (21a) where the subject is topicalised and the direct object is focused, and by that in (21b) where the direct object is topicalised and the subject is focused:

(21) (a) O Jánis, TI MARIA filise.
the-Yanis-NOM the-Maria-ACC PAST-kiss-3S
"It is Maria that Yanis kissed".

(b) Ti María, O JANIS ti filise.
the-Maria-ACC the-Yanis-NOM PAST-kiss-3S
"It is Yanis who kissed Maria".

It is interesting to note that the same holds for non-argument elements. That is, it is possible to have a combination of a topicalised adverbial followed by a focused adverbial. Consider the following examples that show such combinations of a temporal and a manner adverbial (in both orders):

(22) (a) Ton perasméno mína, AδIKEOLOJITA élipse o Jánis apó ti δuljá.
the-last-month without-excuse was-absent the-Yanis-NOM from the work
"Last month, it was without excuse that Yanis was absent from work."

(b) Aδikeolójita, TON PERASMENO MINA élipse o Jánis apó ti δuljá.
without-excuse the-last-month was-absent the-Yanis-NOM from the work
"It was last month that Yanis was absent from work without excuse."

The same combination can be obtained with a temporal and an aspect-sensitive adverbial (in both orders):

(23) (a) Tu xrónu, TRIS FORES θa pái i María sti Néa Iórki.
of-the year three times FUT go-3S the-Maria to-the New York
"Next year, it is three times that Maria will travel to New York."

(b) Tris forés, TU XRONU θa pái i María sti Néa Iórki.
three times of-the year FUT go-3S the-Maria to-the New York
"It is next year that Maria will travel to New York three times."

Finally, the same combination is observed with a manner adverb and an aspect-sensitive adverbial, as shown below:

(24) (a) Káθe méra, KRIFA aγorázi o Níkos ta tsiγára tu.
every day secretly is-buying-3S the-Nikos-NOM the-cigarettes-ACC of-his
"It is secretly that Nikos is buying his cigarettes every day."

(b) Krifá, KAθE MERA aγorázi o Níkos ta tsiγára tu.
secretly every day is-buying-3S the-Nikos-NOM the-cigarettes-ACC of-his
"It is every day that Nikos is buying his cigarettes secretly."

Another important observation that I need to make here is that the order of the focused and the topicalised elements in a single sentence is irreversible. That is, it is impossible to have a focused phrase followed by a

topic phrase. This is shown by the ungrammatical counterparts for (21a&b) given in (25a&b) and for (23a&b) given in (26a&b) respectively:

(25) (a) *TI MARIA o Jánis fílise.
the-Maria-ACC the-Yanis-NOM PAST-kiss-3S

(b) *O JANIS ti María fílise.
the-Yanis-NOM the-Maria-ACC PAST-kiss-3S

(26) (a) *TRIS FORES tu xrónu θa pái i María sti Néa Iórki.
three times of-the year FUT go-3S the-Maria to-the New York

(b) *TU XRONU tris forés θa pái i María sti Néa Iórki.
of-the year three times FUT go-3S the-Maria to-the New York

Following the pre-minimalist assumptions of Chomsky (1977) and Riemsdijk & Williams (1986) I will assume that topicalisation is an instance of movement of an element to an A-bar position, namely to the [Spec, CP], attracted by a [+top] feature in C. Furthermore, I will assume that focusing is also a case of movement. Following Choe (1987), Brody (1990) and Tsimpli (1994) I will claim that a focused element moves to the specifier position of a Focus Phrase (also an A-bar position), attracted by a [+F] feature in F. FP is headed by F which bears relevant features. The PF realisation of such features is either through a morpheme or some phonological effect; in MG focus is phonologically realised.

Furthermore, there is evidence which suggests that focused elements cannot be assumed to move to [Spec, CP]. Consider the following example where it is clear that the focus phrase is embedded under C (from Tsimpli (1994)):

(27) Su ípa [$_{C}$ óti [$_{TP}$ LEFTA éδosa sti María]]
to-you PAST-tell-1S that money PAST-give-1S to-the-Mary-ACC
"I told you that I gave MONEY to Mary"

In addition to that consider the example in (28) which suggests in turn that the topicalised element *to vivlío* (the book) is indeed in [Spec, CP] (from Tsimpli (1990)):

(28) Mu ípe [$_{CP}$ to vivlío óti [$_{TP}$ to éðose sti María]]
to-me PAST-tell-3S the-book-ACC that it PAST-give-3S to-the-Mary-ACC
"He/She told me that it was the book that he/she gave to Mary"

The examples in (27) and (28) suggest that we must distinguish between the CP and the FP projection and that the CP will precede the FP projection.

Moreover, observe that in all cases where we have a focused element, the verb of the sentence must be adjacent to it (following). Thus, we cannot have the order focus-subject-verb; this is illustrated in (29) below:

(29) (a) *TI MARIA o Níkos aγapái.
the-Maria-ACC the-Nikos-NOM PRES-love-3S

(b) TI MARIA aγapái o Níkos.
the-Maria-ACC PRES-love-3S the-Nikos-NOM
"Nikos loves Maria".

What we observe in (29) suggests that the verb follows its formal features to F in order for the features of the focused element to be checked properly in [Spec, FP].[15]

Given what I assumed above about the post-subject position of DTAs in MG, the sentence in (12), repeated in (30a) below for convenience, will have the structure in (30b):

(30) (a) O Níkos, *XθES* éðose ta leftá ston Spíro.
the-Nikos-NOM yesterday PAST-give-3S the-money-ACC to-the Spiros
"Nikos gave the money to Spiros YESTERDAY."

(b) [$_{CP}$ [o Níkos]$_i$ [$_{CP}$ [$_{C}$+top] [$_{FP}$ [xθes]$_j$ [$_{F'}$ [$_{F}$ éðose$_k$] [$_{MoodP}$ t_i t_k[$_{TP}$ [$_{TP}$ pro$_i$
[$_{TP}$ t_k [$_{AspP}$ FF$_{obj}$ [$_{AspP}$ t_k [$_{VP}$ t_i [$_{VP}$ t_k ta leftá ston Spíro]]]]]]] t_j $_{TP}$]]]]]

The [+top] feature in C attracts the subject DP up to [Spec, CP]. The features of the verb *élise* along with the verb itself gets licensed in Asp, T and Mood. The DTA *xθes* moves from TP to the [Spec, FP] attracted by a [+focus] feature and the verb in F; the focused DTA is licensed there under spec-head agreement.

4.3.4 Sentence-initial Position

The second non-typical position of DTAs in MG is the position before the subject (in SVO). This position obligatorily involves an intonation pause between the DTA and the subject (see examples (12b), (14b), and (15e')). The data suggest that this is another instance of topicalisation; here the adverbial is topicalised. On the basis of what I said in Section 4.3.3 on topicalisation, I will claim that here the DTA moves from its original position in TP to the [Spec, CP] attracted by a [+top] feature in C. The external argument of the verb is in [Spec, MoodP] and the verb is in Mood being pied-piped by their respective features which move there for licensing. The sentence in (14b), repeated in (31a) below for convenience, is analysed as in (31b):

(31) (a) *Avrio*, i Maria θa stíli to sxéδio ston tipoγráfo.
tomorrow the-Maria-NOM FUT send-3S the-drawing-ACC to-the-printer
"Maria will send the drawing to the printer tomorrow"

(b) $[_{CP}$ [ávrio]$_j$ $[_{CP}$ $[_C$ +top] $[_{MoodP}$ [i Maria]$_i$ θa stíli$_k$ $[_{TP}$ $[_{TP}$ pro$_i$ $[_{TP}$ t_k

$[_{AspP}$ FF$_{obj}$ $[_{AspP}$ t_k $[_{VP}$ e_i $[_{VP}$ t_k to sxéδio ston tipoγráfo]]]]]] t_j $_{TP}$]]]]

In (31) the subject DP is in [Spec, MoodP]. The verb is pied-piped by its features to Asp and T. The DTA avrio is attracted by a [+top] feature in C and moves there accordingly from its original position in TP.

In the case of the VSO-order, a DTA can appear sentence-initially only if it is focused, yielding the surface order "DTA-V-S-O":

(32) *XθES* éspase o Jórγos to póδi tu.
yesterday PAST-break-3S the-Yorgos-NOM the-leg-ACC his-GEN
"It is yesterday that Yorgos broke his leg"

As is expected, the verb follows the focused adverbial to satisfy adjacency (cf. Section 4.3.3). The difference between the example in (32) and that in (31) is created by the position of the subject. As we saw, in the case of (31) the subject-DP is in [Spec, MoodP] (with a [+theme] interpretation), while, in the case of (32) the subject is in its Merge position [Spec, VP].

4.4 An Alternative Theory for TAdvs in MG

Having seen my proposal about temporal adverbials in MG, it is useful at this point to compare my treatment of the phenomenon with that by Alexiadou (1994). Alexiadou makes some general observations on tense and temporal adverbials similar to those I made earlier in this thesis. More specifically, she argues that temporal expressions are to be viewed as referential expressions denoting time intervals in the spirit of Enç (1986, 1987) and Partee (1973, 1984). Furthermore she treats DTAs as referring to an interval denoting a day preceding or following the day that contains the time of utterance. Parallel to this she highlights the fact that DTAs are DPs since they can also function as ordinary argument DPs.[16] Moreover, she follows Enç in claiming that the relation between tense and TAdvs is that of inclusion (i.e. broad antecedence).

Alexiadou examines the situation of TAdvs in MG. She makes the observation that DTAs have compatibility restrictions. She also observes that this is not the case with Clock-Calendar adverbials. Such adverbials, like *ti δeftéra* (on Monday) or *to mesiméri* (at noon), are compatible with any time reference (according to context).

In the light of her observations, Alexiadou suggests that TAdvs are specified as bearing temporal features similar to those situated in T. TAdvs

are licensed by checking their features against those of T in a spec-head configuration in TP.

In terms of their distribution (see my Section 4.2), she analyses the sentence-initial position as the DTA being topicalised by movement. In addition to that, she assumes the same analysis for the post-subject position of DTAs (topicalised subject and focused adverbial). She also discusses the case where the DTA appears (obligatorily) focused in the sentence-initial position of the VSO order. Finally, she mentions the sentence-final position of DTAs claiming that here they appear somewhere within VP.

Alexiadou's account for TAdvs is based on Kayne (1994).[17] Kayne develops a theory claiming that linear order (at PF) is determined by phrase structure. The mechanism that maps X-bar structures into linear precedence is based on the notion of asymmetric c-command and the Linear Correspondence Axiom.[18] Kayne's theory restricts the number of specifiers to one and the number of adjuncts to one. Furthermore, the direction of specifiers and adjuncts is also restricted to the left.

For Alexiadou TAdvs are specifier-like elements. They are introduced by Merge (somewhere) inside the VP where they are θ-marked by the verb. Consequently, they move to [Spec, TP] for checking their temporal features at some point in the derivation as required by the Principle of Full Interpretation. Therefore, for her the [Spec, TP] position is a checking (licensing) position for TAdvs and not for subject-DPs; the latter are licensed for Case and agreement in the [Spec, AGRsP] position.

I will agree with Alexiadou's theoretical assumptions concerning the semantic status of TAdvs. However, recall that I understand the inclusion relation differently. The denotation of TAdvs is included in the denotation of tense which results in the restriction of tense range and therefore in the specification of tense interval (see Section 4.1 for discussion).

In syntactic terms, however, I have several points on which I disagree with Alexiadou. First, I disagree with the restriction of the direction of adjunction/specifier. imposed by Kayne's system. By excluding rightward direction of adjunction, in general, we are lead to assume that constituents move around an element without any serious motivation (see Brody (1994) and Manzini (1994, 1995) for discussion).

Second, the choice of the [Spec, TP] as the TAdvs licensing position is also problematic in my opinion. The system reserves this position for the Case-licensing of subjects and so it is not available for TAdvs (see my discussion in Section 4.4 of Chapter 2).

Third, I do not see any reasons for TAdvs to check any features. That is TAdvs do not possess any morphological features that could be checked (as arguments do). TAdvs have indeed temporal features which are semantic though. In any case, these need not be checked; they are not L-features (in the sense of Chomsky (1993)); they are interpretable (as in Chomsky (1995b)).[19] So, there is no clear motivation for TAdvs to move for licensing reasons. TAdvs are inserted by Merge in a given position and they surface there. They could only move if topicalised, focused, or questioned, attracted by the relevant feature.

Fourth, I do not understand what the thematic relation is that holds between the verb and TAdvs. TAdvs are optional elements in a sentence like all adverbials. Even if there are cases where a TAdv is selected by V (e.g. verb *to last*), this is not suggestive of such relation in general terms. Furthermore, the time argument that the verb is assumed to have is saturated by tense. In addition to that, the fact that some verb classes cannot combine with some types of TAdvs can be thought of as a semantic idiosyncrasy of their time argument and not as a selection relation that holds between V and TAdv (see also Pesetsky (1982)). In other words, all

relations of TAdvs and V are mediated by tense and no thematic relation can be established between them.[20]

5. A Problem: Direct Object/Adverb Asymmetries.

In previous sections, I have presented a theoretical account of DTAs in MG that, I believe, accounts for the data in a uniform and systematic way within the minimalist programme. However, there is a problem with my approach stemming from so called direct object/adverb asymmetries. My task here is to present the problem and speculate about a solution for it.

Larson (1988) observed that there is an asymmetry between objects (DO and IO). Consider the following examples:

(33) (a) I presented the queen to herself.

(b) *I presented herself to the queen.

In (33a) the noun *the queen* (asymmetrically) c-commands the anaphor *herself* (i.e. it is structurally superior to the anaphor) and the sentence is grammatical. In (33b) though, the noun *the queen* does not c-command the anaphor (i.e. it is structurally inferior to the anaphor) and the sentence is ungrammatical. This, among other things, lead Larson to propose the following D-structure representation for VP:

(34) $[_{VP}\ NP_{subj}\ [_{V'}\ e_v\ [_{VP}\ NP_{obj}\ [_{V'}\ V\ PP_{(IO)}]]]]$

S-structure is derived by raising V from its base-position (under V' of the embedded VP) to the available e_v position (under V' of the top VP).

Stroik (1990) observes that the same asymmetry holds between objects and adverbials as the following examples suggest (Stroik (1990: 656)):

(35) (a) Who did you see where/when ?

(b) *Where/when did you see who ? (NB: not echoic)

(36) (a) Who$_k$ did Sue admonish every day his$_k$ brother showed up drunk ?

(b) *Which day$_k$ did you read a poem about its$_k$ sunset ?

In (35a) the NP *who* is superior to the Adverb *where* and hence it can control it; this is not the case in (35b).[21] Similarly, in (36a) *who* is superior to *his brother*, hence the grammaticality, but things are different in (36b).

In order to account for the above phenomena he posits that a (verb-modifying) adverbial must be structurally represented as sister of V in D-structure, just like the IO with ditransitive verbs:

(37) [$_{VP}$ NP$_{subj}$ [$_{V'}$ e$_v$ [$_{VP}$ NP$_{obj}$ [$_{V'}$ V Adv]]]]

So, having in mind Stroik's problem we should understand temporal adverbials as verb adverbials. Furthermore, TAdvs should be structurally represented as sisters to V in a Larsonian VP-structure (see Alexiadou (1994) for such a conclusion).

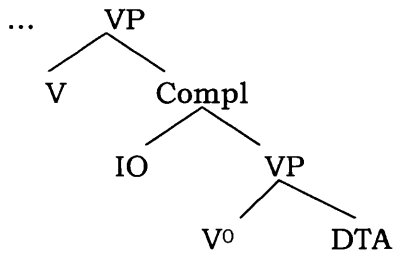
The above phenomena reported by Stroik deserve serious attention. Three things come to mind. First, if we adopt Stroik's solution we automatically exclude the very common case where a sentence consists of a ditransitive verb and a TAdv:

(38) John gave a present to Mary yesterday.

Stroik by the structure in (37) cannot account for the sentence in (38). In other words, the ditransitive verb *give* has one external (*John*) and two internal arguments (*a present, to Mary*). In a Larsonian structure, the subject will occupy the specifier of the top VP and the direct object that of

the lower VP. The indirect object occupies the complement position of V (sister to V) in the lower VP; the position of TAdvs, according to Stroik. An answer to this could be that the DTA is not the complement of the lexical V but that of an abstract V^0 at the bottom of VP:

(39)



However, I do not see any syntactic or semantic motivation for the postulation of such an abstract V-head. It seems to be just a rescuing solution.

Second, there are similar cases of direct object/adverb asymmetries where the adverbial must occupy a higher position than that of the DO. Consider the following example:

(40) John had seen her$_i$ [at the time Mary$_i$ entered the room]

The pronoun *her* and the noun *Mary* may be interpreted as coreferential. In this case, coreference is achieved only if *Mary* is superior to *her* and not *vice versa.*

Third, if we adopt Stroik's approach we cannot account for the post-verbal position for DTAs found in MG:

(41) O Spíros kápnise *xθes* djó pakéta tsiγára.
the-Spiros-NOM PAST-smoke-3S yesterday two-packets-ACC cigarettes
"Spiros smoked forty cigarettes yesterday".

In (41) the adverbial, arguably, occupies a position higher than the complement position of V. An answer to this could be to claim that the adverbial has moved to a higher position. Nevertheless, I do not see any

reason for the adverbial to have moved there. Recall that neither topicalisation nor focusing can be assumed here since the intonation pattern is neutral.

Lasnik & Saito (1991) suggest an alternative account for these phenomena in minimalist terms. They assume that the DO in English moves covertly from VP to [Spec, AGRo] for Case licensing. Moreover, they claim that adverbials appear as adjunctions to VP. Under these conditions, it follows that the DO will c-command the VP-adjoined adverbial at LF. The corresponding structure will look like:

(42) .... $[_{AGRoP}\ DP_i\ [_{AGRo'}\ AGRo\ [_{VP}\ [_{VP}\ Spec\ [_{V'}\ V\ t_i]]\ ADV\ ]]]$

Unfortunately, however Lasnik & Saito's account does not solve my problem. This is because I suggested earlier that temporal adverbials in MG are positioned in TP. Even if the DO moves to AGRoP at LF, AGRoP is lower than TP, so the problem remains. A possible solution to this problem could be to assume that the object (or the relevant features) moves to a higher projection than AGRoP at LF for scope reasons. Whatever the solution, I prefer to leave this issue open for further investigation.

6. Conclusions

In this chapter I have discussed the case of deictic temporal adverbials with special reference to MG. In Sections 2 and 3, I examined their intrinsic properties. I established the idea that they are referential expressions with sensitivity to the tense they can modify. Then, I reviewed the theories of temporal adverbials of Enç (1986, 1987) and Hornstein (1990). In Section 4, I proposed a framework for the syntax of deictic temporal adverbials in MG mainly influenced by Enç's work. I then examined the distribution of temporal adverbials in the MG clause. I viewed the MG clause from a minimalist perspective in view of Chomsky's (1995b) proposals. Next I proposed structural representations for the typical and non-typical

positioning of these adverbials. Moreover, I compared my analysis with an alternative theory for MG temporal adverbials proposed by Alexiadou (1994) highlighting some problems with this theory. Finally, in Section 5, I discussed a problem for my account due to the direct object/adverb asymmetries of Stroik (1990) and I speculated about a solution for it.

Endnotes

1 Note that DTAs like *next Tuesday* have a specific time reference in virtue of the fact that they contain the relevant temporal adjective (next *vs* last). In the absence of such an adjective the interval of the temporal adverbial (e.g. *on Tuesday*) will be unspecified (i.e. either past or future depending on context).

2 Smith (1981) also states that sentences which lack temporal adverbials are vague or incomplete from the point of view of temporal interpretation. So, the role of the temporal adverbial is to render the sentence temporally specific.

3 Note that *símera stis eptá to vráði* is taken to be a complex temporal adverbial. See also Klein (1994) who notes that all DTAs provide an implicit time frame which can be made explicit by an additional non-deictic adverbial. I agree with this point but I believe that *today* still differs from the other DTAs for the reasons mentioned in the text.

4 Future time reference of the Present tense is not obtained with stative verbs and a future time DTA:

(i) *I Maria katalaveni tin erotisi meθávrio.
the-Mary-NOM PRES-understand-3S the-question-ACC the-day-after-tomorrow

This is probably due to the fact that the Present can either have generic interpretation or future time reference and not both (ignoring here cases of scheduling situations).

5 See Smith (1989) for a discussion of the difficulties in relating tense and time and the interaction with temporal adverbials in English.

6 Such temporal noun phrases seem to bear Case not only in their argumental but also in their adverbial function. For the latter case, three distinct bases of analysis are proposed. The first suggests that temporal NPs are Case-marked by a governing zero-Preposition and is advocated by Bresnan & Grimshaw (1978), Emonds (1987), and McCawley (1988). The second type views temporal NPs as being Case-marked in terms of lexical features; it is followed by Larson (1985), and Xydopoulos (1994a). The third type considers temporal NPs as originating as sisters of V and thus receiving Case from V; it is proposed by Stroik (1990, 1992a, 1992b).

7 Both these theories are non-minimalist as they were formulated before the introduction of MPLT.

8 Notice that this type of indexing is also proposed for partitive constructions. However, Enç claims that only temporal expressions have double-indexing obligatorily. For a further discussion on indexing see Enç (1986, 1987).

9 This is required by the Principle of Full Interpretation in Chomsky (1986a).

10 Note that the solution I am putting forward here does not apply to the case of *simera* (today). This DTA does not share its index with tense since it is not time-sensitive.

11 The time-dependent verb *last* requires the use of durative TAdv:

(i) The torture lasted *(two hours).

Obviously, this is an exceptional case.

12 In any case VSO order differs from SVO only in the position of the subject. Assuming the VP-internal hypothesis (Kuroda (1985), Kitagawa (1986), Koopman & Sportiche (1991)), in VSO the subject remains inside VP; in SVO it is in a functional projection higher up (cf. Chapter 1). I assume that the positions of the DTAs will be the same in both patterns.

13 The sentence-final position for DTAs seems sometimes to bear extra stress (see Alexiadou (1994)). In my opinion, this is due to the MG intonation system that displays a gradual rise in stress towards the end of the utterance (nonemphatic). In case the speaker wishes to show emphasis on the final constituent of the sentence then he/she applies an abrupt rise in stress towards the end of the utterance (emphatic) . Only in the latter case can the DTA be treated as focussed (*in situ*). See Joseph & Philippaki-Warburton (1987) for description of the phenomenon.

14 It is interesting to note that manner adverbs and aspect-sensitive adverbs in MG can also appear in the same non-typical positions, after the subject or sentence initially (see Chapters 4 and 5 for discussion).

15 I will ignore cases of *in situ* focusing that are equally possible. In those cases only the features of the focused element move to [Spec, FP] while the element itself remains in its Merge position.

16 According to Alexiadou, the referential nature of TAdvs is additionally supported by the fact that TAdvs can be extracted out of *wh*-islands unlike non-referential expressions (this is due to Rizzi (1990) for English and to Drachman & Klidi (1992) for MG) (Alexiadou (1994: 136):

(i) (a) *Pos$_i$ anarotjése [pjó próvlima$_j$ [na lísis t_j t_i]]
how PRES-wonder-2S which-problem-ACC to solve-2S

(b) Poté$_i$ anarotjése [pjo próvlima$_j$ [na lísis t_j t_i]]
when PRES-wonder-2S which-problem-ACC to solve-2S
"When do you wonder which problem to solve?"

(c) ?Poté$_i$ δen kséris an θa érθi o Jánis t_i
when not PRES-know-2S if FUT come-3S the-John-NOM
"When don't you know if John will come?"

According to my and other native speakers' intuitions, in (ib) the wh-phrase cannot be construed with the embedded clause, so it is out as it stands; (ic) is completely ungrammatical.

17 See also Costa (1994) for an analysis of adverbials within Kayne's system.

18 Asymmetric c-command is defined as follows (Kayne (1994: 4)):

(i) X asymmetrically c-commands Y iff X c-commands Y and Y does not c-command X.

The Linear Correspondence Axiom reads as follows (Kayne (1994:6):

(ii) d(*A*) is a linear ordering of *T*.

d is the nonterminal-to-terminal dominance relation. *A* stands for the set that contains all pairs of nonterminals such that the first asymmetrically c-commands the second. T is the set of terminal nodes.

19 Notice that Alexiadou attempts to translate Enç's (1987) indexation of TAdvs into feature checking. I agree that for minimalist purposes indices are not interpretable entities but I do not think that they can be replaced by feature checking in the way the latter is conceived in the current version of MPLT (cf. Chomsky (1995b)).

20 Some people like Larson (1985) talk about an adverbial θ-role in order to explain the licensing of adverbials in general. I do not see any motivation behind such a proposal.

21 Interestingly, for several people (35b) is perfectly grammatical in English. The exact translation of this sentence is perfectly all right in MG:

(i) Pu/Póte íδes pjon ?
where/when PAST-see-2S who-ACC
"Where/When did you see who"

This invalidates Stroik's argumentation to a certain extent.

CHAPTER FOUR

ASPECT AND RELATED ADVERBIALS

1. Preface

In this chapter I will consider the aspectual system of Modern Greek (MG) in terms of the perfective *vs* imperfective opposition, and I will discuss a special class of adverbials that appear to be sensitive to the aspectual specification of the predicate. More specifically, in Section 2, I will provide a general introduction to the term aspect. In Section 3, I will examine the distinction between Situation and Viewpoint aspect as discussed by Smith (1991) and I will concentrate my attention on different issues of Viewpoint aspect. In Section 4, I will investigate the status of Viewpoint in MG in morphological, semantic, and syntactic terms. Subsequently, I will make a proposal as to the syntactic status of Viewpoint aspect in MG, within the minimalist programme (cf. Chomsky (1993, 1995b)). Finally, in Section 5 I will discuss the class of aspect-sensitive adverbials and I will offer a syntactic analysis for their distribution in the MG clause and their licensing in the system.

2. The Notion of Aspect

Aspect (or verbal aspect) is a term originally used by scholars studying the verbal systems of Slavonic languages (Binnick (1991: 136)). Following Comrie (1976: 3), aspects are defined as being "different ways of viewing the internal temporal constituency of a situation".[1] According to this definition aspect is related to the temporal information conveyed by a sentence. In other words, it is the interaction of aspect and tense that determines the temporal interpretation of a sentence. Nevertheless, aspect is clearly distinct from tense since it is not a referential (deictic) category.

Furthermore, aspect is understood as covering two independent sets of phenomena. The first concerns the grammaticalisation of the distinction between perfective and imperfective aspect; it is often called grammatical aspect. The second concerns the classification of verbs and verb phrases according to their inherent aspectual properties (i.e. telic *vs* atelic, or stative *vs* dynamic); it is often called lexical aspect.

Aspect has been studied by various scholars either in its grammatical or its lexical sense. Vendler (1957, 1967) provides the most influential discussion of lexical aspect. He discusses the different aspectual classes of verbs according to the type of event (situation) they denote. He distinguishes the following types of events drawing on the Aristotelian distinction between *kineseis* (performances) and *energeiai* (activities or states):

(1) (a) Accomplishment
(b) Achievement
(c) Activity
(d) State

Accomplishments are events of some duration which have a definite temporal endpoint (e.g. *John ate the apple*). Achievement events have either little or no temporal duration at all (e.g. *John won the race*). Activities are events of indefinite duration in time (e.g. *John pushed the cart*). Finally, states are events of indefinite duration in time without reference to endpoints (e.g. *John knows the answer*). Other scholars who discuss lexical aspect and propose similar classifications as that by Vendler include Garey (1957), Kenny (1963), Bennett & Partee (1978), Mourelatos (1981), and Pustejovsky (1992) among others.

Grammatical aspect has been studied mainly on the basis of the distinction between perfective and imperfective. This distinction is not clearly observable in all languages. So, Slavonic languages like Russian display a clear-cut morphological distinction between perfective and imperfective (Forsyth (1970, 1972)). Ancient Greek shows this distinction in

the form of Aorist *vs* non-Aorist (Goodwin (1889) and Holt (1943)). Modern Greek shows clearly the perfective *vs* imperfective opposition (Seiler (1952)). French and Spanish express this opposition in the form of Past Definite *vs* Imperfect distinction (Klein (1974)). English shows a parallel opposition between progressive and non-progressive expressed periphrastically (Leech (1971)). Chinese shows a similar distinction in the form of Progressive *vs* Perfective (Chao (1968)). However, a third type of grammatical aspect is recognised for some of the above languages. So, Ancient Greek, French, Spanish and English have the so-called Perfect form (usually [auxiliary + past participle]) which is distinct from the Perfective-Imperfective distinction.

3. Aspect: Situation and Viewpoint Types

3.1 The Distinction between Situation and Viewpoint

In the previous section I discussed very briefly the notion of aspect based on traditional descriptions in the literature. Here I will introduce a formal distinction of aspect types that will facilitate the discussion of aspect in MG. In order to do so, I will make use of some fundamental notions and terms concerning aspect given by Smith (1991).

Smith views aspect as "the semantic domain of the temporal structure of situations (events and states) and their presentation" (1991: 3). However, she clearly distinguishes aspect from tense. Furthermore, she recognises two separate components of aspect, the viewpoint type and the situation type. Situation aspect refers to the internal structure of the situation while viewpoint aspect refers to the way situations are grammatically presented. Each aspect type is independent but at the same time both types interact with each other to provide the aspectual interpretation of a sentence. The viewpoint type is exemplified by the following sentences (Smith (1991: xv)):

(2) (a) John and Mary built a rock garden last summer.

(b) John and Mary were building a rock garden last summer.

(2a) informs the hearer that *the building of the rock garden* was completed. In contrast, (2b) conveys the information that *the building of the rock garden* was in progress without indicating whether it was completed or not. The difference between the two sentences is of aspectual nature. (2a) expresses perfective viewpoint which spans the whole event. (2b) expresses imperfective viewpoint which spans a part of it. Situation aspect is illustrated by the examples below (Smith (1991: xvi)):

(3) (a) The bird was flying.

(b) The bird was in flight.

(3a) expresses a dynamic situation, an activity. (3b) expresses a non-dynamic situation, a state. These sentences differ in that they express two different situation types (activity *vs* state) while they have the same viewpoint specification.

The distinction of situation and viewpoint aspect types is signalled by the way these types are realised. In other words, situation aspect is lexically indicated by the verb and its arguments while viewpoint aspect is morphologically indicated by affixes or other forms.[2] So, it follows that viewpoint aspect will correspond to grammatical aspect, while situation aspect will correspond to lexical aspect. For clarity, I will henceforth use the term viewpoint aspect to describe the perfective-imperfective opposition, and the term situation aspect to describe inherent aspectual properties of verbs.

Based on the Vendlerian classes of verbs, Smith distinguishes five different situation types:

(4) (a) State
(b) Activity
(c) Accomplishment
(d) Achievement
(e) Semelfactive

She maintains the four main Vendlerian classes, and she introduces the new situation type of semelfactives (cf. (4e)). Semelfactives are verbs with punctual time duration like *to knock*, or *to sneeze*. The different types of situation are understood in terms of the opposition of features like stativity *vs* non-stativity, telicity *vs* non-telicity, durativity *vs* non-durativity, etc. Furthermore, situation type aspect is assumed to be based in human cognitive abilities and so to be language independent.

Smith distinguishes three different types of viewpoint aspect, the perfective, the imperfective, and the neutral. Perfective viewpoint views the situation as a whole and distinguishes initial and final points. Imperfective viewpoint views a part of a situation without distinguishing initial and final points. Finally, neutral viewpoint is flexible in interpretation, it distinguishes the initial point and at least one internal phase of the situation.

The aim of this chapter is to examine the syntactic realisation of aspect and its interaction with a class of adverbials in Modern Greek. Given the distinction between situation and viewpoint type suggested above, I will concentrate my attention on the status of viewpoint aspect in Modern Greek. In the next section, I will consider the main issues that characterise viewpoint aspect in general as discussed by Smith (1991).

3.2 The Properties of Viewpoint Aspect

Smith views the three distinct types of viewpoint aspect as a semantic distinction, primarily. Given that the role of viewpoint aspect is to render visible the situation type of a verb, each type differs from the other in how much of the situation it makes visible. To this extent, perfective viewpoint presents the whole situation with both its initial and end points. Imperfective viewpoint presents a part of the situation ignoring its endpoint.

Neutral viewpoint presents at least a part of the situation and the initial point.

Viewpoint aspect is realised, in the default case, by a grammatical morpheme (an affix) which is related to the main verb. Languages differ in the actual nature of this aspectual morpheme.

Viewpoint interacts with situation aspect types, although it is independent of them. This interaction can be either in a symmetric or an asymmetric pattern. In French, for instance, all viewpoint alternations are shown by all situation types, so the interaction is symmetric. However, in English or Chinese some viewpoints appear with some of the situation types; therefore the interaction here is asymmetric.

The distinction between perfective and imperfective is not a new concept since it is based on traditional studies of aspect, as we saw earlier. However, the introduction of neutral viewpoint is a new proposal. If a sentence has no explicit aspectual morphology this does not mean that it is aspectually non-specified. In the case of aspectually vague sentences which cannot be analysed as either perfective or imperfective viewpoint, it is assumed that neutral viewpoint is the functioning aspect type. Languages like French, Chinese, Finnish and Icelandic are languages that involve some degree of vagueness in their aspectual systems, so they can be analysed in terms of neutral viewpoint aspect.

Next, I will discuss some properties of each one of the three different types of viewpoint aspect separately.

3.2.1 Perfective Viewpoint

Perfective Viewpoint has a closed reading since its denotation includes both the initial and the final endpoints of a situation. This closed reading

attributes an impression of punctuality to situations marked by the perfective (cf. Comrie (1976)). Certainly, such situations may either involve points in time, long or short intervals, so punctuality does not characterise the actual temporal structure of the situation. This is clear from the following examples from Lyons (1977: 709):

(5) (a) The king reigned for thirty years.

(b) I wrote the sonnet in 5 minutes.

(6) Il régna pendant trente ans.
he reigned-PERF for thirty years
"He reigned for thirty years".

The situations described by (5) and (6) are presented by the perfective viewpoint despite the fact that they all involve durativity, as explicitly stated by the accompanying adverbials.

Perfective viewpoint varies in its realisation across languages. So, it may appear with all situation types (e.g. French) or only with those that are not stative (e.g. Russian). Interestingly, Mandarin Chinese displays two different types of perfective. The *-le* morpheme presents the initial and final point of the situation and is only compatible with non-stative situations. The *-guo* morpheme presents a closed situation and subsequent change-of-state, it is compatible with all situation types (cf. Smith (1991)). Furthermore, perfective may put emphasis on the completion of an action rather than on the presentation of the situation as a whole (e.g. Bulgarian). Perfective can also express the beginning of a situation, that is, it can have ingressive meaning (e.g. Ancient Greek).

The morphological manifestation of perfective viewpoint is either by an inflectional morpheme or by the verb stem itself. So, in Russian perfective is grammaticalised by the prefix *po-* and as we have seen in Chinese by the suffixes *-le* or *-guo.*[3] However, in English and in French

perfective viewpoint is signalled by the (past) form of the verb itself and not by a special inflectional morpheme.

3.2.2 Imperfective Viewpoint

Imperfective viewpoint has an open reading since it presents some part of a situation without information about its initial or final endpoints. In general, imperfective viewpoint applies to all situation types. This is clear from the imperfective past tense of French, the *Imparfait* (Smith (1991: 112)):

(7)	(a)	La mer était calme. the-sea was-IMPERF calm "The sea was calm"	STATE
	(b)	L'enfant pleurait. the-child cried-IMPERF "The child was crying"	ACTIVITY
	(c)	Ils bâtissaient une cabine. they built-IMPERF a cabin "They were building a cabin"	ACCOMPLISHMENT

Imperfective viewpoint in French is expressed by a single category. However, there are languages (e.g. English) where imperfective includes the habitual-continuous opposition and continuous is further distinguished into progressive and non-progressive (see Comrie (1976)). Habitual aspect describes a situation as being a characteristic of a whole period of time. Continuous (non-habitual) aspect, however, describes a situation that shows duration at a given moment of time. Progressive is defined as describing a situation that is in progress; involving non-stativity. To this extent it is a type of (if not identical with) continuous aspect. Consequently, progressive has the restriction of applying only to non-stative situations. This is clear from the following examples from English (Smith (1991: 113)):

(8)	(a)	Kelly was singing.	ACTIVITY

(b) Ross was climbing a tree. ACCOMPLISHMENT

(c) *Bill was knowing the answer. STATE

Imperfective viewpoint is morphologically expressed either by distinct (bound) morphemes affixed on the verb, or by a combination of particles (or auxiliaries) and of affixes, or else by the verb stem itself. Let us see some examples. In Chinese, imperfective is signalled by two different morphemes. The progressive unbound morpheme *zai* combines with non-stative verbs. The bound morpheme *-zhe* has a freer distribution as it can also combine with some statives.[4] English realises the imperfective, mainly, by the combination of the auxiliary *be* and the suffix *-ing* on the main verb. French expresses imperfective aspect (covertly) by the tense morphemes alone, as there is no distinct imperfective morpheme available. The difference between *Passé Simple* and *Imparfait* is clearly aspectual in nature. However, imperfective aspect is expressed through the tense endings.

3.2.3 Neutral Viewpoint

According to Smith (1991), a situation is of neutral viewpoint aspect if its reading can be taken as open or closed depending on the context. This aspectual vagueness is reported by Smith for French, Chinese, and Navajo.

The Present and Simple Future tenses in French allow both open and closed readings. The Present tense presents an open situation and to this extent can be taken as expressing imperfective viewpoint. But the following example of the same tense has a closed reading, which is incompatible with imperfective (Smith (1991: 263-4)):

(9) Marie sourit toujours quand Paul arrive à la maison.
Mary smiles-PRES always when Paul arrives-PRES at the house
"Mary always smiles when Paul gets home".

Here the closed reading is much more natural than the open reading. So, it seems that sentences like that in (9) cannot be characterised as being of imperfective viewpoint. The situation is much more clear with the nature of the Future. Consider the following sentences (Smith (1991: 120)):

(10) (a) Jean chantera quand Marie entrera dans le bureau.
John sings-FUT when Mary enters-FUT in the office
"John will sing/be singing when Mary enters the office".

(b) Jean dormira quand Marie entrera dans le bureau.
John sleeps-FUT when Mary enters-FUT in the office
"John will fall/be asleep when Mary enters the office".

(10a) has a closed and an open interpretation. The closed reading will be that of John starting to sing at the time of Mary's entering the office; this is the most natural reading. The open reading will be that of John already singing at the time that Mary enters the office. The same aspectual ambiguity (in semantic and/or pragmatic terms) holds for (10b) but here the open interpretation is more natural.

In Chinese, aspectual vagueness is displayed when viewpoint aspect morphemes do not appear in a construction (see footnote 4). The following example involves both a closed and an open reading (Smith (1991:121)):

(12) Zhangsan dao jia de shihou, Mali xie gongzuo baogao
Zhangsan arrive home time, Mali write work report

(12) can either mean that "when Zhangsan arrived at home, Mali wrote the work" or that "when Zhangsan arrived at home, Mali was writing the work".

From the facts presented above Smith concludes that the absence of a viewpoint aspect morpheme does not entail that the relevant construction will be aspectually unspecified. On the contrary, it means that these constructions will be of neutral viewpoint aspect. Neutral viewpoint differs from perfective and imperfective in that it has an "informationally open value" (open or closed readings).

4. Viewpoint Aspect in M.Greek

In this section I will consider the status of viewpoint aspect in MG. I will first examine how aspect is morphologically instantiated in the MG verbal system. Then, I will establish the actual viewpoint distinctions that obtain in the language. After that I will discuss the syntactic status of viewpoint aspect in MG and its relation to the internal argument of the verb.

4.1 The Morphology of Aspect in the M.Greek Verb

MG verb forms encode information about tense, viewpoint aspect, subject agreement, voice, and mood. This information is mainly realised by morphological means either on the stem itself or by separate affixal or non-affixal morphemes.

Specifically, viewpoint aspect is morphologically realised in the language by the so called alternation between the perfective (aorist) and the imperfective stem of a given verb (see for example Triantafyllidis (1941), Tzartzanos (1946), Mirambel (1959)). In most cases, the opposition between perfective and imperfective aspect is signalled by the presence or absence, respectively, of an -s- morpheme (sigmatic *vs* asigmatic) with the standard assumption that the imperfective stem is the default (basic) stem. However, the pattern is not that systematic. That is, the aspectual opposition is often obtained by idiosyncratic morphophonemic changes with or without the -s- morpheme (see for example Warburton (1970), Joseph & Philippaki-Warburton (1987)). The procedure behind the formation of the perfective and imperfective stem is rather a controversial issue. There are two views, the one advocated by Rivero (1990, 1992a) who claims that aspectual morphology is realised on the verb by syntactic affixation. The other view is that of Tsimpli (1992) and Joseph & Smirniotopoulos (1993), among others, who argue that this is a lexical procedure taking place in the morphological

component. Before deciding let us see what is the status of aspect in the verbal morphology.

MG Verbs are traditionally divided into two conjugation classes (*sizijíes*) (cf. Triantafyllidis (1941)). The first *sizijía* includes all verbs that bear stress on the penultimate syllable (active voice) or on the antepenultimate syllable (passive voice). The second *sizijía* includes all verbs that bear stress on the ultimate syllable (active voice) or on the penultimate syllable (passive voice). But in order to show the diversity of aspectual morphology I need to distinguish further groups. So, I will tentatively classify verbs into six groups according to the way they show the perfective-imperfective opposition. Groups A to D have a sigmatic perfective whereas groups E and F have an asigmatic perfective. In detail, group A consists of verbs like *δéno* (tie) or *kapnízo* (smoke) (of 1st *sizijía*) which form the perfective stem by changing the stem-final consonant to /s/:

(13) (a) δé-**n**-o → δé-**s**-o
imperfective perfective

(b) kapní-**z**-o → kapní-**s**-o
imperfective perfective

Group B consists of verbs like *krívo* (hide) or *pézo* (play) (of 1st *sizijía*) which form the perfective stem by changing the stem-final consonant and by adding the -s- morpheme:

(14) (a) krí-**v**-o → krí-**p**-**s**-o
imperfective perfective

(b) pé-**z**-o → pé-**k**-**s**-o
imperfective perfective

Group C consists of verbs like *agapó* (love) or *ponó* (ache) (of 2nd *sizijía*) which form the perfective stem by adding a syllabic root to the stem and by adding the -s- morpheme:[5]

(15) (a) agap-ó → agap-**í**-**s**-o
imperfective perfective

(b) pon-ó → pon-**é**-**s**-o
imperfective perfective

Group D consists of verbs like *kléo* (cry) (of 1st *sizijía*) which form the perfective by changing the radical vowel, by adding a stem-final consonant, and by adding the morpheme -*s*-:[6]

(16) kl-**é**-o → kl-**á**-**p**-**s**-o
imperfective perfective

Group E consists of verbs like *pléno* (wash) (of 1st *sizijía*) which form the perfective stem by changing the radical vowel from /e/ to /i/:

(17) pl-**é**-no → pl-**í**-no
imperfective perfective

Finally, under Group F we can classify all (irregular) verbs that display a distinct stem for the imperfective and a distinct morpheme for the perfective (lexical suppletion). These include verbs *tró(γ)o* (eat) and *lé(γ)o* (say):

(18) (a) **tró(γ)**-o → **fá(γ)**-o
imperfective perfective

(b) **lé(γ)**-o → **p**-ó
imperfective perfective

It is clear from the above that the formation of the perfective from the imperfective stem does not always involve a simple addition of the -*s*- morpheme. Other (morphophonemic) mechanisms are also involved here. This can be taken to mean that the verbal stem is inherently specified for perfective-imperfective aspect. So, as Tsimpli (1992: 58) puts it, we cannot "define a verbal stem in MG independently of Aspect". Hence, I conclude that no straightforward syntactic procedure can be invoked for the morphological realisation of the perfective-imperfective opposition, at least

in the theoretical framework of Rivero (1990, 1992a). Some morphological procedure must also be involved in this operation.

4.2 Perfective *vs* Imperfective Viewpoint

In the previous section I examined the morphology of the MG verb from an aspectual perspective. Putting all idiosyncrasies aside, it is clear that the language morphologically distinguishes two different aspectual values, namely the perfective and the imperfective. Here, I will briefly examine this distinction in terms of the viewpoint types I discussed in Section 3.

It is standardly assumed, by Triantafyllidis (1941) or Tzartzanos (1946) among others, that MG distinguishes three types of (viewpoint) aspect, namely imperfective, perfective, and perfect. Imperfective aspect shows continuation, duration, progress, or iteration of a situation. Perfective aspect views a situation as a whole, as taking place once, or as punctual or condensed. "Perfect aspect" shows a completed or "finished" situation.[7] In Ancient Greek, Perfect was a different aspect, morphologically, as it was characterised by reduplication of the initial syllable of the verb and a *-k-* stem-final consonant (e.g. *lí-o* (I solve) ***lé-li-ka*** (I have solved)). In MG, however, we can distinguish only the perfective from the imperfective morphologically. The so-called perfect aspect is a periphrastic complex formed by the auxiliary (mostly *éxo* (have)) and a non-finite (and indeclinable) form of the perfective, the so-called perfect formative (Mackridge (1985), Joseph & Philippaki-Warburton (1987)). [8] The perfect formative is a "frozen" form consisting of the perfective stem of the verb and the ending *-i* (reminiscent of the 3rd person singular non-past ending). Given that the morphological specification of this form is that of the perfective, I will assume that Perfect aspect is a case of perfective viewpoint and I will treat it as such (cf. Comrie (1976)). It is interesting to mention here that the main verb also realises the distinction between active and medio-passive voice. Mediopassive voice in MG is non-periphrastic. The

active voice morpheme is ∅ (default) while the medio-passive morpheme is -*θ*- in most cases. So, the perfect formative also shows voice morphology. Moreover, the formation of medio-passive complex tenses has two properties. First, the alternation between active and medio-passive does not affect the choice of auxiliary, it is *éxo* (have) in both cases:

(19) (a) éxo travmatí-**s**-i ton exθró
have-1S wound-PERF the-enemy-ACC ACTIVE
"I have wounded the enemy"

(b) o exθrós éxi travmati-**s**-θ/**t**-í (apó ména)
the-enemy-NOM have-3S wound-PERF-PASS (by me) PASSIVE
"The enemy has been wounded (by me)"

Second, the medio-passive perfect formative of several verbs only realises the medio-passive morpheme *-θ-* subsuming perfective aspect. This is illustrated below with the active and medio-passive voice realisation on the perfect formative for the verb *filó* (kiss):

(20) (a) éxo filí-**s**-i to korítsi
have-1S kissed-PERF the-girl-ACC
"I have kissed the girl"

(b) to korítsi exi fili-θ-í
have-3S kissed-PERF/PASS
"The girl has been kissed"

Given the purposes of this thesis, I will not discuss the analysis of these forms here. Relevant analyses are offered by Rivero (1990) who postulates a Voice Phrase, or Tsimpli (1989) and Xydopoulos (1991a, 1994b) who view the passive element as aspectual with different realisation (cf. Fassi-Fehri (1988) and Ouhalla (1991)).[9]

MG shows aspectual morphology in all tense forms. This means that all tenses are aspectually determined for the perfective *vs* imperfective opposition, and no vagueness is found as in French or Chinese. On the basis of this, I will assume that MG does not distinguish a neutral viewpoint in terms of Smith's (1991) theory.

Let us now see the exact properties of viewpoint in MG. Recall that viewpoint aspect is about the grammatical presentation of the internal temporal structure of the situation. Consider the following sentences (Mackridge (1985: 105)):

(21) (a) Χθes píγa sto Panepistímio.
yesterday went-PERF-1S to-the-University-ACC
"I went to the University yesterday"

(b) Fítisa sto Panepistímio θesaloníkis.
studied-PERF-1S in-the-University-ACC Thessaloniki-GEN
"I studied at the University of Thessaloniki"

(22) (a) Otan ímun mikrós píjena stin eklisía káθe vδomáδa.
when was-I small went-IMP-1S to-the-church every week
"When I was young I used to go to church every week"

(b) Χθes, tin óra pu píjena stin eklisía, sinándisa ti María.
yesterday the hour that went-IMP-1S to-the-church met-PERF-1S the-Mary
"As I was going to church yesterday I met Mary"

The verb in (21a) is perfective since the speaker views the situation as a single and completed whole. In (21b) the speaker uses the perfective to describe a situation as a whole despite the fact that it involves a series of implicit sub-situations. In (22a) the speaker uses the imperfective to view the situation iteratively. In (22b) the speaker uses the imperfective to describe the going to the church showing that the action was in progress when the meeting of Mary took place (perfective).

Perfective and imperfective viewpoint types, apart from denoting the standard distinction between completedness and non-completedness of a situation, also convey other aspectual meanings (see Joseph & Philippaki-Warburton (1987)). Perfective viewpoint is used to express (a type of) semelfactive aspect (single occurrence of a situation) and punctual aspect (situation without temporal content):[10]

(23) **Semelfactive**
na mu grapsis
MODAL to-me-GEN write-PERF-2S Mackridge (1985: 106)
"Write to me (at least once)"

(24) **Punctual**
O Níkos klíðose tin pórta, pétakse to kliδí, ki éfije.
the Nikos locked-PERF-3S the door threw-PERF the key and left-PERF
"Nikos locked the door, threw away the key and left".

Imperfective viewpoint can have a greater variety of aspectual meanings. It expresses habitual aspect (situation characteristic of a period of time), continuous aspect (non-habitual), progressive aspect (continuity of a dynamic situation), iterative aspect (repetition of a situation), and durative aspect (situation that has duration in time).

(25) **Habitual**
Évlepa tileórasi tis Kirjakés
watched-IMP-1S television the Sundays
"I used to watch TV on Sunday"

(26) **Continuous**
Ákuje musikí óli ti méra
listened-IMP-3S music all the day
"He was listening to music the whole day"

(27) **Progressive**
O Spíros kimótan ótan árxise o sismós
the Spiros slept-IMP-3S when started-PERF-3S the-earthquake
"Spiros was sleeping when the earthquake started"

(28) **Iterative**
I María tilefonúse ólo to proí.
the-María called-IMP-3S all the morning
"María was calling the whole morning"

(29) **Durative**
I eryátes éskavan epí tris óres.
the-workers dug-IMP-3P on three hours
"The workers were digging for three hours"

4.3 The Syntactic Status of Viewpoint Aspect in M.Greek

In the previous sections I discussed the distinction between perfective and imperfective viewpoint aspect following Smith (1991). I suggested that this distinction holds also for MG. In this section I will examine the exact status of viewpoint aspect in the syntax of MG.

4.3.1 Aspect, X-bar Theory, the Split-INFL Hypothesis, and Related Issues[11]

The question that lies behind the syntactic status of viewpoint aspect is whether or not to allow aspect (morphemes/features) to be a category in its own right, that is to head a phrasal projection in terms of X-bar theory.

Chomsky (1965) was the first, to my knowledge, who proposed that aspect morphemes, along with tense and modals, should be generated under an auxiliary (AUX) node in a context-free phrase structure rules environment. Furthermore, in the first stages of GB theory, an inflection (INFL) category was assumed to be the head of the sentence (IP), containing inflectional morphemes of the verb (cf. Chomsky (1981)). The idea was that the verb comes from the lexicon as an uninflected stem and acquires its inflection by moving to the INFL head position (cf. Chomsky (1986b), Baker (1988)).

Tenny (1987) proposed that aspect is an independent functional category and should be viewed as separate from INFL. She argues that aspect is semantically distinguished from tense and modality for the following reasons.[12] First, tense and modality need extra-grammatical information (i.e. speech time and speaker's attitude, respectively) in order to be interpreted; they are indexical. Aspect is not interpreted through the context. Second, tense and modality, unlike aspect, show a degree of semantic and/or morphological affinity in that they can be realised by a

common morpheme or that the one can express the other (e.g. futurity as tense/modality). Third, aspect interpretation is dependent on the verb and its internal arguments. This is not the case with tense or modality. Finally, the interpretation of aspect, in most cases, is not influenced by that of tense and modality. Furthermore, Tenny also provides some syntactic arguments for separating aspect from INFL. First, she argues that the English aspectual marker of the progressive *be -ing*, or that of the perfective marker *have -en* should be differentiated from those of tense or modality as they can occur in environments where tense or modality cannot. For instance, tense/modality markers cannot co-occur with the empty category PRO, while aspect morphemes can; this is shown by comparing the following examples (Tenny (1987: 203)):

(30) (a) *Steve wants PRO went to Vermont. TENSE

(b) Steve wants PRO to be going to Vermont. ASPECT

Second, she claims that aspect and tense/modality should be represented as separate syntactic categories since aspect appears closer to the verb while tense and modality are farther from it.[13] Third, it seems that tense and modality take syntactic scope over aspect, so the latter needs to be generated under a node lower that INFL (see also Emonds (1976)). Fourth, aspect markers like *be -ing* need to be syntactically separated from the main verb as "[the verb] has lexical identity of its own" (Tenny (1987: 206)). Finally, there is some evidence from Russian which suggests that the imperfective marker is related to the whole verb phrase, that is independently of the aspectual specification of the verb itself. So, it should be structurally represented as external to the verb. Based on the above argumentation Tenny claims that aspect is an independent syntactic category but she does not make a firm proposal as to its exact structural representation.[14]

Pollock (1989) and Chomsky (1991), among others, have proposed that the syntactic head of INFL should be split into its component parts on

the basis of evidence having to do with linear order differences (in adverb placement) between English and French ("Split-INFL hypothesis"). The result was that the morphemes of tense and (subject) agreement were assumed to constitute independent functional categories in their own right.[15] The verb would move cyclically to each one of the functional heads to acquire its inflectional affixes. Movement of the verb (upward or downward; overt or covert) was subject to language variation.

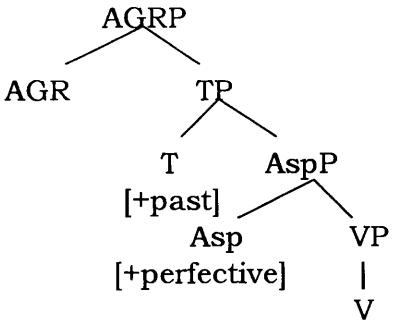
The Split-INFL hypothesis gave a basis for other scholars to claim that other parts of the verb inflection should also be thought of as independent functional categories in X-bar theory terms. Such categories included negation, voice, and aspect, among many others. Belletti (1990) assumed the existence of an aspect phrase for the analysis of past participles in Italian. The postulation of such a phrase was argued to be "accurate from a morphological point of view" (Belletti (1990: 33)). In other words, she claimed that the past participle consists of an agreement (AGR) phrase (AGRoP of Chomsky (1991)) which selects an aspectual (Asp) phrase as its complement. Asp contains the Italian participial inflection *-t-*, while AGR contains gender and number inflection. Furthermore, the Asp head selects VP as its complement. The past participle form is then formed by the verb moving from its base position to Asp and AGR for affixation purposes.[16]

Ouhalla (1991) also argues that aspect projects its own X-bar structure. He believes that the same predictions cannot be made under the assumption that aspect is contained in a non-split INFL. Evidence for this comes from Bantu languages like Chichewa or Kinyarwanda which show that aspectual morphemes are part of the verb form. However, there is no prediction as to the order of appearance of the various morphemes under INFL. Another piece of evidence for the independence of aspectual morphology comes from the fact that in many languages tense and aspectual morphemes are attached to distinct verbal items (e.g. main and auxiliary verb) often separated by other elements. Ouhalla proposes, as

Tenny and Belletti did, that aspect should be structurally represented as a projection immediately above VP, reflecting the close morphological relationship between aspect and verb. Furthermore, Ouhalla claims that evidence in favour of the "headness" of aspect comes from typology. In other words, he distinguishes two types of aspect morphemes, on typological grounds. Some languages, like Chichewa or Kinyarwanda, have verbal aspect ([+V]) while others, like Swahili or Welsh, have nominal aspect ([+N]). This parameter is responsible for the existence of one-word verbal forms and periphrastic verbal forms respectively. The former are derived by the verb moving to both aspect and tense forming a [[V+Asp]+T] complex. The latter are derived by the verb moving to the aspect head [V+Asp] and by a dummy element (e.g. auxiliary) being inserted under T to support tense affixes. A language may instantiate both values of the above aspect parameter, having both verbal and nominal aspectual morphemes.[17]

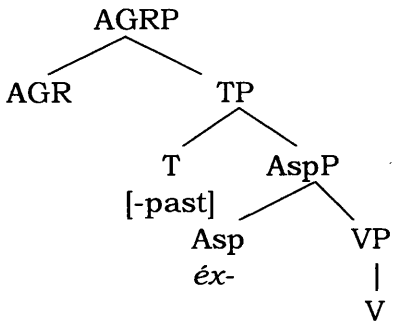
Rivero (1990, 1992a) assumes that aspect should head its own phrasal projection in X-bar terms, at least as far as MG syntax is concerned.[18] In doing so, she subscribes to the split-INFL hypothesis and views verb affixation as an operation which takes place in the syntax, in the spirit of Baker (1988). The location of AspP is just above VP. In the case of simple (absolute) tenses, the aspect head consists either of the aspectual morpheme -s- for perfective or of the -∅- morpheme for imperfective.[19] In the case of complex (relative) tenses, the aspect head consists of the auxiliary verb *ex-* (have). The nature of the aspectual head follows from the fact that Rivero recognises the existence of Perfect aspect in MG as represented by the auxiliary *have*. The tree-structures in (31) below illustrate the relevant structures that Rivero proposes for the Aorist and the Present Perfect (Rivero (1992a: 310)):

(31) (a)



AORIST

(b)



PRESENT PERFECT

4.3.2 Against the X-bar Status of Aspect

Tsimpli (1992) views the instantiation of viewpoint aspect from a different perspective. She exploits evidence from first language acquisition to argue against the X-bar status of aspect. She argues that at the early stages of child language functional projections are absent (prefunctional stage).

However, data from several languages show that child syntax contains aspectual information at the prefunctional stage. At the same stage tense and other functional categories are absent. This seems to suggest that aspect has not the same syntactic status as the other functional categories.

Tsimpli claims that aspect has the following properties. First, aspect is part of the argument structure (theta-grid) of the verb as it is assumed to saturate the event position of the verb (Higginbotham (1985, 1994)). Second, aspect is not subject to parametric variation as it has a close (morphological) relation to the verb stem, universally. Third, aspect never projects in the syntax as an independent category. Finally, aspect morphemes are attached to the verb stem by a lexical affixation procedure

and not by syntactic affixation as is the case with other inflectional morphemes of the verb.[20]

The central argument behind Tsimpli's suggestion about the lexical origin of aspectual morphology on the verb concerns the non-concatenative nature of aspect in some languages (Greek and Semitic languages). That it to say, she stresses the fact that it is impossible to separate the aspectual morpheme from the verbal stem as the procedure involves a series of morphophonemic alterations.

Finally, it is interesting to note that Tsimpli believes that aspect is not to be viewed, necessarily, as a functional category since its attested properties entail that it may be a substantive category instead. If correct, this option would invalidate the possibility that viewpoint aspect projects in the syntax as a functional category.

4.3.3 More on Aspectual Morphology in M.Greek

Joseph & Smirniotopoulos (1993) discuss a series of important observations concerning verbal morphology in MG. Their suggestion is that the operation responsible for the construction of verbal forms in MG are lexical (morphological) rather than affixal (syntactic).

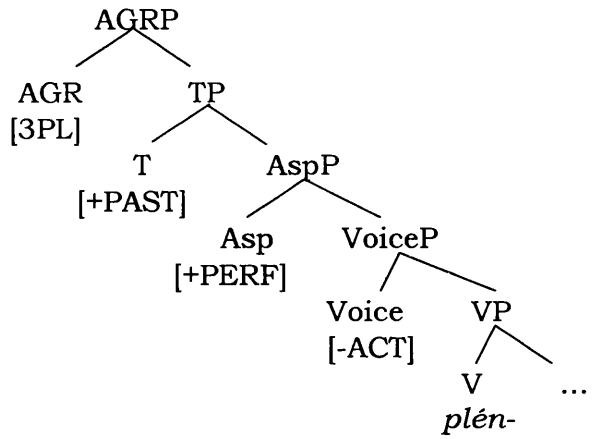
Their argumentation is directed against Rivero's (1990) analysis for MG and all other analyses that assume Pollock's (1989) framework on syntactic affixation. Recall that Rivero claims that the verb in MG moves cyclically from its original position to each one of the functional heads and acquires the respective affixes. The movement of the verb from head to head reflects the linear order of the morphemes in the verbal forms.

A key argument for Joseph & Smirniotopoulos's claims is that several morphemes in MG, that are taken by Rivero to be characteristic of a single

grammatical category, appear to be realisations of three grammatical categories. So, let us take as an example the mediopassive aorist form of the verb *pléno* (wash) (Joseph & Smirniotopoulos (1993: 389)):

(32) (a) plí- -θ- -ik- -a- -n
stem-voice-aspect-tense-agreement
"they were washed/they washed themselves"

(b)



The form in (32a) is assumed to be formed by the verb moving to each one of the functional heads in the structure in (32b). However, Joseph & Smirniotopoulos disagree with the segmentation in (32a). The morpheme *-ik-* in (32a) is not just an aspectual morpheme; it is the morphological realisation of three properties: mediopassive voice, past tense and perfective aspect. If one of these specific properties is missing then the *-ik-* morpheme does not appear. This is shown by the following forms:

(33) (a) θa pliθún
FUT wash-3P-PASS-PERF
"they will be washed"

(b) plínane
wash-3P-ACT-PERF-PAST
"they washed..."

(c) plénondan
wash-3P-PASS-IMPERF-PAST
"they were being washed"

None of these forms contains the morpheme *-ik-*. (33a) is of mediopassive voice and perfective aspect but of future tense. (33b) is of past tense and perfective aspect but of active voice. (33c) is of mediopassive voice and past tense but of imperfective aspect. It follows that the *-ik-* segment cannot be taken to express just (perfective) aspect. All these examples illustrate the morphological phenomenon of cumulative exponence which is "a pervasive property of Greek verbal morphology" (Joseph & Smirniotopoulos (1993: 391)).

The same argument is extended to aspectual morphology more generally. Joseph & Smirniotopoulos highlight the irregularity in the formation of perfective-imperfective verbal stems which involves several morphophonemic operations (e.g. vowel change, subtraction, or suppletion). Furthermore, they also exclude the workable possibility of the verb moving to each one of the functional heads and acquiring abstract markers (e.g. PERFECTIVE) which later are spelled out as attested. They describe this possibility as "nothing more than a morphological solution masquerading as a syntactic one" (Joseph & Smirniotopoulos (1993: 393-4)). The problem with such a solution, according to Joseph & Smirniotopoulos, lies in the fact that morpheme ordering and verb-raising cannot be matched since, again, a set of morphological rules must be invoked to spell out the forms. Thus, Joseph & Smirniotopoulos conclude that there is no contribution on the part of syntax to the building of verbal forms, as it is a matter of morphology alone.

4.3.4 Viewpoint Aspect and Accusative Case

Tenny (1987, 1992) explores the relations between the verb and its arguments. Specifically, she argues that the direct argument of a verb "measures out" the event described by the verb over time. In this case, the direct argument can be understood as undergoing "a change on a scale". Events are linguistically delimited through the scale that direct arguments

provide. So, delimited events are those events that have a fixed time length over which they must occur. Let us see the following sentences as an illustration:

(34) (a) Mary ate an apple.

(b) John pushed the cart.

(c) John pushed the cart to Athens.

In (34a) the direct argument *the apple* measures out the event, as it undergoes a gradual change, i.e. as it is being consumed in consecutive stages. At the same time it also delimits the event as it places it within a time boundary (accomplishment). In (34b) the direct argument *the cart* measures out the event by changing position in space but it does not delimit it, as there is no endpoint to the progress of the event (activity). However, if we add a directional (internal) argument to (34b) as in (34c) then the event is also delimited. That is, the distance from the starting point to Athens is of fixed length, so the activity described by the verb will come to an end and it will be delimited.

In view of this interesting discussion, Borer (1993) assumes that the whole procedure of binding the event can be syntactically represented. Specifically, she claims that the direct argument NP moves to the Specifier of an Aspect Phrase where it enters into a Spec-head relation with the aspect head and the event is measured out. Consequently, the direct argument NP also receives Accusative Case in the [Spec, AspP]. So, the semantic requirement for measuring out the event by the direct argument is "recompensed", in a sense, by the measurer NP receiving structural Case.[21]

Borer further suggests that the Aspect Phrase replaces the AGRo phrase of Chomsky (1991, 1993). This is because the licensing function of AGRo is now undertaken by the aspect head. In addition to that, Borer follows the standard assumption that a tense head is responsible for Case-marking the external argument of the verb; the subject NP moves to [Spec,

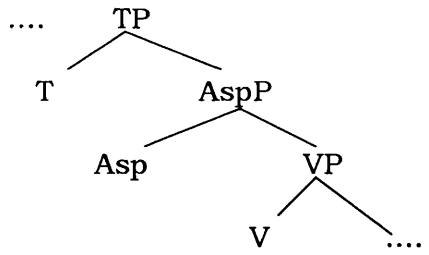
TP] and enters a Spec-head agreement relation with the head T. Thus, the Case requirements of both the internal and external arguments of the verb are viewed as structurally symmetric operations.

4.3.5 A Theory of the Syntax of Viewpoint Aspect in M.Greek

Following the ideas of Tenny (1987), Belletti (1990), Ouhalla (1991), and Rivero (1990, 1992a), I would like to suggest that (viewpoint) aspect is syntactically realised as a functional category in MG (see also Xydopoulos (1991a) and Alexiadou (1994) for similar conclusions). Specifically, aspect is a functional head (Asp) which consists of the binary features [± perfective]. These features represent the morphological opposition between perfective and imperfective viewpoint aspect.

The Asp head is assumed to take a VP as its Complement. Asp is also assumed to project an AspP, as all other heads. In structural terms, AspP will appear just above VP and just below TP (based on Chomsky's (1995b) schema).[22] The structure will look like that in (35):

(35)



As stated in Chapter 1, the verb will be assumed to come from the Lexicon bearing a set of formal (morphological) features concerning tense, mood, aspect, and ϕ-features (number and person). For the derivation to converge, all these verb features need to be checked against the corresponding features borne by the respective functional heads. So the verb moves (overtly in MG) first to the Asp head where viewpoint aspect is checked, then to T where tense, number and person are checked, and finally to Mood where mood is checked.

The presence of AspP in the MG clause structure is also necessary for licensing the formal features of the object DP, taking into consideration Tenny (1987, 1992) and Borer (1993). To this extent, I will adopt their idea that the object DP satisfies its Case requirements in the domain of an aspectual phrase. In particular, I will suggest that the relevant movement is abstract; the formal features (i.e. Case) of the direct object move to [Spec, AspP] where they are checked against those of Asp under Spec-head agreement. I will further assume that these features do not take along the rest of the DP; the object DP remains in its original position within VP in overt syntax and is spelled out there.

I think that my suggestion fits satisfactorily into Chomsky's (1995b) framework. Recall that, in the latest version of the minimalist programme, the only functional category in the clause structure is Tense, given that AGRs and AGRo have been abandoned. In the absence of AGRs, T is responsible for handling all functions that used to be connected to AGRs, with the assumption that T agrees with the subject of the sentence. These are functions concerning the licensing of the subject DP of the sentence. The licensing of the object DP, however, is handled within the VP, an assumption reminiscent of GB theory. I believe that we can think of the licensing of the object DP as being symmetric with that of the subject DP. A way of doing this is to assign a functional category with the licensing of object DP. Given Tenny's and Borer's suggestions (Section 4.3.4) about the close semantic relation of aspect to the direct internal argument of the verb, I am claiming that Asp is responsible for checking the formal features of the direct object. Thus, the licensing of both the subject and the object of the verb in MG will now be accounted for in a symmetric and uniform way, as stated above.

My proposal goes against Tsimpli's (1992) suggestions about the nature of viewpoint aspect in MG. I believe that the fact that verb forms in early child language are specified for aspect does not necessarily argue

against aspect being a functional head in the clause structure of adult grammar. In my opinion, it does suggest however that the morphological formation of these forms involves a lexical operation and cannot be assigned solely to syntax. I agree with this. The minimalist programme, unlike its predecessors, assumes indeed that the lexicon is responsible for morphological operations and that morphology is distinct from syntax (cf. Chapter 1). However, the role of syntax is to construct interpretable strings of lexical items. So, syntax needs to evaluate the grammatical specification of each lexical item inserted in a derivation, this being the purpose of feature checking. In the same spirit I feel that we need to postulate an aspect phrase in order to be able to evaluate the aspectual specification of verbs and the Case specification of object DPs.[23]

Furthermore, I agree with Joseph & Smirniotopoulos's (1993) objections to Rivero's (1990, 1992a) theory (see my Section 4.1). I think that any grammatical theory that views morphological affixation as part of syntax is problematic and should be abandoned as not being descriptively adequate. Nevertheless, the minimalist programme does not face such a problem since it highlights the independence of the lexicon from the syntax. It follows then that my claims about the postulation of a phrasal category of aspect in the syntax, not for affixation purposes but for syntactic wellformedness, are valid and consistent with Joseph & Smirniotopoulos's empirical claims, though they go straight against their conception of the boundaries between morphology and syntax.

4.3.6 On the Formation of Simple and Complex Tenses in M.Greek

So, far I have argued that viewpoint aspect is syntactically represented as the functional category Asp (in X-bar terms) in the clause structure of MG. Additional evidence for such a claim comes from the distinction in the formation of Simple and Complex tenses in MG.

Recall from Chapter 2 that MG distinguishes between one-word (simple) and periphrastic (complex) tense forms. Simple tenses are formed by the main verb alone bearing tense, aspect, agreement (and voice) morphology. Complex tenses are formed by the auxiliary verb *éxo* (have) and the perfect formative of the main verb. The auxiliary bears tense and agreement morphology (i.e. it is inflected) while the main verb bears only aspect (and voice) morphology. That is, the realisation of tense and aspect morphemes is separate in this case:

(36) O Jánis íxe pjí ton kafé tu
the-Yanis-NOM PAST-have-3S drink-PERF the coffee-ACC his
"Yanis had drunk his coffee"

MG is not the only language that shows this pattern. Swahili, Welsh, and Italian also show tense and aspect morphology separately in periphrastic tenses; tense is on the auxiliary while aspect is on the main verb (see Carstens & Kinyalolo (1989) for Swahili (37a); Sadler (1988) for Welsh (37b); and Belletti (1990) for Italian (37c)):

(37) (a) Juma a-ta-kuwa a-me-pika chakula
Juma AGR-FUT-be AGR-PERF-cook food
"Juma will have cooked food"

(b) Roedd Pawl wedi darllen y llythrau
PAST-be-AGR Paul PERF read the letters
"Paul had read the letters"

(c) Ho letto la lettera
I-have-PRES read-PERF the letter
"I have read the letter"

The above data show that aspect and tense can indeed be realised on separate lexical items. This fact further supports the idea that the Asp head needs to exist separately from T or other by-products of INFL.

Next, let us consider the status of the auxiliary *éxo* (have). I will claim that the auxiliary *éxo* has no semantic content whatsoever (it is a dummy element). Its sole purpose is to support the main verb in the formation of

complex tenses (see also Kayne (1993)). I will assume that it comes from the Lexicon bearing tense and agreement features and is inserted under T in the MG syntax (see also Bach (1967) and Ouhalla (1991) for similar proposals). The main verb perfect formative originates under V bearing aspect (and voice) features; within VP it satisfies its thematic requirements. It follows its features up to the Asp head where viewpoint aspect is checked. Its journey terminates there as it has no other morphological features that need to be checked (see also Chapter 2).

My solution is different from Kayne's (1993) theory of auxiliary selection as we will see next. Let me sketch his model by adapting it to MG. The main suggestion is that the auxiliary *have* has certain similarities with the possessive *have*.[24] Kayne analyses the possessive *have* as being the spell-out form of an underlying copula *be*. The sentence in (38a) has the D-structure in (38b) below:

(38) (a) O Jánis éxi éna vivlío.
the-Yanis-NOM has a book.
"Yanis has a book"

(b) ... IME [$_{DP}$ Spec D^0 [DP_{poss} [AGR^0 QP/NP]]]

The DP_{poss} *o Jánis* needs to move to get Case. It first goes to the [Spec, DP] where it cannot get Case from D. So, it moves up to the next specifier position that of the copula where it is Case licensed. On the assumption that DP is similar to CP, the [Spec, DP] position is assumed to be an A-bar position (Szabolcsi (1981, 1983)). So, the movement of the DP_{poss} from [Spec, AGRP] (A-position) to [Spec, DP] (A-bar position) and then to the specifier of the copula an (A-position) is not legitimate (improper movement). The derivation is rescued by making the [Spec, DP] into an A-position. This is done by the D head moving and incorporating to the copula IME (cf. Baker (1988)). The complex D+IME is assumed to be phonetically spelled out as *exo*. The derived structure for (38a) will look like (39) below:[25]

(39) (a) $DP_{poss/i}$ D_j+IME [$_{DP}$ [$_{Spec}$ t_i'] [$_D$ t_j] [[t_i] [AGR^0 QP/NP]]]

(b) O Jánis$_i$ éxi [$_{DP}$ [$_{Spec}$ t_i'] [$_D$ t_j] [[t_i] [AGR^0 éna vivlío]]]

The same derivation is assumed for auxiliary *have*. The difference lies in the internal structure of the DP complement of IME. The sentence in (40a) will have the structure in (40b):

(40) (a) O Jánis éxi aγorási ta vivlía
the-Yanis-NOM PRES-have-3S buy-PERF the-books-ACC
"Yanis has bought the books"

(b) $DP_{subj/i}$ D_j+IME [$_{DP}$ t_i' [$_D$ t_j] ... [$_{VP}$ t_i V DP_{obj}]]

(c) O Jánis$_i$ éxi [$_{DP}$ t_i' [$_D$ t_j] ... [$_{VP}$ t_i [$_V$ aγorási] [$_{DP}$ ta vivlía]]

The subject DP here originates in [Spec, VP] and moves to [Spec, DP] for Case reasons. There it cannot receive Case so it moves further up to the specifier of the copula where it is Case-marked. This movement is improper (from A-position to A'-position and to A-position). The whole derivation is again rescued by the D head moving and incorporating into the copula. The complex is consequently spelled out as *éxo*. In languages other than MG participial agreement and *have/be* alternation is obtainable. On the one hand, auxiliary alternation is accounted for by incorporation *vs* non-incorporation of the D head to the copula. On the other hand, participial agreement is viewed as dependent on language particular properties of agreement heads (active *vs* inert AGR) that are assumed to exist within the participial clause.

As we saw earlier, I suggested a solution for MG complex tenses which differs from Kayne's theory. I did this for purposes of exposition within the tense representation model I am suggesting in this thesis and not because I disagree with Kayne's claims. In addition to this, further research is needed to establish the exact status of *éxo* (have) in MG which I will not pursue here, given the scope of this work. In other words, Kayne's theory can be easily adapted in MG, as we saw by the brief presentation I gave above (see also Xydopoulos (1994b)).

Finally, I would like to point out that my claims go against those of Rivero (1990, 1992a). Recall from Section 4.3.1 that Rivero assumes that the auxiliary *éxo* in MG is "base-generated" in Asp and from there it moves to higher functional heads for affixation purposes. As should be clear from the discussion so far, the auxiliary *éxo* (have) in MG does not have any aspectual morphology whatsoever (see footnote 23). So, I do not see any reason for it to appear in Asp. In addition to this, by generating the auxiliary in Asp, Rivero prevents the main verb from acquiring its aspectual morpheme. Hence, she cannot explain how the perfect formative is marked for perfective viewpoint.

5. Aspect-sensitive Adverbials

In this section I will discuss a special group of adverbials that show sensitivity to the viewpoint aspect specification of the verb predicate. First, I will examine their properties in terms of viewpoint sensitivity, non-sensitivity to tense, distribution in the MG clause, and combination patterns with other adverbials. Second, I will distinguish them from adverbials that appear to modify the verb's so-called *Aktionsart*. Third, I will propose how they should be represented syntactically. Finally, I will also suggest a licensing mechanism for them.

5.1 The Nature of Aspect-sensitive Adverbials

I will call aspect-sensitive all those adverbials that are sensitive to the viewpoint-aspect opposition perfective *vs* imperfective (regardless of the situation aspect type of the verb). Given the bipartite distinction in viewpoint aspect, I will distinguish two types of aspect-sensitive adverbials. Type I adverbials will be those that require perfective viewpoint. Type II adverbials are those that require imperfective viewpoint. In MG, adverbials like *mjá forá* (once), *δjó forés* (twice) etc., *mólis* (just), and *kiólas*[26] or *íδi*

(already) belong to Type I. In contrast, adverbials like *siníθos* (usually), *sinéxia* (continuously), *sixná* (frequently), *káθe méra* or *kaθimeriná* (every day), *taktiká* (regularly), and *pánda* (always) belong to Type II.[27] Next, I will examine some properties of these adverbials that are important for the formulation of a syntactic theory for them.

5.1.1 Sensitivity to Viewpoint Specification

The most important property of these adverbials is that they show sensitivity to the viewpoint aspect specification of the verb. It is important to point out here that this sensitivity is manifested according to the viewpoint aspect of the verb, as expressed by aspectual morphology.

Type I adverbials require the verb to bear perfective viewpoint aspect. The examples in (41) show that this is indeed the case:

(41) (a) O Jánis ðimosíefse *miá forá/ mólis/ kiólas* to árθro.
the-Yanis-NOM published-PERF-3S once/just/already the-article-ACC
"Yanis published the article once/just/already."

(b) O Jánis íxe *miá forá/ mólis/ kiólas* ðimosiéfsi to árθro.
the-Yanis-NOM had-3S published-PERF once/just/already the-article-ACC
"Yanis had published the article once/just/already."

(c) *O Jánis ðimosíeve *miá forá/ mólis/ kiólas* to árθro.[28]
the-Yanis-NOM published-IMPERF-3S once/just/already the-article-ACC

Examples (41a&b) show that adverbials of Type I are compatible with perfective viewpoint aspect (in simple or complex tense). Example (41c) proves that such adverbials are incompatible with imperfective viewpoint.

Type II adverbials require that the viewpoint of the verb be imperfective. This is illustrated by the sentences in (42) below:

(42) (a) I mána mas majíreve *sixná/ siníθos/ taktiká* fasoláδa.
the-mother-NOM of-us cooked-IMPERF often/usually/regularly bean-soup
"Our mother was cooking often/usually/regularly bean soup."

(b) *I mána mas majírepse *sixná/ siníθos/ taktiká* fasoláδa.
the-mother-NOM of-us cooked-PERF often/usually/regularly bean-soup

(c) *I mána mas éxi majirépsi *sixná/ siníθos/ taktiká* fasoláδa.
the-mother-NOM of-us had-3S cooked-PERF often/usually/regularly bean-soup

Sentence (42a) shows that adverbials of Type II are fully compatible with imperfective viewpoint. The ungrammaticality of (42b&c) is due to the perfective viewpoint of the verb.

5.1.2 Deictic Tense and Aspect-sensitive Adverbials

Another property that aspect-sensitive adverbials have is that they are not sensitive to the tense specification of the sentence as is the case with deictic adverbials (see Chapter 2). This is despite the fact that they contribute to the overall temporal interpretation of the predicate within the limits set by viewpoint aspect. Therefore, I think it would be rather confusing to call them temporal adverbials (cf. Binnick (1991) or Lonzi (1991)). Consider now the following examples:

(43) (a) O Jánis δimosíefse/θa δimosiéfsi *miá forá* to árθro.
the-Yanis-NOM PAST-publish-PERF/FUT-publish-PERF once the-article
"Yanis published/will publish the article once".

(b) I mána mas majíreve/θa majirévi *taktiká* fasoláδa.
the-mother of-us PAST-cook-IMP/FUT-cook-PERF regularly bean-soup
"Our mother was cooking/will be cooking bean soup regularly".

As expected, Type I adverbials are compatible with either past or non-past tenses provided that the viewpoint aspect is perfective, as can be seen in (43a). The converse holds for Type II adverbials which are compatible with past or non-past tense but of imperfective viewpoint.

5.1.3 Distribution in the M.Greek Clause

Let us now investigate the positioning of Type I and Type II adverbials in the clause. Adverbials, in general, can occupy more than one position in the clause. However, it is crucial to take into consideration any phonological effects (i.e. intonation pause or focal stress) that may be involved. So, I will keep with the distinction between typical and non-typical positioning that I introduced in Chapter 2 for temporal adverbials. Recall that typical positioning does not involve any additional phonological effects, both stress and intonation being neutral. Non-typical positioning involves either focusing or intonation pause or both, affecting either the adverbial and/or a neighbouring constituent. I believe that typical positioning is suggestive of the places where an adverbial is inserted from the Lexicon by Merge. Non-typical positioning shows the result of a process whereby either the adverbial and/or another constituent has been removed from its original position by a movement operation.

The typical positioning of aspect-sensitive adverbials appears to be parallel to that of temporal or "manner" adverbials (see Chapters 2 and 5). Consider example (44) for the typical positioning of Type I adverbials and example (45) for the typical positioning of Type II adverbials (see Section 2 of the Appendix for detailed illustration). Despite their semantic differences all aspect-sensitive adverbials are expected to have the same positioning regardless of aspectual distinctions:

(44) (a) I María éstile *íði* to γráma ston ipurγó
the-Mary-NOM sent-PERF already the-letter-ACC to-the minister
"Mary already sent the letter to the minister."

(b) (*adv) María (*adv) éstile (**adv**) to γráma (*adv) ston ipurγó (?**adv**)
the-Maria-NOM sent-PERF already the-letter-ACC to-the minister

(45) (a) I María épine *siníθos* bíra me to fajitó tis.
the-Maria-NOM drunk-IMPERF usually beer with the-meal of-her
"Maria usually drank beer with her meal".

(b) (*adv) i Maria (*adv) épine (**adv**) bíra (*adv) me to fajitó tis (?**adv**)
the-Maria-NOM drunk-IMPERF usually beer with the-meal of-her

Examples (44) and (45) suggest that aspect-sensitive adverbials can occupy two typical positions in the MG sentence, after the (inflected) verb and at the end of the sentence. The postverbal position is the position preferred by native speakers. The sentence-final position is less popular and is preferred when there is lighter material following the verb (e.g. with transitives). The post-verbal position can also be realised as a post-auxiliary position in sentences with complex tenses:

(46) (a) O patéras íxe *ídi* fái óli ti saláta.
the-father-NOM had already eaten all the-salad-ACC
"Father had already eaten all the salad."

(b) (*adv) O patéras (*adv) íxe (adv) fái (*adv) óli ti saláta (?adv).

So, the post-verbal position is a position after the inflected verbal form of the construction.

Non-typical positioning is also parallel to that found with other adverbial types. That is, it is possible to have an aspect-sensitive adverbial just after the subject of the sentence, provided that the subject is followed by an intonation pause and the adverbial bears focal stress, otherwise the sentence is ungrammatical.[29] Examples of such sentences are given below:

(47) (a) O Spíros, *MÓLIS* íxe forési to pandelóni tu.
the-Spiros-NOM just had wear-PERF the-trousers of-his
"Spiros had just put on his trousers."

(b) *O Spiros *mólis* ixe forési to pandelóni tu.[30]
the-Spiros-NOM just had wear-PERF the-trousers of-his

(48) (a) O Jánis, *KÁΘE MERA* aγorázi efimeríδa.
the-John-NOM every day buy-IMPERF newspaper-ACC
"John buys a newspaper every day."

(b) *O Janis *káθe méra* aγorázi efimeríδa.
the-John-NOM every day buy-IMPERF newspaper-ACC

An aspect-sensitive adverbial can also appear sentence-initially if it is separated from the rest of the sentence by an intonation pause. If there is no pause in the intonation the sentence is ungrammatical. Consider the following examples as an illustration:

(49) (a) *Trís forés*, o Níkos píje ti mixaní ja episkeví.
three times the-Nikos-NOM took-PERF the-motorcycle for repair
"It was three times that Nikos took the mortorcycle for repair."

(b) **Trís forés* o Níkos píje ti mixaní ja episkeví.
three times the-Nikos-NOM took-PERF the-motorcycle for repair

(50) (a) *Taktiká*, o Jánis píjene ja ski sta Kalávrita.
regularly the-Yanis-NOM went-IMPERF for ski to-the Kalavrita.
"It was regularly that Yanis was going to Kalavrita for skiing."

(b) **Taktiká* o Jánis píjene ja ski sta Kalávrita.
regularly the-Yanis-NOM went-IMPERF for ski to-the Kalavrita.

Summarising, aspect-sensitive adverbials display typical and non-typical positioning. Their positioning is typical if they appear after the (inflected) verb or sentence finally. Furthermore, given that phonological effects are involved, their positioning is non-typical if they appear sentence-initially or after the subject.

A final comment about the distribution of aspect-sensitive adverbials that I need to make is that only one out of each type is allowed to appear in a single sentence. For instance, it is impossible to have two adverbials of Type II at the same time. This is shown by the example in (51) below:

(51) *I María étroje *sixná* frúta *taktiká*
the-Mary-NOM ate-IMPERF-3S frequently fruits regularly

5.1.4 Combinations with other Adverbial Types

As is expected, aspect-sensitive adverbials can combine with adverbials of other types in a single sentence in MG. That is to say they can combine, at

least, with temporal adverbials or "manner" adverbs.[31] In this section, I will try to establish the pattern according to which these combinations are obtained.

Aspect-sensitive adverbials (A) of any type (e.g. *δjó forés* (twice)), can combine with (deictic) temporal adverbials (T) (e.g. *pérsi* (last year)) in the pattern shown below (see Section 4 of the Appendix for detailed illustration):

	TOPIC		FOCUS							
(52)	[T/A],	o Jánis	[T/A]	aγórase	[T]	[A]	kenúrjio	mixanáki	[A]	[T]
		Janis		bought			new	motorcycle		

If we have an aspect-sensitive adverbial (A) in the sentence-initial position (topicalised) then we can have a temporal adverbial (T) either in the post-subject position (focused) or in any of the two typical positions (i.e. after the verb or sentence-finally). Likewise, if a temporal adverbial (T) is topicalised (i.e. in the sentence-initial position) we can have an aspect-sensitive adverbial (A) either focused (i.e. in the post-subject position) or in any of the typical positions. If both aspect-sensitive (A) and temporal adverbials (T) occupy typical positions, they appear in the order shown in (52) above, on the assumption that each adverbial occupies a different structural position. It is important to point out that this order is quite strict. This can be seen in the ungrammaticality of the following sentences where I have attempted to switch the order of the adverbials:

(53) (a) *O Jánis aγórase [*δjó forés*] [*pérsi*] kenúrjio mixanáki.
the-Janis-NOM bought-PERF twice last year new motorbike

(b) *O Jánis aγórase kenúrjio mixanáki [*pérsi*] [*δjó forés*].
the-Janis-NOM bought-PERF new motorbike last year twice

Aspect-sensitive adverbials (A) can also combine with so-called "manner" adverbs (M) (e.g. *sostá* (correctly); cf. Chapter 5). The combination pattern is analogous to the one we saw with temporal adverbials. Consider the following schema (see Section 4 of the Appendix for detailed illustration):

	TOPIC		FOCUS				
(54)	[M/A], o maθitís		[M/A] élise	[A]	[M]	tin eksísosi	[M] [A]
	the student		solved			the equation	

As we saw with the aspectual-temporal combination, here too it is impossible to switch the order of the adverbials in the typical positions. This is shown by the ungrammaticality of (55a&b) below:[32]

(55) (a) *O maθitís élise *sostá mjá forá* tin eksísosi.
the-student-NOM solved-PERF correctly once the-equation-ACC

(b) *O maθitís élise tin eksísosi *mjá forá sostá.*
the-student-NOM solved-PERF the-equation-ACC once correctly

Finally, a temporal, an aspectual, and a manner adverbial together can occur in the same sentence. This is shown by the examples in (56):

(56) (a) ??O iðravlikós episkévase *xθés íði éfkola* ti vrísi.
the-plumber-NOM repaired-PERF yesterday already easily the-tap-ACC
"Yesterday, the plumber already repaired the tap easily".

(b) O iðravlikós episkévase *íði éfkola* ti vrísi *xθés.*
the-plumber-NOM repaired-PERF already easily the-tap-ACC yesterday
"Yesterday, the plumber already repaired the tap easily".

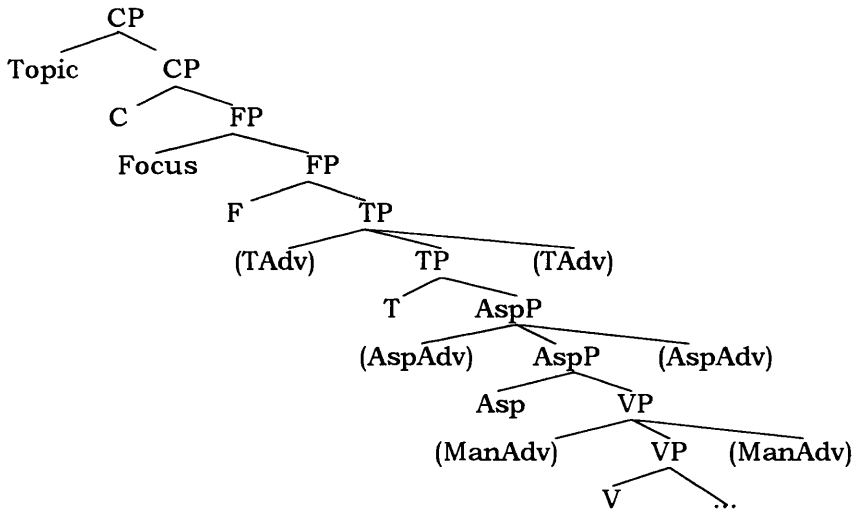
(c) O iðravlikós episkévase *íði* ti vrísi *éfkola xθés.*
the-plumber-NOM repaired-PERF already the-tap-ACC easily yesterday
"Yesterday, the plumber already repaired the tap easily".

(d) O iðravlikós íxe *íði* episkevási *éfkola* ti vrísi *xθés.*
the-plumber-NOM had already repaired-PERF easily the-tap-ACC yesterday
"Yesterday, the plumber already repaired the tap easily".

(56a) shows that the occurrence of all three adverbials, the one following the other, is not very felicitous for native speakers. However, this improves dramatically if we spread the temporal and manner adverbials to their other positions as in (56b&c), or if we use a complex tense as in (56d). So, I believe that (56a) is marginal only because it creates processing difficulties.

It is clear from the pattern exemplified by the typical positioning above that there is a structural hierarchy regulating the combination of these adverbials in a sentence. In other words, manner adverbials are lower than aspectual adverbials and temporal adverbials are higher than aspectual and manner adverbials. The following general tree-structure shows the positions for these adverbials (anticipating my discussion about the structural positions of aspect-sensitive and manner adverbials):

(57)



5.2 Distinction between *Aktionsart* Adverbials and Aspect-sensitive Adverbials

In this section I will discuss an issue brought forward by Rivero (1992a) whereby aspect-sensitive adverbials need to be differentiated from another type of adverbials which are assumed to modify the *Aktionsart*. According to Rivero, *Aktionsart* adverbials in MG can incorporate into the verb and so they are differentated from aspect-sensitive adverbials which are not able to incorporate. Before I consider this issue and suggest an alternative I find it useful to say a few things about *Aktionsart* first.

Aktionsart or *mode d'action* (kind of action) is a term introduced, by Streitberg (1891, 1920), to describe the interaction between Aristotelian (situation) aspect and grammatical (viewpoint) aspect in describing the

Germanic verb. Later considerations of the term attempted to highlight its difference from both situation and viewpoint aspect. On the one hand, *Aktionsart* is a lexical category (morphologically derivational) so it is different from viewpoint aspect which is grammatical (morphologically inflectional). On the other hand, *Aktionsart* applies "to the denotata [classes of properties] of verbs, rather than to some semantic property of the verbs themselves" (Lyons (1977: 706) so it is different from situation aspect. Based on what was said above, *Aktionsart* can be defined as the lexicalisation of semantic aspectual distinctions by means of derivational morphology.

Nevertheless, following Binnick (1991), and references therein, *Aktionsart* can be better understood as referring to phases of situations. *Aktionsarten*, being either morphological (as in the Latin verb *calesco* (grow warm)) or periphrastic (as with English aspectual auxiliary verbs like *start*), "denote phases or phase sequences, and may be iterated to denote subphases or subphase sequences. If *run home* denotes an accomplishment with a full complement of phases, *finish running home* denotes only the culminative phase. *Begin to finish running home* denotes the initial subphase of the culminative phase" (Binnick (1991: 207)). In these terms it is crucial to differentiate once again *Aktionsart* from Aristotelian aspect (situation type) to avoid conceptual as well as terminological confusion. As Binnick (1991: 213) puts it, "the Aristotelian categorization represents a classification of situations (and the linguistic expressions denoting these) in terms of abstract phasic structures. The *Aktionsarten* represent rather a classification of (expressions for) phases of situations and subsituations".

Rivero (1992a) makes a semantic distinction between *Aktionsart* and Aspect in that the former refers to the Conceptual Structure/Lexical Structure of the verb while the latter refers to the grammaticalised opposition between perfective and imperfective. Furthermore, she claims that *Aktionsart* adverbials modify *Aktionsart* characteristics. which, in MG, include the durativity and iterativity of an action and are modified by

Aktionsart adverbials like *ksaná* (again), *páli* (again), *sixná* (often) and *δiplá* (twice). In syntactic terms, Rivero claims that *Aktionsart* is internal to VP while Aspect is VP-external projecting its own phrase (AspP). Consequently, *Aktionsart* adverbials are assumed to appear VP-internally (as syntactic complements of V) while aspect-sensitive adverbials are structurally related to AspP (as adjuncts or specifiers). It is important to point out here that *Aktionsart* adverbials are clearly different from manner adverbs, despite their relation with the verb and its syntactic projection (see Chapter 5).

According to Rivero, a property of MG *Aktionsart* adverbials, which is not shared by aspect-sensitive adverbials, is that they are able to syntactically incorporate into the verb.[33] She understands incorporation in terms of Baker's (1988) theory, whereby an X^0 can move and incorporate to Y^0 if Y^0 is its governor. So, according to Rivero, an adverbial that is able to syntactically incorporate to the verb should be base-generated as a complement of V, within VP. Another property of *Aktionsart* adverbials that differentiates them from aspect-sensitive adverbials is that they do not show sensitivity to the perfective-imperfective viewpoint opposition.

Rivero's (1992) classification of *Aktionsart* adverbials is rather vague and problematic, in my opinion. First, I do not think that adverbials *ksaná* (again) and *sixná* (frequently, often) belong to the same class. This is clear from the fact that the former is not aspectually sensitive while the latter is:

(58) (a) I Maria éplene/épline ta piáta *ksaná*.
the-Maria-NOM washed-IMPERF/washed-PERF the dishes again
"Maria was washing/washed the dishes again".

(b) I María éplene/*épline ta piáta *sixná*.
the-Maria-NOM washed-IMPERF/washed-PERF the dishes frequently
"Maria was washing/washed the dishes frequently".

As we can see in (58a), the *Aktionsart* adverbial *ksaná* is equally compatible with both imperfective and perfective aspect. Whereas an aspect-sensitive adverbial like *sixná*, as we see in (58b), is only compatible with imperfective aspect. As illustrated by the examples (59) and (60) below, *ksaná* and *sixná*

are further distinguished in that the former is able to appear attached to the main verb (cf. (59)) while the latter does not have such properties (cf. (60)):[34]

(59) (a) ðjavázo to íðjo vivlío *ksaná*.
read-IMPERF-1S the same book again
"I am reading the same book again".

(b) *ksana*ðjavázo to íðjo vivlío.
again-read-IMPERF-1S the same book
"I am re-reading the same book."

(60) (a) ðjavázo to íðjo vivlío *sixná*.
read-IMPERF-1S the same book frequently
"I am frequently reading the same book".

(b) **sixno*ðjavázo to íðjo vivlío.
frequently-read-IMPERF-1S the same book

In a nutshell, examples (58), (59), and (60) prove that *ksaná* and *sixná* belong to different semantic and syntactic classes. The former is an *Aktionsart* adverbial and the latter is an aspect-sensitive adverbial. Moreover, of the class considered by Rivero only *ksaná* appears to be able to attach to the main verb, since its synonymous *páli* (again) is not, as shown in (61), and the adverbial *ðiplá* (twice) can appear attached to a couple of verbs while at the same time it cannot appear separate from the verb, as shown in (62):

(61) (a) ðjavázo to íðjo vivlío *páli*.
read-IMPERF-1S the same book again
"I am reading the same book again".

(b) **pali*ðjavázo to íðjo vivlío.
again-read-IMPERF-1S the same book

(62) (a) *ðiplo*klíðosa tin píso pórta.
twice-locked-1S the back door-ACC
"I locked the backdoor twice"

(b) *klíðosa *ðiplá* tin píso pórta.
locked-1S twice the back door-ACC

So far, I have said that only *ksaná* is able to attach freely to the verb (i.e. with high productivity). In addition to that, no idiosyncrasies of meaning appear whenever the adverbial is attached to the verb, so the one-word expression *ksanatrayudó* (I sing again) means exactly the same as the two-word *trayudó ksaná*. This behaviour of *ksaná* can be taken to suggest that the operation is a case of syntactic incorporation in Baker's (1988) terms, as Rivero suggests.

However, the question that arises here is whether this operation is totally productive (applying to all verbs of MG with no exception). There are indeed verbs or verbal expressions with which *ksaná* is incompatible. More specifically, *ksaná* cannot modify the stative verb *kséro* (know), nor individual-level predicates of the kind *íme psilós* (I am tall):[35]

(63) (a) O maθitís íksere tin apándisi.
the-student-NOM knew-PERF the answer
"The student knew the answer".

(b) *O maθitís íksere *ksaná* tin apándisi.
the-student-NOM knew-PERF again the answer

(c) *O maθitís *ksanaí*ksere tin apándisi.
the-student-NOM again-knew-PERF the answer

(64) (a) O papús tu ítan psilós.
the-grandfather-NOM of-his was tall
"His grandfather was tall."

(b) !O papús tu ítan *ksaná* psilós[36]
the-grandfather-NOM of-his was again tall

(c) !O papús tu *ksanaí*tan psilós.
the-grandfather-NOM of-his again-was tall

Finally, according to my and other native speakers intuitions *ksaná* cannot incorporate to auxiliary verbs despite the fact that Rivero claims the opposite:

(65) (a) To éxo *ksanaδí* aftó to érγo.
it-ACC have-1S again-seen-PERF this the-play/film-ACC
"I have seen again this film"

(b) *To *ksanaéxo* δí aftó to érγo.
it-ACC again-have-1S seen-PERF this the-play/film-ACC

Rivero also claims that manner adverbs are able to incorporate in MG. Adding to this the behaviour of *ksaná*, she claims that there are sufficient grounds to postulate a syntactic rule of adverb incorporation in the language. However, as we will see in Chapter 5, there is strong empirical evidence against manner adverb incorporation in MG. I believe that in order to postulate a syntactic operation in a language we need to provide extensive evidence of a phenomenon ranging over all or most members of a syntactic class (e.g. VP-related adverbs in our case). In my opinion, the behaviour of a single *Aktionsart* adverbial does not constitute extensive evidence for adverb incorporation in MG. Besides, the data that I have discussed above show that there are several cases where *ksaná* cannot attach to the verb. Taking all this into consideration, I wish to claim that no rule of syntactic incorporation can be assumed for the MG *Aktionsart* adverbial *ksaná*. Instead, following Joseph & Smirniotopoulos's (1995) suggestion, I will assume that a lexical rule (of derivational morphology) is responsible for the attachment of *ksaná* to the verb, and that the syntax does not take part in this morphological operation. This suggestion can be generalised to all other cases of "adverb incorporation" that Rivero (1992a) claims for MG, as further discussed in Chapter 5.

Despite the fact that there is no adverb incorporation in MG, there is indeed a class of *Aktionsart* adverbials in MG, that can modify some internal properties (phases) of the situation described by the verb, as Rivero correctly suggests. This class contains adverbials like *páli* (again) or *ksaná* (again) (but not *sixná* (frequently)). Putting aside the attachment properties of *ksaná*, these adverbials have a very restricted distribution in the clause, they can only appear postverbally, as shown by (66) below:

(66) (a) O Jánis éfaje *páli/ksaná* to γlikó.
the-Yanis-NOM ate-PERF again the-cake-ACC
"Yanis ate the cake again."

(b) (*adv) o Jánis (*adv) éfaje (adv) to γlikó (*adv).

Another property of *ksaná* and *páli* is that they cannot be modified by another adverbial, as is the case with aspectual or other type of adverbials. Compare the following examples:

(67) (a) [sixná] → [polí [sixná]] → [pára [polí [sixná]]] ASPECTUAL
often very often too very often

(b) [éfkola] → [polí [éfkola]] → [pára [polí [éfkola]]] MANNER
easily very easily too very easily

(c) [ksaná] → *[polí [ksaná]] → *[pára [polí [ksaná]]] AKTIONSART
again very again too very again

(d) [páli] → *[polí [páli]] → *[pára [polí [páli]]] AKTIONSART
again very again too very again

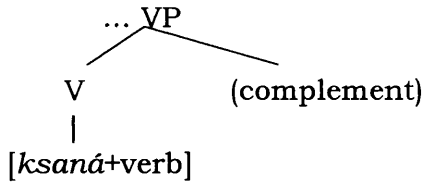
In view of this, I would like to suggest that *Aktionsart* adverbials in MG are defective heads which do not project in terms of X-bar theory, following an idea of Travis (1988). Moreover, I will assume that they express their close relation to the verb's *Aktionsart* by being syntactically represented as complements to the verb head as shown by the schema below:

(68)

Given that *Aktionsart* adverbials are not affixes (cf. (66)), the above schema should not be taken to represent affixation, that is, a head X^0 consisting of a head Y^0 having attached to X^0. Instead, I will assume that (68) represents the [V Adv] structure in Di Sciullo & Williams (1987) terms. Di Sciullo & Williams assume this structure to represent the string "V followed by Adv" (or vice versa) in French and Italian. I will assume that the complex [V Adv],

in MG, results from the *Aktionsart* of the verb taking the adverbial as its complement. Notice that this solution accounts only for the distribution illustrated by (66) above. In other words, the *ksaná*-compounds, formed lexically by *ksaná* attaching to the verb, are lexical items which are inserted under V in the syntax, as ordinary main verbs:

(69)



5.3 Existing Analyses for Aspect-sensitive Adverbials

Recent studies of adverbial syntax just make mention of the case of aspect-sensitive adverbials in distributional terms, ignoring any interaction with viewpoint aspect. However, most of them attempt to capture the idea that adverbial structural representation should also reflect adverbial semantics.

Bowers (1993) claims that adverbials like *souvent* (often) in French should be generated as an adjunct of Pr-single-bar in a Predicate Phrase (PrP). PrP is a functional category where the external argument of the verb is located, with no obvious aspectual functions. However, the position of PrP in the structure is between TP and VP exactly where AspP is postulated in the present study.[37]

Within Kayne's (1994) theory of antisymmetric syntax, Rijkhoek (1994) attempts to capture the idea that the syntactic positions of adverbials should also reflect their semantics. Nevertheless, she treats the adverbial *often* differently from *always*; she claims that the former should be an adjunct to TP but the latter an adjunct to AspP, without giving any reason for this distinction. Costa (1994) explores the status of AspP in Portuguese where aspectual oppositions are overtly observed. He argues that the verb in Portuguese needs to check aspectual features in AspP. Adverbials like

frequentemente (often) in Portuguese can appear as adjuncts either to TP or AspP accounting for linear order facts. A similar solution is assumed for English and French.

Alexiadou (1994) offers the most detailed discussion of aspect-sensitive adverbials with special reference to MG, within Kayne's theory. She postulates an aspect phrase below TP and above VP. The verb moves through the Asp head where it checks its aspectual features. Assuming that phrases have just one specifier, she assumes that aspect-sensitive adverbials are generated in the Specifier position of AspP. There, they are licensed under "feature matching" in a Spec-head agreement configuration. Furthermore, she generalises her claims for MG to account for aspectual adverbials in English and French.[38]

5.4 A Theory of Aspect-sensitive Adverbials in M.Greek

In this section I will propose a theory to account for aspect-sensitive adverbials in MG, in minimalist terms, in the light of what I have said so far. As a prerequisite, I will insist that syntax can and should reflect the semantics of different classes of adverbials. For aspect-sensitive adverbials, in particular, this means that they should be generated within the aspect phrase, as argued by Xydopoulos (1991a) and Alexiadou (1994). However, I will differ from Alexiadou in the exact generation site of aspect-sensitive adverbials within AspP and the mechanism that licenses them in the syntax. In the remaining sections of this chapter, I will give the details of the structural positions and of the licensing mechanism I am proposing for aspect-sensitive adverbials in MG.

5.4.1 Structural Representation

In this section I will suggest how aspect-sensitive adverbials should be structurally represented. For clarity, I will discuss typical positions separately from non-typical positioning.

5.4.1.1 Typical Positioning

I will assume that aspect-sensitive adverbials are structurally related to AspP for the following reasons. First, they need to reflect their inherent semantics as modifiers of viewpoint aspect (cf. Section 5.1.1). Second, they are indifferent to the tense specification of the predicate so, I assume, they cannot be structurally related to TP, as opposed to what Rijkhoek (1994) suggests (cf. Section 5.1.2). To this extent they are differentiated from (deictic) temporal adverbials that are related to TP, again reflecting their semantics as "specifiers" of tense (see Chapter 3). Finally, the fact that they can co-exist in a sentence with temporal and manner adverbials suggests that they are not related either to TP or VP (cf. Section 5.1.4). This holds under the assumption that temporal and manner adverbials also reflect their semantics, by being inserted in the non-argument specifiers of TP and VP respectively (see Chapters 3 and 5).

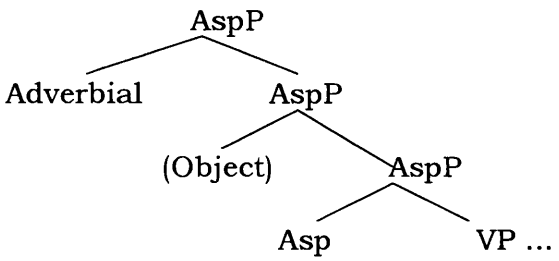
Recall from the distributional facts I presented in Section 5.1.3 above that, in their typical positioning, Type I and II aspect-sensitive adverbials appear after the inflected verb form (main verb in simple tenses, auxiliary in complex tenses), and have the option of appearing sentence-finally. Following the minimalist programme of Chomsky (1995b), I will assume that aspect-sensitive adverbials are inserted (by Merge) from the Lexicon in the non-argument specifier of AspP, bearing in mind that the argument specifier of AspP is the site where the Case features of the direct object are checked (see Section 4.3.5). Furthermore, I will follow a standard assumption in the literature (see for example Chomsky (1986b)) that no movement of

adverbials is involved in the free distribution of adverbials, apart from the cases of adverb topicalisation, focusing, and *wh*-movement.

I will assume that non-argument specifiers can either be to the left or to the right. This assumption goes against Chomsky (1995b), Kayne (1994), and their followers, who assume that "adjuncts" always appear to the left of the phrase they modify. If we subscribe to such a restrictive approach we are forced to introduce unwanted complications such as movement of material around the adverbial or movement of the adverbial itself. Such movement is not motivated and violates Last Resort of Chomsky (1995b) as is highlighted in Manzini (1994, 1995). Manzini offers extensive evidence in favour of postulating right-adjunction for adjuncts in general (see also Brody (1994) and Sportiche (1994) for different conclusions equally opposed to Kayne). In any case, I believe that the right-direction option for adverbials accounts better for the relevant data, whatever the implementation technique one may choose (i.e. adjuncts or specifiers).

So, I wish to suggest that if an aspect-sensitive adverbial immediately follows the inflected verb form (main verb or auxiliary) it will appear as a left non-argument specifier of AspP as shown by the schema below:

(70)



Therefore, a sentence containing a simple tense, like in (71a) (cf. (45a&b)), will have the structure given in (71b) below:

(71) (a) I María épine *sinίθos* bíra me to fajitó tis.
the-Maria-NOM drunk-IMPERF usually beer with the-meal of-her
"Maria usually drank beer with her meal".

(b) I María épine$_i$ [$_{TP}$ t$_i$'' [$_{AspP}$ *sinίθos* [$_{AspP}$ t$_i$' [$_{VP}$ t$_i$ bíra me to fajitó tis]]]]

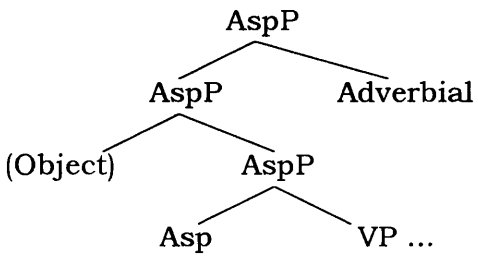
In (71b) the adverbial *sinίθos* (usually) is inserted by Merge in the non-argument specifier of AspP. The verb has moved overtly through Asp and T heads for feature checking while the object remains in its "base" position within VP. Likewise, a sentence containing a complex tense, like that in (72a) (cf. (46a&b)), will have the structure shown in (72b):

(72) (a) O patéras íxe *ίδi* fái óli ti saláta.
the-father-NOM had already eaten all the-salad-ACC
"Father had already eaten all the salad."

(b) O patéras $íxe_k$ $[_{TP}$ t_k $[_{AspP}$ *ίδi* $[_{AspP}$ $fái_i$ $[_{VP}$ t_i óli ti saláta]]]]

When the adverbial appears sentence-finally (as is possible for some native speakers), it will occupy a right non-argument specifier of AspP:

(73)



Consequently, a sentence like that in (74a) (cf. (45b)) will be assigned the structure given in (74b) below:

(74) (a) I María épine bíra me to fajitó tis *sinίθos*.
the-Maria-NOM drunk-IMPERF usually beer with the-meal of-her
"Maria usually drank beer with her meal".

(b) I María $épine_i$ $[_{TP}$ t_i'' $[_{AspP}$ $[_{AspP}$ t_i' $[_{VP}$ t_i bíra me to fajitó tis]] *sinίθos*]]

It follows then that typical positioning is now structurally represented without the need to postulate unmotivated movement operations that undermine the economy of the system.

5.4.1.2 Non-typical Positioning

In Section 5.1.3 above we saw that aspect-sensitive adverbials in MG can also appear in two other positions, apart from their typical ones, provided that phonological effects are involved. The first of these non-typical positions is sentence-initial and the adverbial is separated from the rest of the sentence by an intonation pause. The other non-typical position is just after the subject, which is followed by an intonation pause and then by the adverbial which bears extra stress. I will follow the standard assumption of translating an intonational pause into an instance of topicalisation and extra stress on a constituent into an instance of focusing.

Recall from Chapter 3 that a similar distribution is also found with temporal adverbials. Following what I said in that case, I will suggest that the sentence initial position is a derived position. In other words, I will suggest that the adverbial is topicalised and hence it is moved from its original position [A'-Spec, AspP] to the [Spec, CP] where it is attracted by a [+ topic] feature in C. The derivation will look like in the schema below:

(75) $[_{CP}\ Adv_{asp\text{-}sens/i}\ [_{CP}\ [_{C}$ + topic] ... $[_{AspP}\ t_i\ [_{AspP}$ Asp VP]]]]

Consequently, a sentence like that in (49a) (repeated as (76a) for convenience), will have the structure given in (76b) below(details omitted):

(76) (a) *Trís forés*, o Níkos píje ti mixaní ja episkeví.
three times the-Nikos-NOM took-PERF the-motorcycle for repair
"It was three times that Nikos took the mo torcycle for repair."

(b) $[_{CP}$ *Trís forés*$_i$ $[_{CP}\ [_{C}$+top] [o Níkos píje$_k$ $[_{AspP}\ t_i\ [_{AspP}\ t_k'\ [_{VP}\ t_k$ ti mixaní ja episkeví]]]]] (MoodP)

The post-subject position involves both an intonation pause and extra stress. I will suggest that both the subject DP of the sentence and the

adverbial occupy derived positions. More specifically, I will assume that the subject is topicalised and has moved to [Spec, CP] attracted by [+ topic] in C. The aspect-sensitive adverbial is focused, having moved from [A'-Spec, AspP] to the specifier position of a Focus Phrase attracted by a [+ focus] in the Focus head (see Chapter 3, Choe (1987), Brody (1990), and Tsimpli (1994)). Given that focusing requires verb adjacency, the verb is also assumed to have moved to the Focus head. The following schema illustrates the derivation:

(77) $[_{CP}\ DP_{subj/i}\ [_{CP}\ [_{C}$ + topic$]\ [_{FP}\ Adv_{asp\text{-}sens/k}\ [_{FP}\ [_{F}$ [+focus] $V_j]$ ... $[_{AspP}\ t_k\ [_{AspP}$ Asp $[_{VP}\ t_i\ [_{VP}\ t_j$ DP]]]]]]]]

So, a sentence like that in (47a) (repeated in (78a) for convenience) will have the structure shown in (78b) below:

(78) (a) O Jánis, *KAΘE MERA* aγorázi efimeríδa.
the-John-NOM every day buy-IMPERF newspaper-ACC
"John buys a newspaper every day."

(b) $[_{CP}$ O Jánis$_i\ [_{CP}\ [_{C}$+top$]\ [_{FP}$ *káθe méra*$_k\ [_{FP}\ [_{F}$ [+foc] aγorázi$_j]$ ... $[_{AspP}$ $t_k\ [_{AspP}\ t_j'\ [_{VP}\ t_i\ [_{VP}\ t_j$ D P]]]]]]]]

5.4.2 Licensing Mechanism

In this section I will propose a licensing mechanism for aspect-sensitive adverbials in MG. The aim of this mechanism will be to regulate the merge of these adverbials in the syntax.

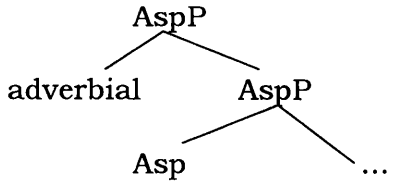
A very important property that I discussed in Section 5.1.1 earlier concerned the fact that adverbials like *sixná* (often) or *mjá forá* (once) in MG are sensitive to the viewpoint aspect specification of the predicate. In addition to that, we saw that viewpoint aspect is syntactically represented as a functional head with the relevant X-bar theory properties. Moreover,

the linear distribution of such adverbials in MG can be reflected by assuming that the adverbials are structurally related to AspP.

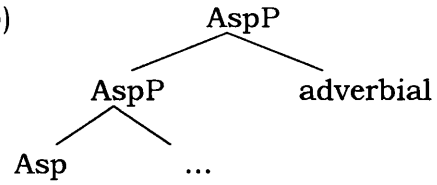
Alexiadou (1994) proposed that aspect-sensitive adverbials are expressions which come from the Lexicon bearing a set of aspectual features. These features are checked in [Spec, AspP] against those borne by the functional head Asp. The whole process licenses the presence of these adverbials in the syntax. In my opinion, Alexiadou's proposal is problematic. She confuses semantic features like [±durative] or [±point] with morphological features like [±perfective]. Consequently, she makes use of the feature checking process to check non-morphological features. Finally, by using a restricted phrase-structure system she cannot account for the sentence-final position of aspect-sensitive adverbials; instead she has to postulate movement without any Last Resort motivation.

In view of what I have said so far I would like to suggest that aspect-sensitive adverbials have selectional properties, selecting an aspect phrase (AspP) according to its [±perfective] specification.[39] Type I adverbials will select an AspP projected by a head specified as [+perfective] and Type II adverbials will select an AspP projected by a head specified as [-perfective]. Furthermore, following a suggestion by Sportiche (1994), I will assume that adverbials in general are not restricted to select a phrase in a specific direction (unlike verbs). So, they can select it either to the right, taking AspP as their "complement", or to the left, taking AspP as their "specifier", in X-bar theory terms. So, in the former case the adverbial will occupy the left non-argument specifier of AspP, as in (79a), and in the latter case it will occupy the right non-argument specifier of AspP, as in (79b):[40]

(79) (a)



(b)



I think that the mechanism suggested here accounts for the facts in an elegant and uniform way without adding any additional theoretical material to the (minimalist) system. It respects the distinction between morphological and non-morphological features and does not invoke feature checking as a process responsible for licensing aspect-sensitive adverbials (as Alexiadou (1994) suggests). Furthermore, by considering adverbial complementation as a non-directional operation, the mechanism captures the relatively free distribution of these adverbials in the clause avoiding any *ad hoc* solutions like the "transportability" convention of Keyser (1968).

6. Conclusions

In this chapter I have discussed (viewpoint) aspect and its interaction with a class of adverbials in MG. More specifically, in Section 2, I discussed the notion of aspect and I distinguished between situation and viewpoint aspect in the spirit of Smith (1991). In Section 3, I examined the properties of perfective, imperfective, and neutral viewpoint aspect. In Section 4, I investigated viewpoint aspect in MG, both semantically and morphologically, and I established the distinction between perfective and imperfective. I also discussed the syntactic status of viewpoint aspect in the language and I argued that it should be viewed as an independent category, heading an Aspect phrase in terms of X-bar theory. Moreover, following Tenny (1987, 1992) and Borer (1993), I established a relation between viewpoint aspect and Accusative Case in MG. In Section 5, I examined the class of aspect-sensitive adverbials and their grammatical properties. I discussed the distinction between these adverbials and the so-called *Aktionsart* adverbials. Finally, I proposed that aspect-sensitive adverbials have the property of

(non-directionally) selecting an AspP, on the basis of the [±perfective] specification, and they are inserted by Merge as the (left or right) non-argument specifier of AspP.

Endnotes

1 This is based on Holt's (1943) definition of aspect: "les manières diverses de concevoir l'écoulement du procès même".

2 Verkuyl (1972) first suggested that situation type aspect is determined by the verb and its arguments rather than by the verb alone. Tsimpli (1992) argues that situation type aspect (substantive category) is part of the mental lexicon while viewpoint aspect (functional category) is part of the functional module.

3 The appearance of viewpoint morphemes in Chinese is optional.

4 In fact, the morpheme *-zhe* can combine with stage-level predicates but not with individual-level predicates (in Kratzer's (1988) terms). This is clear from the following contrast (Smith (1991: 359)

(i) (a) Ta zai chuang shang tang-zhe
he at bed on lie-ZHE
"He lies on the bed."

(b) *Ta conghui-zhe
he intelligent-ZHE
"He is intelligent."

5 Notice, however, that these verbs have two imperfective stems (one asigmatic and one sigmatic). So, they form the Present differently from the Imperfect: the Present is *αγαp-ó, pon-ó* and the Imperfect is *αγαp-ú-sa, pon-ú-sa.*

6 Verbs like *ftéo* (blame) or *δíno* (give) also involve an alteration of the verbal stem with parallel addition of the *-s-* morpheme (i.e. fté-o → fté-**k**-**s**-o and δ**í**n-o → δ**ó**-s-o).

7 For Smith (1991) Perfect is a marked perfective with "a span beyond the final point of the situation talked about".

8 This form is often called *aparémfaton* (infinitive). I will ignore this term to avoid confusion.

9 Note that I ignore here the alternative forms "*exo* + [verb-PERF-*men*-GEND/NUM]" (have + passive participle: active interpretation) and "*ime* + [verb-PERF-*men*-GEND/NUM]" (be + passive participle: passive interpretation) (see Triantafyllidis (1941)). These forms have a slightly different meaning to the default ones, they stress the completedness of the situation described. See Xydopoulos (1994b) for a tentative analysis within Kayne's (1993) system.

10 Perfective viewpoint (in the past perfect form) is also used to express a type of terminative aspect. That is, past perfect indicates termination of a situation by expressing completion of a situation (Joseph & Philippaki-Warburton (1987)).

11 Note that the analyses reviewed in this section do not assume the minimalist programme.

12 It is important to note here that I do not consider Tenny's argumentation as plausible or coherent in many respects. However, I find it useful to mention her contribution to this matter since she is among the first to assume the existence of AspP.

13 This, as Tenny admits, is not a very strong argument but it seems suggestive for the ordering restrictions between morphemes.

14 See Tenny (1987: 209-14) on possible structural representations of an aspect morpheme in the syntax.

15 See Iatridou (1990) for arguments against the postulation of an Agreement head.

16 Speas (1990) and Hendrick (1991) also argue in favour of aspect being an X-bar category.

17 In Xydopoulos (1991a) I argued for the postulation of an aspect phrase in MG syntax in the spirit of Ouhalla's proposal, with some differentiations though.

18 Alexiadou (1994) also assumes that aspect heads its own maximal projection in X-bar terms for MG.

19 Recall that the imperfective is the default stem of all verbs. Therefore Rivero assumes that no visible aspectual affix is attached in the case of imperfective.

20 The actual lexical procedure here is assumed to be derivational rather than inflectional.

21 Of course there are cases where the internal argument does not receive Accusative Case like in the case of unaccusatives. As such cases are not directly relevant to this work the reader is referred directly to Borer's paper. See also Arad (1995) for a discussion of ditransitive constructions within the same framework.

22 With reference to my claims in Chapter 2, I will assume here that AspP replaces T2P of the neo-Reichenbachian model. Certainly, this does not contradict my assumptions about SRE-relations given that they arguably display aspectual properties (i.e. ER). The reason for renaming this category

here is to highlight its role in the syntactic evaluation of the (viewpoint) aspectual features of the verb.

23 It is important to stress at this point that affixation is an operation of the inflectional component of morphology and only affects the grammatical specification of a word (e.g. plural *vs* singular). It should be clearly distinct from any operations of derivational morphology that affect the category of the word itself (e.g. noun *vs* verb). Viewpoint aspect marking is a matter of inflectional morphology.

24 This is an original idea of Benveniste (1966) about the parallel evolution of the auxiliary and possessive *have*. It is interesting to note here that the possessive *have* in MG does not have a morpheme/stem for perfective aspect. So, it lacks any perfective tenses (simple and complex). In order to express perfectivity it borrows the perfective forms of other verbs with similar meaning (Triantafyllidis (1941)).

25 The derivation of *have* from D+*be* seems to be incompatible with MPLT on the assumption that the Lexicon is not accessible after Spell-Out. As mentioned in Chapter 1, this is part of the general problem of defining the actual structure of the morphological component within MPLT.

26 In other contexts the meaning of *kiólas* may be different. It may mean "from now", "now", "additionally", or "moreover". In some cases it is also interchangeable with the adverbial *pjá* which can also be a negative polarity item. See Setatos (1986) and Vassilaki (1989) for discussion.

27 Similar classifications are made by Mackridge (1985) and Alexiadou (1994). Nacas (1987) makes a more detailed classification based on situation type rather than on pure viewpoint distinctions.

28 The only case where such a sentence would be grammatical would be to have a combination of an adverbial of Type I with an adverbial of Type II:

(i) O Jánis ðimosíeve to árθro *mjá forá káθe xróno.*
the-Yanis-NOM published-IMPERF-3S the-article-ACC once every year
"Yanis was publishing the article once every year".

However, this is clearly a case of a complex adverbial made up from *every year* being modified by *once*; this complex adverbial behaves as a unit. The aspectual specification of such a complex aspectual adverbial is determined only by the main adverbial (i.e. *every year*). Given that *every year* is a Type II adverbial the verb will be of imperfective aspect:

(ii) O Jánis ðimosíeve/*ðimosíefse to árθro [*mjá forá* [*káθe xróno*]].
the-Yanis-NOM published-IMPERF-3S/-PERF-3S the-article-ACC once every year
"Yanis was publishing the article once every year".

29 With reference to the distribution exemplified in (44b) and (45b) the only position which is completely impossible is that after the direct object (and

that after the main verb in (46b)). The sentence-initial and the post-subject positions are made possible by the presence of additional phonological effects.

30 Notice that *mólis* can also have the meaning of the temporal connective *ótan* (when) in which case this sentence would be perfectly all right.

31 See also Nacas (1987) for an extensive discussion on how adverbials can combine, from a semantic perspective though.

32 The adverbial *mjá forá* can also have the meaning of the adverbial *pándos* (anyway, anyhow, in any case etc.); this is not the intended reading here. Here, the meaning of the aspectual *mjá forá* is to count the occurrences of the situation described.

33 According to Rivero other adverbials in MG that can syntactically incorporate include manner and directional adverbials (see Chapter 5 for a discussion of this issue).

34 Rivero claims the opposite. I find her data completely impossible.

35 Note that this is a genuine restriction for individual-level predicates as copular expressions like *íme δjaθésimos* (be available) can combine with *ksaná* giving *ksanaíme δjaθésimos* (again-be available). In addition to the exceptions in the text, Joseph & Smirniotopoulos (1995) also report the following: **paraméno ksaná / *ksanaparaméno* (stay) and **perijeló ksaná / *ksanaperijeló* (trick, ridicule).

36 The use of *ksaná* with such predicates creates a semantic/pragmatic rather than a syntactic anomaly.

37 Notice that Pollock (1989) was claiming that *souvent* or *often* are generated as adjuncts to VP.

38 Laenzlinger (1993) recognises the relation of aspectuals like *frequently* with an AspP projection, in terms of situation aspect features though.

39 I am assuming that aspect-sensitive adverbials are heads projecting an AspP. Alternatively, it could be suggested that adverbials are lexical heads unable to project and so they are available from the lexicon as X^0 categories, as proposed by Travis (1988). I think that such a solution would complicate the move-α operations such as focusing or topicalisation that I suggested for aspect-sensitive adverbials in the text. However, as I said earlier, I think that *Aktionsart* adverbials are indeed defective categories not being able to project.

40 As suggested to me by Ireue Philippaki-Warburton (p.c.) an alternative structure representing this complementation would be to assume that the adverbial takes the selected category as its complement (in ordinary X-bar terms) and that the two phrases (AdvP and AspP) combine as in the following schema:

(i) ... $[_{AdvP}$ Adv $[_{AspP}$ Asp [±perfective] ... $]]$ ...

CHAPTER FIVE

THE SYNTAX OF "MANNER" ADVERBS

1. Preface

The purpose of this chapter is to discuss some issues concerning the syntax of "manner" adverbs in Modern Greek (MG). In Section 2, I will examine several properties that characterise the class of "manner" adverbs. In Section 3, I will discuss a special category of "manner" adverbs, so-called subject-oriented adverbs and I will make several observations about their status. There, I will also review existing analyses for subject-oriented adverbs. In Section 4, I will consider the proposal by Rivero (1992a) about adverb incorporation in MG. In Section 5, I will examine the distribution of "manner" adverbs in the MG clause. In Section 6, I will make an outline of existing theories of adverbs in the literature. Finally, in Section 7, I will present a theory of "manner" adverbs in MG, proposing how they should be structurally represented and what the mechanism that licenses them in the syntax is.

2. The Nature of "Manner" Adverbs

"Manner" adverbs is a semantic term used by descriptive grammarians to label (lexical) adverbs ending in *-ly* (in English), *-a* (in MG), *-ment* (in French), etc. which describe the way (the manner) in which the verbal action is performed (cf. Quirk et al. (1985), Triantafyllidis (1941), Mauger (1968)).[1] As Jackendoff (1972: 49) states, an adverbial like *clumsily* in the sentence:

(1) John dropped his cup of coffee *clumsily.*

can be paraphrased as: *the manner in which John dropped his cup of coffee was clumsy.* This can distinguish "manner" adverbs from others belonging to different semantic classes, despite the fact that they too end in *-ly.* So, an adverb like *completely* in the following example (Jackendoff (1972: 50):

(2) Stanley ate his Wheaties *completely.*

cannot be paraphrased as: *the manner in which Stanley ate his Wheaties was complete* and therefore it is not a "manner" adverb.[2]

In this chapter, I will generalise the use of the term "manner" to all adverbs that enter into a modification relation with the verb and its dependent constituents (following Chomsky (1965)). In other words, I will call "manner" adverbs all those adverbs that have a semantic relation to the verb (and its arguments) and, to this extent, they are modifiers of the verb phrase.[3] "Manner" adverbs are distinct from speaker-oriented adverbials (e.g. *frankly, fortunately*), temporal adverbials (e.g. *yesterday, on Tuesday*), and aspectual adverbials (e.g. *frequently, usually*) which are structurally higher in the tree and are taken to be modifiers of the whole sentence.

More specifically, "manner" adverbs are considered as having different orientations according to their idiosyncratic meaning (cf. Jackendoff (1972), Lehrer (1975), McConnell-Ginet (1982), Nacas (1987) among others). Taking examples from MG, a "manner" adverb like *sostá* (correctly) denotes the correctness of the action described by the verb and so it is said to be oriented towards the verb (verb-oriented adverb). An adverb like *éksipna* (cleverly) denotes the clever manner in which the verbal action is performed and the cleverness of the (animate) actor involved; it is said to be oriented towards the verb and/or its external argument (subject-oriented adverb). An adverb like *θanásima* (fatally) is said to denote a property that affects the object (e.g. *hit the opponent fatally)* and so it is oriented towards the verb and its complement(s) (object-oriented adverb). Finally, adverbs like *polí* (much) or *kalá* (well) are also considered as "manner" adverbs in the

broad sense of the term; they are modifiers with qualificational or degree properties and they affect the action of the verb.

Bearing in mind what I have said above I will next make some more specific observations regarding the exact properties of these adverbs.

2.1 Grammatical Properties[4]

"Manner" adverbs are said to be derived from the corresponding adjectives by adding the derivational suffix *-ly* to them (for English; see Jackendoff (1972) and Zagona (1990) among others).[5] Consider the following examples as an illustration:

(3)	*Adjective*	⇒	*Adverb*
	angry		angri-ly
	happy		happi-ly
	peculiar		peculiar-ly

The addition of the suffix *-ly* does not affect the meaning of the adjective which is carried over to the derived adverb. Thus, the noun phrase *angry reaction*, for instance, is (*mutatis mutandis*) semantically identical to the verb phrase *to react angrily*. The same situation is found with "manner" adverbs in MG. They are derived from the corresponding adjectives by adding the suffix *-a* (or *-os* in some cases). This is exemplified below:

(4)	*Adjective*	⇒	*Adverb*
	éksipn-os/-i/-o		éksipn-a
	"clever-MAS/-FEM/-NEUT"		"cleverly"
	ásxim-os/-i/-o		ásxim-a
	"ugly-MAS/-FEM/-NEUT"		"uglily"
	éfkol-os/-i/-o		éfkol-a
	"easy-MAS/-FEM/-NEUT"		"easily"
	fovismén-os/-i/-o		fovismén-a
	"fearful-MAS/-FEM/-NEUT"		"fearfully"
	vlakóδ-is/-is/-es		vlakoδ-ós
	"stupid-MAS/-FEM/-NEUT"		"stupidly"
	ikonomik-ós/-í/-ó		ikonomik-ós[6]
	"financial-MAS/-FEM/-NEUT"		"financially"

Furthermore, "manner" adverbs do not display any inflectional morphology, either verbal or nominal. To this extent they do not agree with verbs in the way adjectives agree with nouns. Compare the following examples from French:

(5) (a) L' ingénieur a réparé *attentivement* la voiture.
the engineer has repaired carefully the car

(b) les réparations *attentives* ...
the-repair-FEM-P careful-FEM-P

The adverb *attentivement* (carefully) in (5a) does not bear any agreement morphology, while the adjective *attentives* (careful) in (5b) agrees with the feminine noun *réparations* (repairs) in gender and number. Similarly, MG "manner" adverbs belong to the class of "uninflected parts of speech" (cf. Triantafyllidis (1941)). So, they do not show any inflectional morphology. Compare the adjective and the corresponding adverb below:[7]

(6) (a) O maθitís apándise *éksipn-a* stin erótisi
the student-NOM PAST-answer-3S clever-ly to-the question-ACC
"The student answered the question cleverly."

(b) i *éksipn-i* apándisi ...
the-clever-FEM-S-NOM answer(FEM)-S-NOM
"the clever answer"

Unlike adjectives, "manner" adverbs cannot take any complements. This is observed in Jackendoff (1977: 78) who states that the adjectival expression *fearful of Bill* does not display a parallel adverbial **fearfully of Bill*; so adverbs are characterised by the feature value [- comp] and adjectives by the value [+ comp]. Nevertheless, there are cases where an adverb appears to take a prepositional complement like *unfortunately for our hero*, parallel to *unfortunate for our hero*. However, these prepositional phrases are not strictly subcategorised complements, and therefore they are not exceptions to the above generalisation (cf. Jackendoff (1977)). MG shows the same behaviour. There are some adverbs that are (optionally)

accompanied by the same prepositional phrase as their respective adjective. Consider the following example:

(7) (a) O patéras íne *iperífanos* (ja/*me/*apó ton jó tu).
the-father-NOM is proud of/with/from the son of-his
"The father is proud of his son."

(b) O patéras mílise *iperífana* (ja/*me/*apó ton jó tu).
the-father-NOM talked proudly of/with/from the son of-his
"The father talked proudly about his son".

"Manner" adverbs do not take any complements but they can indeed be modified by degree adverbs like *very*. The same degree adverbs are used to modify adjectives. So, a parallelism is obtained between the verb phrase *operate very carefully* and the noun phrase *very careful operation*. MG has the degree adverb *polí* (very) which modifies both adverbs and adjectives. Moreover, the complex "*polí* + adjective/adverb" can be further modified by the adverbial *pára* (too, immensely). This is illustrated below:

(8) (a) éfkol-os/-i/-o → polí éfkol-os/-i/-o → pára polí éfkol-os/-i/-o
easy-M/-F/-N very easy-M/-F/-N too very easy-M/-F/-N

(b) éfkola → polí éfkola → pára polí éfkola
easily very easily too very easily (=much too easily)

2.2 Other Properties

"Manner" adverbs share one major characteristic that distinguishes all adverbial expressions (and adjectives) from arguments, they are typically optional elements of sentences. This property is illustrated below:

(9) Mary talked to her boss (*joyfully*).

To this extent, they do not enter into a thematic relation with the verb, in the sense that they do not receive a thematic role from the verb.[8] The same characteristic is shared by MG "manner" adverbs (cf. Nacas (1987: 153)):

(10) O Jánis élise (*éfkola*) tis askísis.
the-Yanis-NOM solved easily the-exercises-ACC
"Yanis solved the problems (easily)."

In addition to this, "manner" adverbs display a relatively free distribution in the clause as they may occupy more than one position. The following example illustrates this fact for English (Jackendoff (1972: 49):

(6) (a) John *cleverly* dropped his cup of coffee.

(b) *Cleverly* (,) John dropped his cup of coffee.[9]

(c) John dropped his cup of coffee *cleverly.*

Similar freedom in distribution is also found in French, with more positions available though (Schlyter (1974: 85)):

(7) (a) Pierre a chargé la voiture *énergiquement.*
Peter loaded the car energetically

(b) Pierre a chargé *énergiquement* la voiture.

(c) Pierre a *énergiquement* chargé la voiture.

(d) Pierre, *énergiquement*, a chargé la voiture.

(e) *Energiquement*, Pierre a chargé la voiture.

Nacas (1987) states that a "manner" adverb in MG can appear in the following positions: at the beginning of the sentence (in both SVO and VSO orders; cf. (8a&a')), right before the verb (cf. (8b)), between the verb and its complement (cf. (8c)), and at the end of the sentence (cf. (8d&d')). Consider below the relevant examples (Nacas (1987: 322)):

(8) (a) *Efkola* o Jánis élise tis askísis.
easily the-Yanis-NOM solved the-exercises-ACC
"Yanis solved the problems easily".

(a') *Efkola* élise o Jánis tis askísis.
easily solved the-Yanis-NOM the-exercises-ACC
"Yanis solved the problems easily".

(b) O Jánis *éfkola* élise tis askísis.
the-Yanis-NOM easily solved the-exercises-ACC
"Yanis solved the exercises easily."

(c) O Jánis élise *éfkola* tis askísis.
the-Yanis-NOM solved easily the-exercises-ACC
"Yanis solved the exercises easily."

(d) O Jánis élise tis askísis *éfkola.*
the-Yanis-NOM solved the-exercises-ACC easily
"Yanis solved the exercises easily"

(d') O Níkos épekse *oréa.*
the-Nikos-NOM played nicely
"Nikos played nicely"

Nacas recognises that the positions exemplified by (8a), (8a') and (8b) are "marked" in that they involve an alteration in the intonation pattern (around the adverbial).

3. On the Subject-orientation of some "Manner" Adverbs

Subject-oriented adverbs belong to the class of "manner" adverbs I introduced earlier. As their name suggests, they have the characteristic of describing a property of the subject of the sentence. As Jackendoff (1972: 57) puts it, subject-oriented adverbs "express some additional information about the subject". At the same time, they can function as ordinary "manner" adverbs by describing a property of the verbal action. Across languages, the actual interpretation of these adverbs seems to depend on their position in the clause. In the sections that follow I will examine this phenomenon and I will review existing treatments for it in the literature.

3.1 Characteristics of Subject-oriented Adverbs

Jackendoff (1972) discusses subject-oriented adverbs for English. He argues that an adverb like *clumsily* can be oriented towards the subject if it appears sentence-initially as in (9a), or after the subject as in (9b) (Jackendoff (1972: 49)):

(9) (a) *Clumsily* (,) John dropped his cup of coffee.

(b) John *clumsily* dropped his cup of coffee.

In (9a) the adverb *clumsily*, strictly, means that *John was clumsy in dropping his cup of coffee.* However, in (9b) the adverb has an ambiguous meaning. It can either have subject-orientation (as in (9a)) or it can have the manner reading: *John dropped his coffee in a clumsy manner.* If the adverb clumsily appears in the sentence-final position it loses its subject-orientation and it functions as an ordinary "manner" adverb, as shown by (10) (Jackendoff (1972: 49)):

(10) John dropped his cup of coffee *clumsily.*[10]

Milner (1978) and Laenzlinger (1993), among others, discuss the case of subject-oriented adverbs in French. They both agree that "manner" adverbs like *sottement* (stupidly) or *courageusement* (courageously) can have a subject-oriented interpretation if they appear in sentence-initial position:

(11) (a) *Sottement*, il est resté chez lui toute la journée.
stupidly he is stayed home his whole the day
"Stupidly he stayed home the whole day".
Milner (1978: 103)

(b) *Courageusement*, Jean a lu le livre de Chomsky.
courageously John has read the book of Chomksy
"Courageously John read Chomsky's book".
Laenzlinger (1993: 50)

The same interpretation is also obtained when the adverb appears just after the subject or sentence-finally but with comma intonation, while it is ambiguous if it appears after the auxiliary, as shown in (12a), (12b), and (12c) respectively (Laenzlinger (1993: 50)):

(12) (a) Jean, *courageusement*, a lu le livre de Chomsky.
John courageously has read the book of Chomsky
"Courageously John read Chomsky's book".

(b) Jean a lu le livre de Chomsky, *courageusement.*
John has read the book of Chomksy courageously
"Courageously John read Chomsky's book".

(c) Jean a *courageusement* lu le livre de Chomsky.
John has courageously read the book of Chomksy
"John read Chomsky's book courageously".

In all these positions the adverb *courageusement* is interpreted as *it is courageous of John to have read Chomsky's book.* According to Laenzlinger, all positions where an adverb like *courageusement* has a subject-orientation are considered as peripheral positions (i.e. outside VP).

McConnell-Ginet (1982) discusses the phenomenon of agent-orientation found in passive constructions which is directly related to subject-orientation. She compares the following sentences (McConnell-Ginet (1982: 145)):

(13) (a) *Reluctantly*$_{i/*k}$, Joan$_i$ instructed Mary$_k$.

(b) *Reluctantly*$_{i/k}$, Mary$_i$ was instructed by Joan$_k$.

In (13a) the adverb is subject-oriented as it attributes reluctance to Joan, unambiguously. In (13b) the adverb is claimed to have an ambiguous interpretation, due to the fact that the verb is in the passive voice. It attributes reluctance either to Mary (the grammatical subject) or to Joan (the logical subject). In the former case the adverb *reluctantly* is subject-oriented and in the latter it is agent-oriented.

Subject-orientation is also found in MG. "Manner" adverbs like *éksipna* (cleverly), *vlakoδós* (stupidly), *evjeniká* (politely) etc. can have a subject-orientation. As with English and French, this interpretation is unambiguously obtained in specific positions. In other words, the adverb must appear either sentence-initially or right after the subject in order to have this interpretation:

(14) (a) *Evjeniká*, o Níkos éδjokse ton peláti.
politely the-Nikos-NOM sent-away the-customer-ACC
"Politely, Nikos sent away the customer."

(b) O Níkos, *EVJENIKA* édjokse ton peláti.[11]
the-Nikos-NOM politely sent-away the customer
"It was politely that Nikos sent away the customer".

If the adverb appears in the other two possible positions it can only have a "manner" interpretation:

(15) (a) O Níkos éδjokse *evjeniká* ton peláti.
the-Nikos-NOM sent-away politely the customer
"It was politely that Nikos sent away the customer".

(b) O Níkos éδjokse ton peláti *evjeniká*.
the-Nikos-NOM sent-away the customer politely
"It was politely that Nikos sent away the customer".

Nevertheless, I want to suggest that the adverb *evjeniká* in (15) above can always mean that *Níkos was polite* since *the manner in which he performed the action was polite.*[12] In my opinion, this is due to the fact that these adverbs have an inherent sensitivity to the agent of the verbal action which must be characterised as "human". Indeed such adverbs cannot co-occur with sentence subjects that are not "human" (regardless of position):

(16) (a) O epivátis éfije *ajenós* apo ton staθmó.
the-passenger-NOM left rudely from the-station-ACC
"The passenger left the station rudely."

(b) !To tréno éfije *ajenós* apó ton staθmó.
the-train-NOM left rudely from the-station-ACC
"!The train left the station rudely."

To this extent they are agent-oriented adverbs by their semantics.

Going back to McConnell-Ginet's (1982) issue, it appears that subject-orientation is a syntactic matter while agent-orientation is a semantic/pragmatic matter. In active voice, agent-orientation coincides with subject-orientation since the agent (logical subject) is also the grammatical subject. In passive voice, agent-orientation is differentiated from subject-orientation since the grammatical subject never coincides with the logical subject. So, in an active sentence like (15) above, the adverb *evjenikά* (politely) is semantically/pragmatically agent-oriented, by default. It acquires subject-orientation if it appears in a structurally high position so as to have the subject (or its trace) in its scope, as in (14) above. In a passive sentence, such an adverb maintains its agent-orientation provided that it does not have the grammatical subject in its scope:

(17) (a) O maθitísᵢ δiδáxtike *apróθima**ᵢ/ₖ apó [tus kaθijités tu]ₖ.
the-student-NOM was-instructed reluctantly by the-teachers-ACC of-his
"The student was instructed reluctantly by his teachers".

(b) O maθitísᵢ δiδáxtike apó [tus kaθijités tu]ₖ *apróθima*ᵢ/ₖ.
the-student-NOM was-instructed by the-teachers-ACC of-his reluctantly
"The student was instructed by his teachers reluctantly".

When the adverb appears in higher positions, having the grammatical subject in its scope it loses its agent-orientation and acquires subject-orientation:[13]

(18) (a) *Apróθima*ᵢ/*ₖ, o maθitísᵢ δiδáxtike apó [tus kaθijités tu]ₖ
reluctantly the-student-NOM was-instructed by the-teachers-ACC of-his
"Reluctantly the student was instructed by his teachers".

(b) O maθitísᵢ, *APROθIMA*ᵢ/*ₖ, δiδáxtike apó [tus kaθijités tu]ₖ
the-student-NOM reluctantly was-instructed by the-teachers-ACC of-his
"The student reluctantly was instructed by his teachers".

It is important to note, however, that if the grammatical subject is semantically inappropriate for the adverb then subject-orientation is

aborted and agent-orientation is maintained; this is so even when the agent *by*-phrase is absent:

(19) (a) *Iθeliména*$_{*i/k}$, to avγó$_i$ ríxtike apó tus δjaδilotés$_k$.
willingly the-egg-NOM was-thrown by the-demonstrators
"The egg willingly was thrown by the demonstrators".

(b) To avγó$_i$, *IθELIMENA*$_{*i/k}$ ríxtike apó tus δjaδilotés$_k$
the-egg-NOM willingly was-thrown by the-demonstrators
"The egg willingly was thrown by the demonstrators".

(c) *IθELIMENA*$_{*i/arb}$ ríxtike to avγó$_i$.
the-egg-NOM willingly was-thrown
"The egg was thrown willingly".

In (19) above the grammatical subject is semantically incompatible with the adverb *iθeliména* (willingly) as an egg does not have will. So, in all cases where the adverb would have a subject-orientation it is interpreted as agent-oriented.

3.2 Existing Analyses for Subject-oriented Adverbs

So far, I have discussed the phenomenon of subject-orientation by examining the relevant data. I also claimed that agent-orientation (in McConnell-Ginet's (1982) terms) is a semantic matter while subject-orientation is clearly a syntactic matter, at least for MG. Next, I will make a brief review of existing syntactic analyses of this phenomenon.

Zubizarreta (1987) suggests that, in general, adverbs are predicates with selectional properties; they assign adjunct θ-roles to positions where main θ-roles are assigned. Subject-oriented adverbs, in particular, assign an adjunct θ-role to the structural subject or the thematic Agent of the clause and so an agentive interpretation is obtained.

Roberts (1987) follows the central idea of Zubizarreta (1987) that adverbs are predicates (without θ-role assignment properties though). He

argues that subject-oriented adverbs have the semantic property of specifying a relation between an individual and an event. Consequently, they are assumed to be two-place predicates selecting for both an event and an "Agent NP". In structural terms, subject-oriented adverbs can appear either coindexed with both Infl and the subject, or coindexed with a V which is coindexed with an agent. Either configuration yields an agentive interpretation for these adverbs.

Sportiche (1988) treats subject-oriented adverbs as modifying both the subject and the propositional content of their clause. So they must be structurally related to both the subject NP and IP. Assuming that the subject originates in VP (VP-internal hypothesis) and then moves to IP for Case requirements, he claims that subject-oriented adverbs are projected as adjunctions to IP.

Travis (1988) claims that the distinction between subject-sensitive and agent-sensitive adverbs, as reported by McConnell-Ginet (1982), should be represented in the syntax. In other words, she suggests that subject-sensitive adverbs are licensed by AGR which is a feature of Infl; they will assign an adjunct θ-role to AGR, in the spirit of Zubizarreta's (1987) theory. Agent-sensitive adverbs, on the other hand, are licensed by a Manner feature in V. In this case, the adverbs will assign an adjunct θ-role to the external argument of the verb (assuming the VP-internal hypothesis).

In the spirit of Zubizarreta (1987) and Roberts (1987), Laenzlinger (1993) suggests that subject-oriented adverbs are predicated of both an agent/subject and an event. The adverb needs to be in a structural relation with the subject (m-command), in order to yield the agentive interpretation, and with a head containing the event features. This is translated by the adverb appearing in the A-bar specifier of Infl, thus m-commanding the subject and agreeing with the head (Spec-head agreement).[14, 15]

4. On Adverb Incorporation

According to Baker (1988), incorporation is a process whereby "one semantically independent word comes to be "inside" another" (Baker (1988: 1)). Baker argues that incorporation is syntactically represented by an X^0 category adjoining to a Y^0 category through head-movement. However, incorporation is restricted as to which heads are allowed to move into which other heads. Baker suggests that only the heads of arguments may incorporate since head-movement out of non-arguments would violate the ECP. So, for instance only an argument of the verb is allowed to incorporate into the verb head. The following sentences from Niuean (Oceanic) illustrate the contrast (Baker (1988: 82, 87)):

(20) (a) Voluniu nakai e tau fanau?
grate-coconut Q ABS-PL-children
"Are the children grating coconut?"

(b) *Gahua po a ia, ka e mohe aho.
work-night ABS-he but sleep-day
"He works nights, but sleeps days."

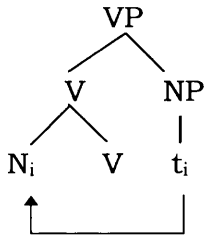
(20a) is grammatical since the object noun *niu* (coconut) is said to have incorporated into the verb *volu* (grate), legitimately. This is possible since *niu* is the internal argument of *volu*. However, in (20b) the temporal item *po* (night) cannot incorporate into the verb *gahua* (work) given that it is not its argument, hence the ungrammaticality.

Travis (1988) states that there are languages that display incorporation of adverbs within the verb. She gives an example from Inuktitut (Greenlandic), originally provided by Fortescue (1980). The adverb *qquu* (undoubtedly) comes in the form of an affixal morpheme and attaches to the whole complex as is shown below (Travis (1988: 6)):

(21) ungasinnirulaatsiassa-*qquu*-qaaq
undoubtedly
"It will undoubtedly be somewhat further off"

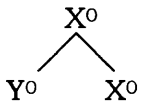
Travis claims that Baker's (1988) discussion along with the evidence in (21) above suggest that only arguments and adverbs are able to incorporate. Nevertheless, aware of the impossibility of adverb incorporation within Baker's theory, she assumes two different types of incorporation. The first type is incorporation by movement and applies exclusively to arguments, to preserve the ECP (Travis (1988: 19)):

(22)

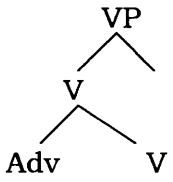


The second type is morphological incorporation which is based on a structure like in (23a) below which is base-generated as such, as in (23b):[16]

(23) (a)



(b)



By assuming that the structure in (23a) applies to non-arguments, adverb incorporation can be viewed as a morphological operation without syntactic movement; thus escaping the restrictions imposed by Baker's theory.

Rivero (1992a) discusses adverb incorporation on the basis of data from MG. She claims that "manner" adverbs (along with direction and *Aktionsart* adverbials) incorporate systematically in MG. By contrast, syntactic incorporation is impossible for temporal, aspectual or speaker-oriented adverbials. Consider the following sample of "manner" adverbs, given by Rivero, that appear to incorporate (Rivero (1992a: 299)):[17]

(24) (a) masáo *aryá* → *aryo*masó
chew-1S slowly slowly-chew-1S

(b)	jenó *δískola* give-birth-1S with-difficulty	→	*δiskolo*jenó with-difficulty-give-birth-1S
(c)	petó *γoryá* fly-1S fast	→	*γoryo*petó fast-fly-1S
(d)	léγo *kaká*[18] talk-1S badly	→	*kako*loγó badly-talk-1S
(e)	vlépo *kalá* see-1S well	→	*kalo*vlépo well-see-1S
(f)	jeló *krifá* laugh-1S secretly	→	*krifo*jeló secretly-laugh-1S
(g)	zalízome *psilá* feel-dizzy-1S slightly	→	*psilo*zalízome slightly-feel-dizzy-1S
(h)	angaljázo *sfixtá* embrace-1S tightly	→	*sfixt*angaljázo tightly-embrace-1S
(i)	traγuδó *siγá* sing-1S softly	→	*siγo*traγuδó softly-sing-1S
(j)	kitó *stravá* look-1S slanted	→	*stravo*kitó slanted-look-1S

The adverbs shown in (24) belong to the class of Ad-verbs (of McConnell-Ginet (1982)). Ad-verbs have two properties: first, they are VP-internal, and second, they are complements. However, as I said in Section 2.2 earlier, there is no θ-relation between verbs and ad-verbs, so for an ad-verb to be a complement implies that it is in a sisterhood relation with the verb. Thus, ad-verbs can be represented by the following schema (Rivero (1992a: 299)):

(25) $[_{VP}\ [_{V'}\ V^0\ AdvP]]$

The fact that these adverbs can incorporate into the verb is due precisely to these properties. On the one hand, these two properties are crucial for postulating a syntactic process of incorporation, in the spirit of Baker (1988). On the other hand, incorporation serves as a diagnostic for determining the structural position of adverbs. A strong argument in favour of this is the case of obligatory adverbs which are indeed complements of

the verb (i.e. [$_{VP}$ [$_{V'}$ V AdvP]]. Rivero discusses the verb *férome* (behave) which requires the presence of an adverb like *kaká* (badly) (Rivero (1992a: 298, 299)):

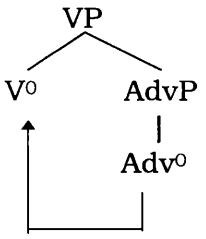
(26) I María férete *(*kaká*) stin aδelfí tis.
the-Maria-NOM beahves badly to-the sister-ACC of-her
"Maria behaves badly to her sister."

This adverb can attach to the verb as shown below (Rivero (1992a: 299)):

(27) I María *kako*férete stin aδelfí tis.
the-Maria-NOM badly-behaves to-the sister-ACC of-her
"Maria behaves badly to her sister."

In view of these examples, Rivero argues that adverb incorporation is purely syntactic and can be accommodated within a version of Baker's theory (contra Travis (1988)). More specifically, following Baker & Hale (1990), she claims that incorporation of X^0 into Y^0 is possible if and only if Y^0 (properly) governs X^0. Given the schema in (25) above, her version of adverb incorporation can be schematically represented as follows:

(28)



Recall that in Chapter 4, I discussed Rivero's (1992a) claims about the incorporation properties of *Aktionsart* adverbials in MG. Rivero based her claims on the extensive productivity of *ksaná* (again). There I argued that this behaviour is not found with other *Aktionsart* adverbials but is idiosyncratic for *ksaná*. Despite the fact that *ksaná* could be a potential incorporator, I suggested that it would be preferable to claim that its attachment to verbs is a lexical and not a syntactic operation (following Joseph & Smirniotopoulos (1995)). I believe that Rivero's claims about

"manner" adverb incorporation are equally (or maybe more) problematic since they lack real empirical evidence. This is so for a series of reasons.

First, only a small number of so-called Ad-verbs appears to be able to incorporate at all. Rivero's examples given in (24) above constitute exceptions since the majority of adverbs of the same semantic class cannot attach to the verb, consider a small sample of them:

(29)	(a)	jenó *éfkola* give-birth-1S easily	→	**efkolo*jenó easily-give-birth-1S
	(b)	anapnéo *vaθjá* breathe-1S deeply	→	**vaθj*anapnéo deeply-breathe-1S
	(c)	miláo *sostá* speak-1S correctly	→	*sostomiláo correctly-speak-1S
	(d)	perpatáo *perífana* walk-1S proudly	→	**perifano*perpatáo proudly-walk-1S
	(e)	majirévo *oréa* cook-1S nicely	→	**oreo*majirévo nicely-cook-1S

Second, even in the case of obligatory adverbs (Rivero's strongest argument), only the adverb *kaká* (badly) appears to be able to attach to the verb *férome* (behave):

(30) (a) férome *(*ásxima* / *kalá* / *ápsoγa* / *írema* / *psixrá* / *sovará* ...)
behave-1S badly / well / faultessly / peacefully / coldly / seriously

(b) **asximo*férome / **kalo*férome / **apsoγo*férome / **iremo*férome / **psixro*férome / **sovaro*férome ...

Exactly the same holds for the verb *metaxirízome* (treat) which also requires the presence of such adverbs, as Kakouriotis et al. (1995) report.

Third, the majority of the one-word complexes [adverb+verb], whenever available, do not have the same meaning as their two-word form:

(31) (a) vlépo *kalá* = see well (good sight)
*kalo*vlépo = welcome, look favourably on

(b) maθéno *kalá* = teach / learn well
*kalo*maθéno = spoil

(c) meletáo *kaká* = study badly
*kako*meletáo = foretell calamities

(d) vlépo *kaká* = see badly (bad sight)
*kako*vlépo = dislike

Fourth, most of the one-word complexes cannot be analysed into their component parts (see (24) above):

(32) (a) *psilo*zalízome ← *zalízome *psilá*
feel slightly dizzy

(b) *kako*loγó ← *lêγo *kaká*
talk badly

(c) *kalo*karδízo ← *karδízo *kalá*
cheer

(d) *kalo*pjáno ← *pjáno *kalá*
cajole

(e) *kal(o)*aréso ← *aréso *kalá*
like

Fifth, an apparently productive pattern is that displayed by the (degree) adverb *polí* (much, a lot) (see Rivero (1992a: 324)). *Polí* can attach to verbs only when it is in the scope of negation:

(33) (a) tróo *polí* → *(δen) *poli*tróo
eat a lot not a lot-eat

(b) δjavázo *polí* → *(δen) *poli*δjavázo
read a lot not a lot-read

(c) kimáme *polí* → *(δen) *poli*kimáme
sleep a lot not a lot-sleep

These data seem to suggest that when *polí* is attached to the verb, it is sensitive to negation (perhaps functioning as a negative polarity item).

It follows from the facts presented above that the claim for adverb incorporation in MG is not empirically motivated (see also Joseph & Smirniotopoulos (1995) and Kakouriotis et al. (1995) for similar suggestions). As I said in Chapter 4, I believe that all cases where an adverb appears attached to the verb should be treated as instances of a lexical compounding operation, of derivational morphology, and not as syntactic incorporation in the terms of Baker (1988). In other words, I will suggest that [adverb+verb] compounds are inserted in the syntax as ordinary lexical items. Consequently, I will assume that adverb incorporation does not exist in the syntax of MG.

5. Reconsidering the Distribution of "Manner" Adverbs in M.Greek

In this section I will reconsider the distribution of "manner" adverbs as given earlier in Section 2.2 following Nacas (1987). I will do this so as to clearly distinguish between the positions that are phonologically neutral and those that involve phonological effects. This will enable me to formulate an adequate theory for "manner" adverbs in MG.

5.1 Linear Positioning

Recall from Section 2.2 earlier that according to Nacas (1987) a "manner" adverb like *éfkola* (easily) can appear sentence-initially (in both SVO and VSO orders), after the subject (in SVO), after the verb (in VSO), and sentence-finally. Nacas recognises that some of these positions are "marked" as they involve phonological effects.

Let us consider this distribution more carefully, by distinguishing the SVO from the VSO order. Let me first examine the positions of "manner" adverbs with the SVO pattern. Consider the following examples:

(34) (a) O Jánis éfaje to γlikó *krifá*.
the-Yanis-NOM ate the-cake-ACC secretly
"Yanis ate the cake secretly."

(b) O Jánis éfaje *krifá* to γlikó.
the-Yanis-NOM ate secretly the-cake-ACC
"Yanis ate the cake secretly."

(c) *O Jánis *krifá* éfaje to γlikó.
the-Yanis-NOM secretly ate the-cake-ACC

(d) **Krifá* o Jánis éfaje to γlikó.
secretly the-Yanis-NOM ate the-cake-ACC

As is clear from the above, a "manner" adverb has only two possible positions in an SVO clause in MG. (34c) and (34d) are impossible if they are uttered without affecting the neutral intonation around the area of the adverbial, as Nacas (1987) states. So, in order for (34c) and (34d) to be acceptable they must have the following form (compare with the examples in (8)):

(35) (a) O Jánis, *KRIFA* éfaje to γlikó.
the-Yanis-NOM secretly ate the-cake-ACC
"It was secretly that Yanis ate the cake".

(b) *Krifá*, o Jánis éfaje to glikó.
secretly the-Yanis-NOM ate the-cake-ACC
"Secretly, Yanis ate the cake."

(35a) shows that when the "manner" adverb appears after the subject it must be followed by an intonation pause (notated by the comma) and it must bear extra stress. Similarly, (35b) shows that when the "manner" adverb appears sentence-initially it must be followed by an intonation pause.

In the VSO order "manner" adverbs show an analogous distribution as illustrated by the following examples:

(36) (a) Efaje o Jánis to γlikó *krifá.*
ate the-Yanis-NOM the-cake-ACC secretly
"Yanis ate the cake secretly."

(b) Efaje o Jánis *krifá* to γlikó.
ate the-Yanis-NOM secretly the-cake-ACC
"Yanis ate the cake secretly."

(c) *Efaje *krifá* o Jánis to γlikó.
ate secretly the-Yanis-NOM the-cake-ACC

(d) **Krifá* éfaje o Jánis to γlikó.
secretly ate the-Yanis-NOM the-cake-ACC

The sentences in (36) above show that a "manner" adverb can only occupy two positions in a VSO clause. It can either appear sentence-finally (cf. (36a)) or after the subject (cf. (36b)). The positioning illustrated by (36d) becomes possible by adding extra stress to the adverb, as indicated by (37) below:

(37) *KRIFA* éfaje o Jánis to γlikó.
secretly ate the-Yanis-NOM the-cake-ACC
"It was secretly that Yanis ate the cake".

The sentence in (36c) above is made possible only if the verb is preceded by the object clitic pronoun *to* (it):

(38) To éfaje *krifá* o Jánis to γlikó.
it-ACC ate secretly the-Yanis-NOM the-cake-ACC
"Yanis ate the cake secretly".

The presence of the object clitic seems to suggest that the order of constituents has changed by moving the object phrase *to γlikó* (the cake) to the end of the sentence. So, here too, the basic pattern needs to be altered by some other mechanism (e.g. constituent movement) in order for the sentence to be wellformed.

5.2 Typical and Non-typical Positioning

As we saw in the previous section, "manner" adverbs display two different types of positioning, regardless of word-order pattern. The first type of positioning is possible in a sentence where the other constituents occupy their usual positions and the intonation can be characterised as neutral. I will call this positioning typical (cf. examples (34) and (36)) . The second type of positioning is only possible with the addition of prosodic effects (by extra stress assignment or intonation pauses). I will call this positioning non-typical (cf. examples (35) and (37)).

I would like to suggest that when a "manner" adverb occupies a typical position it means that it is inserted there by Merge, so, typical positions are original (or "base") positions. Moreover, when a "manner" adverb occupies a non-typical position, it means that it has been moved there by some movement operation (A'-movement). Therefore, a non-typical position will differ from a typical position in that it is a derived position (see also Alexiadou (1994) and Costa (1994) for similar suggestions).

The differentiation between typical and non-typical positioning will be made clearer when I present my proposal for the syntax of "manner" adverbs in MG in Section 7. Before that, in Section 6, I will give a brief review of existing theories of adverb syntax.

6. Existing Theories of Adverb Syntax

Keyser (1968) discusses adverbial modification in English. His main concern is to explain the fact that adverbs in general have a free distribution in the sentence. To this purpose, he proposes the "transportability convention" whereby an adverb which is marked as [+transportable] can appear in any position provided that it is immediately dominated by the same node in all possible permutations and that it is always adjoined to the same node.[19]

Higginbotham (1985, 1994) understands modification by manner adverbs as being independent of the verb's theta-role assignment properties. Instead, modification is taken to express (semantic) conjunction, following Davidson (1980). For Higginbotham manner adverbs are predicates which select a verb predicate by assigning to it a thematic role and by identifying their event (*e*)[20] position with that of the verb.[21]

Zubizarreta (1987) views modification, in general, as an evaluation of argument-variable pairs. More specifically, a modifier is related to the index of an argument directly. This can also be done indirectly by establishing a relation between the modifier and a syntactic category which is directly related to the index of an argument. The whole process is based on the so-called Rule of Modification (cf. Zubizarreta (1987: 23)). So, an adverb may be coindexed with the external argument of a VP and assign a type of theta-role (at LF) to it (either to the structural subject or the thematic agent of the clause). This is called "adjunct" theta-role and is not subject to the theta-criterion.

Roberts (1987) assumes that adverbs are predicates by just obeying the restrictions of the Predication Principle of Rothstein (1983); they do not have any theta-role assignment properties as Zubizarreta (1987) claims. In addition to this, Roberts assumes that adverbs participate in well-formed structures only if their selection requirement has been met. Different classes of adverbs are taken to have different inherent lexical properties which are satisfied in a different manner. So, adverbs like *cleverly* or *deliberately* require both an event and an agent, and are predicated of Infl or V and an Agent; they are structurally represented as adjunctions to IP adjacent to the agent-NP. Adverbs like *quickly* or *slowly* require an event and are predicated of Infl or V; they appear adjoined to IP or to VP. Finally, adverbs like *completely* or *totally* require neither an event nor an agent and are predicated of V; they appear adjacent to V.

Travis (1988) views adverbs as requiring a different licensing mechanism from those of arguments or predicates. She assumes that adverbs are "defective" categories, meaning that they are heads that cannot project in the sense of X-bar syntax in view of their inability to take complements (see also McConnell-Ginet (1982)). This has as a consequence the fact that they are not ordinary but "autonymous" theta-markers, in the sense of Higginbotham (1985) as we saw earlier. Finally, adverbs as modifying heads are licensed by an appropriate feature in the modified head which will also assign to them a specific interpretation.

Sportiche (1988) claims that adverbial modification is governed by a projection principle for adjuncts which is the equivalent of the Projection Principle for arguments. This principle states what can be the possible positions for modifiers (adjunctions to an XP or to an X). According to Sportiche, the actual positions for each class of adverbs are determined by the semantics of each adverb class. So, a manner adverb *painstakingly* is related to the verb predicate so it will be projected as an adjunct to VP (or V).

Rochette (1990) views adverbs as (secondary) predicates with selectional properties which are not similar to those of verbs. The selectional properties of adverbs are encoded as the semantic categories "proposition", "event", and "action" (see Rochette (1988) for the details). These categories are syntactically realised as the heads Comp, Infl, and V, respectively, which project in X-bar theory terms. In essence, adverbs appear as (left or right) adjunctions to the head or some projection of the head they modify (i.e. X' or X''). According to Rochette, the structural representation of adverbs follows from the fact that they are predicates and therefore they must be able to govern the head of their argument.

Bowers (1993) follows Travis's (1988) idea that adverbs are licensed by heads. However, he makes the assumption that adverbs are able to project and that each adverb class is licensed by one and only one head.

Furthermore, he claims that "manner" adverbs in particular are adjuncts to the X-single-bar level. Bowers posits that there are two types of "manner" adverbs, adverbs like *quickly* appear higher in the structure and those like *perfectly* appear lower. Their difference lies on the licensing head, that is, *quickly* is licensed by a head called Predication (Pr)[22] while *perfectly* is licensed by the V head. In structural terms, *quickly* is generated as an adjunct of Pr' and *perfectly* as an adjunct of V'. In addition to that, adverb licensing is assumed to be nondirectional, so adverbs can appear either as left or right adjuncts to the corresponding X' node.

Laenzlinger (1993) works within Kayne's (1994) version of minimalism. He suggests that adverbs are lexical categories in their own right and that they are able to project a full phrasal category, an AdvP, in X-bar theory terms. Laenzlinger further assumes that adverbs are neither modifiers (in the sense of Zubizarreta (1987) or Sportiche (1988)) nor predicates (in the sense of Roberts (1987) or Rochette (1990)) but they are operators and are inserted in the structure by a licensing condition called *Adv*-Criterion (cf. Laenzlinger (1993: 61)). According to this condition, "manner" adverbs are assumed to be licensed under spec-head agreement with the V-head in VP.

Another of Kayne's (1994) followers is Rijkhoek (1994) who argues that adverbs are not defective heads (cf. Travis (1988)) but they maximally project. Furthermore, she argues that adverbs can appear as adjunctions to several maximal projections (regardless of their individual semantics). In addition to this, adverbs are only allowed to be base-generated as adjuncts to functional projections that do not serve as checking domains for arguments (i.e. except for AGRsP and AGRoP). In terms of licensing, she simply assumes that adverbs enter a modification relation with an XP by adjoining to it. In addition to that, adverbs cannot be assumed to move as they do not possess any features to check and so there is no motivation for movement.

Costa (1994) offers a minimalist account of adverbs and suggests that they have two important properties which differentiate them from other lexical categories. First, they are not themselves major lexical categories (like N, A, V, and P), and second, they are neither predicates nor arguments. These properties have the further consequence for adverbs that they are not subject to the Principle of Full Interpretation; so, they do not require any formal licensing. Manner adverbs are generated as left or right adjuncts of AGRoP. Costa excludes VP as a potential adjunction site for manner adverbs on the assumption that VP bears a semantic role (i.e. following Chomsky (1995a)).

Finally, Alexiadou (1994) examines the case of "manner" adverbs in MG by claiming that these adverbs are maximal projections and occupy low structural positions. She argues that such adverbs are "base"-generated in VP in view of the fact that they can incorporate (cf. Rivero (1992a) and my Section 5). But she excludes generation (or maybe licensing) of such adverbs in [Spec, VP] in view of the fact that she adopts the VP-internal hypothesis. Moreover, she assumes that "manner" adverbs are moved to the specifier position of a Voice Phrase where they are licensed by checking their feature ([+manner]) with the Voice head under a spec-head agreement configuration in Kayne's (1994) terms. Alexiadou assumes that Voice is somehow related to a [manner] feature where evidence for this might be the obligatoriness of "manner" adverbs in middle voice constructions.

7. A Theory of "Manner" Adverbs in M.Greek

In this section I will make a series of theoretical claims concerning the syntax of adverbs in MG which will account for the facts I have examined in this chapter. My proposal will be influenced to some extent by the earlier work on adverbs I have mentioned above. My first task will be to propose a structural representation for the linear positioning of "manner" adverbs in

MG we saw in Section 5 above. Moreover, I will suggest a licensing mechanism for "manner" adverbs.

7.1 Structural Representation

7.1.1 Preliminary Assumptions

One of the ideas I have defended throughout this thesis is that the semantics of adverbials should be reflected in their syntactic representation and *vice versa*. In other words, adverbials should be assigned structural positions according to their semantics (and *vice versa*).

Recall that the most characteristic property of "manner" adverbs is that they are semantically related to the situation described by the verb of the sentence. In view of this, I believe that it is much more plausible to assume that "manner" adverbs are structurally connected to the phrasal category of the verb (VP) than to some other semantically irrelevant projection (e.g. IP or CP).[23] This is not a new idea. It has been argued in the past, from various theoretical perspectives, that "manner" adverbs should be understood as V(P)-adverbs and represented as being "base"-generated within the domain of VP or in the so-called VP-periphery (i.e. around VP) thus reflecting their semantics (see Chomsky (1965), Greenbaum (1969), Steinitz (1971), Jackendoff (1972, 1977), Burton-Roberts (1986), Roberts (1987), Nacas (1987), Travis (1988), Sportiche (1988), Rochette (1990), and Laenzlinger (1993) among others).

However, this suggestion appears to go against the proposals of Bowers (1993), Rijkhoek (1994), and Costa (1994). Firstly, I think that Bowers's proposal is perfectly compatible with mine at its core if we take into consideration the actual status of the Predication Phrase. Predication Phrase is nothing more than an enlarged VP reminiscent of Larson's (1988) nested-VP, given that in [Spec, PrP] the subject of the sentence receives its thematic role. Furthermore, Rijkhoek's proposal is totally incompatible with

the general idea that syntactic positioning reflects the semantics of adverbs. If we follow this path we cannot articulate a uniform proposal to account for the licensing of manner adverbs. In addition to this, I think that the prohibition adopted by Costa does not hold since V, the head of VP, does not bear a semantic role but it assigns semantic roles to argument DPs (which are not allowed to host adjuncts for this reason). So, if this prohibition is eliminated his proposal could be easily reformulated along the lines of my suggestion. Finally, Alexiadou's proposal is also compatible, to some extent, with the "VP-idea". I believe that she is forced to choose [Spec, VoiceP] as the licensing site for "manner" adverbs by the restrictive phrase structure system she assumes, since the [Spec, VP] position is not available. However, I do not see any real motivation for moving the adverb to VoiceP.[24]

In Section 5.2 above, I distinguished between typical and non-typical linear positions for "manner" adverbs in MG. I also stated that typical positions are original positions and non-typical positions are derived positions. I wish to suggest that the typical positioning of these adverbs is accounted for if we assume that they are inserted by Merge in a non-argument specifier of VP, thus reflecting their semantic properties.[25] Moreover, non-typical positioning is accounted for if we assume that "manner" adverbs are moved from their "base" positions (in VP) to some higher functional projection being attracted by some feature. In the sections that follow, I will discuss the analysis for each position separately.

7.1.2 Typical Positions

7.1.2.1 Sentence-final Position

As we saw earlier, sentence-final is a typical position for "manner" adverbs in MG. That is, it does not involve any prosodic effects. The following sentences illustrate the position for both SVO and VSO (see Section 3 of the Appendix for detailed illustration):

(39) (a) O Níkos ksevíδose to kapáki *áneta.*
the-Nikos-NOM unscrewed the-tap-ACC with-ease
"Nikos unscrewed the tap with ease."

(b) O kratúmenos δrapétefse *éfkola.*
the-prisoner-NOM escaped easily
"The prisoner escaped easily."

(c) I María évale ta pjáta sto plindírio *apróθima.*
the-Maria-NOM put the-dishes-ACC in-the-dishwasher reluctantly
"Maria put the dishes in the dishwasher reluctantly."

(40) (a) Ksevíδose o Níkos to kapáki *áneta.*
unscrewed the-Nikos-NOM the-tap-ACC with-ease
"Nikos unscrewed the tap with ease."

(b) δrapétefse o kratúmenos *éfkola.*
escaped the-prisoner-NOM easily
"The prisoner escaped easily."

(c) évale i María ta pjáta sto plindírio *apróθima.*
put the-Maria-NOM the-dishes-ACC in-the-dishwasher reluctantly
"Maria put the dishes in the dishwasher reluctantly."

I would like to claim that the positioning illustrated above corresponds to a single position in the structure. In earlier work I have argued that "manner" adverbs in MG are (base-)generated as adjuncts of VP (cf. Xydopoulos (1991b, 1995a)). Given that traditional adjuncts are understood as non-argument specifiers in Chomsky's (1995b) system, I will assume that "manner" adverbs are inserted by Merge in a non-argument specifier position of VP. Moreover, I suggest that non-argument specifiers can be either to the left or to the right. So, "manner" adverbs are represented as right non-argument specifiers when they appear in sentence-final position illustrated in (39) and (40) above. This suggestion about the right-direction of non-argument specifiers goes against Kayne's (1994) and Chomsky's (1995b) claims; for the reasons I gave in Chapters 3 and 4, following the insights of Brody (1994), Manzini (1994, 1995), and Sportiche (1994). [26]

A strong argument in favour of my claim about right-direction of non-argument specifiers comes from Andrews (1983) (formulated in earlier stages of GB theory and recapitulated by Roberts (1987) and Pesetsky

(1989). Andrews postulates right-adjunction as the structural representation for the sentence-final position of adverbs. In the following sentences more than one adverbial is present in the sentence-final position (Andrews (1983: 695)):

(41) (a) John knocked on the door *intentionally twice.*

(b) John knocked on the door *twice intentionally.*

Both (41a) and (41b) have unambiguous meanings. (41a) means that there have been two instances of intentional knocking while (41b) means that there was one intentional instance of knocking twice. So, in (41a) the adverbial *twice* will have scope over *intentionally* whereas in (41b) *intentionally* will have scope over *twice.*[27] These readings can only be syntactically represented if we assume right-adjunction as in the respective structures below (Andrews (1983: 695)):

(42) (a) John [$_{V'}$ [$_{V'}$ [$_{V'}$ knocked on the door] intentionally] twice]

(b) John [$_{V'}$ [$_{V'}$ [$_{V'}$ knocked on the door] twice] intentionally]

The adverbials can also appear preverbally. In this case, for the interpretation to be that of (41a) it must be that *twice* appears as an adjunct higher than *intentionally.* Similarly, to obtain the interpretation of (41b) *intentionally* must be higher than *twice.* Assuming that adverbials are left-adjuncts in this case, the corresponding structures will be as in (43) below, yielding the intended interpretation:

(43) (a) John [twice [intentionally[knocked on the door]]]

(b) ?John [intentionally [twice [knocked on the door]]]

It follows then that right-adjunction is the correct representation option in order to account for the sentence-final position of adverbials.

On the basis of what I have said so far, I will suggest that when "manner" adverbs appear sentence-finally in MG, they should be taken to occupy a right non-argument specifier position. So, the sentences in (39) and (40) above will have the structures given below:

(44) (a) O Níkos$_i$ ksevíδose$_k$ [$_{VP}$ [$_{VP}$ t$_i$ t$_k$ to kapáki] áneta]
the-Nikos-NOM unscrewed the-tap-ACC with-ease

(b) O kratúmenos$_i$ δrapétefse$_k$ [$_{VP}$ [$_{VP}$ t$_i$ t$_k$] éfkola]
the-prisoner-NOM escaped easily

(c) I María$_i$ évale$_k$ [$_{VP}$ [$_{VP}$ t$_i$ t$_k$ ta pjáta sto plindírio] apróθima]
the-Maria-NOM put the-dishes-ACC in-the-dishwasher reluctantly

(45) (a) ksevíδose$_k$ [$_{VP}$ [$_{VP}$ o Níkos t$_k$ to kapáki] áneta]
unscrewed the-Nikos-NOM the-tap-ACC with-ease

(b) δrapétefse$_k$ [$_{VP}$ [$_{VP}$ o kratúmenos t$_k$] éfkola]
escaped the-prisoner-NOM easily

(c) évale$_k$ [$_{VP}$ [$_{VP}$ i María t$_k$ ta pjáta sto plindírio] apróθima]
put the-Maria-NOM the-dishes-ACC in-the-dishwasher reluctantly

7.1.2.2 Post-verbal Position

The post-verbal position is the second typical position for "manner" adverbs in MG. As we saw earlier, it does not involve any prosodic effects since it can be uttered with neutral intonation. The following examples illustrate this position for both SVO and VSO word-order patterns:

(46) (a) O Níkos ksevíδose *áneta* to kapáki.
the-Nikos-NOM unscrewed with-ease the-tap-ACC
"Nikos unscrewed the tap with ease."

(b) I María évale *apróθima* ta pjáta sto plindírio.
the-Maria-NOM put reluctantly the-dishes-ACC in-the-dishwasher
"Maria put the dishes in the dishwasher reluctantly

(47) (a) ksevíδose *áneta* o Níkos to kapáki.
unscrewed with-ease the-Nikos-NOM the-tap-ACC
"Nikos unscrewed the tap with ease."

(b) évale *apróθima* i María ta pjáta sto plindírio.
put reluctantly the-Maria-NOM the-dishes-ACC in-the-dishwasher
"Maria put the dishes in the dishwasher reluctantly

Following what I said above about representing "manner" adverbs as occupying the non-argument specifier position of VP, I suggest that the postverbal position should be represented as a left non-argument specifier of VP. Consequently, the sentences in (46) and (47) above will have the structures given in (48) and (49) respectively:

(48) (a) O Níkos$_i$ ksevíδose$_k$ [$_{VP}$ *áneta* [$_{VP}$ t_i t_k to kapáki]]
the-Nikos-NOM unscrewed with-ease the-tap-ACC

(b) I María évale [$_{VP}$ *apróθima* [$_{VP}$ t_i t_k ta pjáta sto plindírio]]
the-Maria-NOM put reluctantly the-dishes-ACC in-the-dishwasher

(49) (a) ksevíδose$_k$ [$_{VP}$ *áneta* [$_{VP}$ o Níkos t_k to kapáki]]
unscrewed with-ease the-Nikos-NOM the-tap-ACC

(b) évale$_k$ [$_{VP}$ *apróθima* [$_{VP}$ i María t_k ta pjáta sto plindírio]]
put reluctantly the-Maria-NOM the-dishes-ACC in-the-dishwasher

7.1.3 Non-typical Positions

7.1.3.1 Sentence-initial Position

As we saw earlier, when a "manner" adverb appears in the sentence-initial position it must be followed by a pause in the intonation (i.e. a typical position). The following examples illustrate this position:

(50) (a) *Áneta* *(,) o Níkos ksevíδose to kapáki.
with-ease the-Nikos-NOM unscrewed the-tap-ACC
"Nikos unscrewed the tap with ease."

(b) *Éfkola* *(,) o kratúmenos δrapétefse.
easily the-prisoner-NOM escaped
"The prisoner esacped easily."

(c) *Apróθima* *(,) i María évale ta pjáta sto plindírio.
reluctantly the-Maria-NOM put the-dishes-ACC in-the-dishwasher
"Maria put the dishes in the dishwasher reluctantly."

I will treat the intonation pause shown in (50) above as an indication of topicalisation. That is, I wish to claim that the "manner" adverbs in the above examples are topicalised. Recall that in Chapters 3 and 4 I assumed that topicalisation is an instance of A-bar movement in the sense of Chomsky (1977) and van Riemsdijk & Williams (1986). Following the same idea, I will take it that here the adverb moves from its original position (in VP) to the [Spec, CP] position attracted by a [+topic] feature in the C head. The structure shown in (51) below exemplifies the derivation for sentence (50b) above (irrelevant details omitted):

(51) $[_{CP}$ éfkola$_i$ $[_{CP}$ $[_{C}$ +top] o kratúmenos δrapétefse ... $[_{VP}$ t_i VP]]]
easily the prisoner escaped

7.1.3.2 Post-subject Position

The post-subject position is the second non-typical position which can be occupied by "manner" adverbs in MG. However, this position is possible only if the subject is followed by an intonation pause and the adverb bears extra stress. The following examples illustrate the post-subject position:

(52) (a) O Níkos *(,) *ÁNETA/ *áneta* ksevíδose to kapáki.
the-Nikos-NOM with ease unscrewed the-tap-ACC
"It was with ease that Nikos unscrewed the tap."

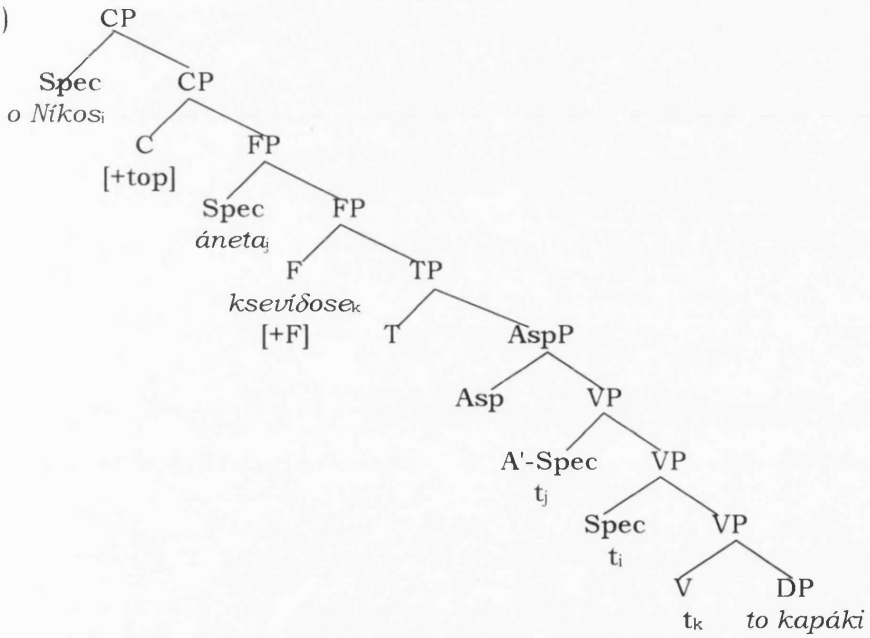
(b) O kratúmenos *(,) *ÉFKOLA/ *éfkola* δrapétefse.
the-prisoner-NOM easily escaped
"It was easily that the prisoner esacped."

(c) I María *(,) *APRÓθIMA/ *apróθima* évale ta pjáta sto plindírio.
the-Maria-NOM reluctantly put the-dishes-ACC in-the-dishwasher
"It was reluctantly that Maria put the dishes in the dishwasher."

Here too, I will assume that the intonation pause after the subject is an indication that the subject is topicalised. In addition to this, following the

discussion in Chapters 3 and 4, I assume that the extra stress on the adverb indicates that it is focused. In the spirit of Choe (1987), Brody (1990) and Tsimpli (1994), I will assume that focusing is an instance of A-bar movement and that the focused adverb moves from its "base"-position (in VP) to the specifier position of a Focus Phrase attracted by a [+ focus] feature in the Focus head. Moreover, given the facts that I provided in Chapter 3 which showed that topics always precede focused elements, I will claim that CP is higher than FP in the structure of the clause. It follows then that the sentences given in (52) above involve two instances of A-bar movement, that is topicalisation of the subject (movement to [Spec, CP]) and focusing of the adverb (movement to [Spec, FP]). The following tree-structure describes the derivation for the sentence in (52a) (MoodP is assumed to exist in the following structure and is omitted for space reasons):

(53)



As indicated, the subject DP has moved to [Spec, CP] attracted by the [+topic] feature in C. In the same vein, the adverb has moved to [Spec, FP] attracted by the [+focus] feature in F. In all cases of focusing, in MG, the verb is linearly adjacent to the focused element. This means that the verb also moves to F for feature checking, following the focused element.

7.1.3.3 Subject-orientation in M.Greek Revisited

In Section 3, I discussed several issues concerning those "manner" adverbs that are interpreted as oriented towards the subject of the sentence. Among them was the issue of the exact position that the adverb must have in order to yield the subject-oriented reading. As I said there, MG has two positions where the adverb can be interpreted this way, the sentence-initial and the post-subject position. The examples in (14) (repeated below for convenience) illustrate these positions:

(54) (a) *Evjenikά*, o Níkos éδjokse ton peláti.
politely the-Nikos-NOM sent-away the-customer-ACC
"Politely, Nikos sent away the customer."

(b) O Níkos, *EVJENIKA* édjokse ton peláti.
the-Nikos-NOM politely sent-away the customer
"It was politely that Nikos sent away the customer".

Notice from these examples, that actually the positions where the adverb has (unambiguous) subject-oriented meaning are the positions which involve prosodic effects, i.e. the non-typical positions. In any other position an adverb like *evjenikά* (politely) has rather a "manner" reading; this is the case with the typical positions I distinguished in Section 5 above. The actual positions for the "manner" reading were exemplified by the examples in (15) (repeated in (55) below for convenience):

(55) (a) O Níkos éδjokse *evjenikά* ton peláti.
the-Nikos-NOM sent-away politely the customer
"It was politely that Nikos sent away the customer".

(b) O Níkos éδjokse ton peláti *evjenikά*.
the-Nikos-NOM sent-away the customer politely
"It was politely that Nikos sent away the customer".

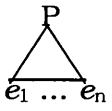
As I said in Section 4 above, adverbs like *evjenikά* (politely) are able to describe a subject's property (i.e. to be subject-oriented) thanks to their inherent lexical meaning which makes them compatible with a [+human] (or

[+animate]) subject. Certainly, the so-called subject-oriented reading is most favored when the adverb is in high rather than in low structural positions. However, I believe that the adverb, in these positions, is not necessarily related to the subject via some kind of thematic or structural relation (e.g. coindexation or m-command) as suggested by Zubizarreta (1987), Roberts (1987), Sportiche (1988), Travis (1988), and Laenzlinger (1993). In my opinion, the whole phenomenon is less complicated than it appears to be and follows from the correlation of two basic facts about these adverbs. The first is the inherent meaning of these adverbs, that we saw earlier, and the second is the importance of the distinction between narrow and wide scope which is put forward by Pustejovsky (1992). I would like to view the phenomenon of subject-orientation in MG in these terms.

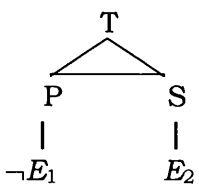
As we saw in Section 3.2, subject-orientation is considered, by and large, to be the result of the structural position that an (appropriate) adverb occupies, with respect to the subject (or agent) of the sentence. Pustejovsky (1992) views this phenomenon in different terms, that is, as an instance of different scope assignment. He proposes a theory of lexical semantics to account for the structure of events. He recognises three different event types to which he attributes different structural representations, conflating Vendler's (1967) aspectual classes. These types have the structures as illustrated in (56) below:

(56) (a) **State:** *love, know...*

(b) **Process:** *run, push...*



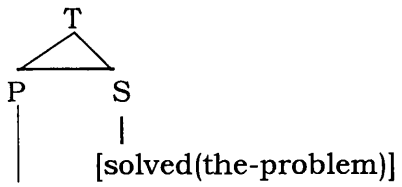
(c) **Transition:** *give, build...*
Accomplishment *or*
Achievement



Let us take the accomplishment *solve the problem* as an example, in the sentence given in (57a). It will have the event structure shown in (57b):

(57) (a) John solved the problem

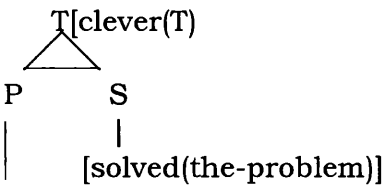
(b)



[act(j, the-problem) & ¬[solved(the problem]

The structure in (57b) represents the accomplishment *solve the problem* as a transition T from a process P to a state S. More specifically, it is a transition from the process "*of John acting on the problem & a non-solved problem*" to the state "*of a solved problem*". Furthermore, if we add the subject-oriented/manner adverb *cleverly* to sentence (57a) we will get different meanings depending on the positioning. According to Pustejovsky, when the adverb is in the sentence-initial and the post-subject position it will have an event reading (replacing the subject-oriented reading in Jackendoff's terms), since the adverb will take wide scope with respect to the whole transition. If we place the adverb sentence-finally we will get the process reading (or manner reading in Jackendoff's terms) since the adverb will take narrow scope with respect to the process. The structures in (58) illustrate the difference:

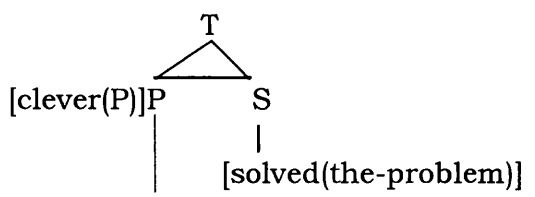
(58) (a)



WIDE SCOPE

[act(j, the-problem) & ¬[solved(the problem)]

(b)



NARROW SCOPE

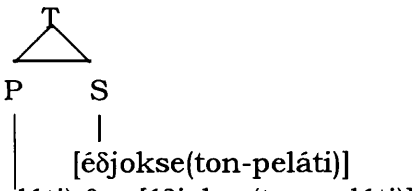
[act(j, the-problem) & ¬[solved(the problem)]

Pustejovsky's theory captures the fact that, in any case, an event adverb will occupy a higher structural position than a process adverb. Hence, so-called subject-orientation is viewed as a matter of wide *vs* narrow scope and not as a matter having to do with the structural relation of the adverb to the subject of the sentence. It follows that subject-oriented adverbs will have wide scope with respect to the predicate and an eventive interpretation. Likewise, ordinary manner adverbs will have narrow scope with respect to the predicate and a manner/process interpretation.

Consider again the sentences in (54) and (55) above. The verb *éδjokse* (sent away) describes a transition (achievement) in Pustejovsky's terms. The structure of this event is given below:

(59) (a) O Níkos éδjokse ton peláti.
the Nikos sent-away the customer

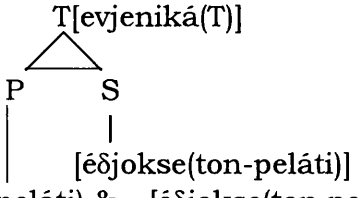
(b)



[act(Níkos, ton-peláti) & ¬[éδjokse(ton peláti)]

In the structure in (59b) the event *éδjokse ton peláti* (sent-away the customer) is represented as the transition T from the process P "*of Nikos acting on the customer & a non sent-away customer*" to the state S "*of a sent-away customer*". The adverb *evjeniká* (politely) in the sentences in (54) above obtains an event reading as it takes wide scope over the whole event (i.e. T). This is shown by the schema below:

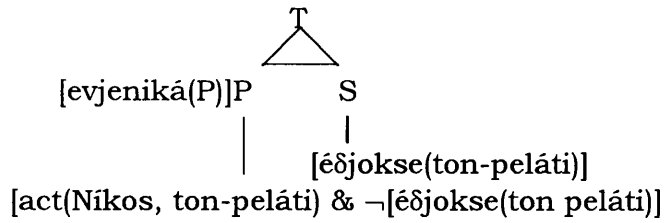
(60)



[act(Níkos, ton-peláti) & ¬[éδjokse(ton peláti)]

I will assume that the scope relations schematised above are syntactically realised by the adverb *evjenikά* (politely) appearing either at the front of the sentence or after the subject (cf. (54)), thus taking scope over the whole event projection (all parts of the inflectional complex). As we saw above, the adverb appears in these positions after being moved there for independent reasons (i.e. topicalisation and focusing respectively). So, the topicalisation and focusing operations on a "manner" adverb in MG have the (side) effect of the adverb taking wide scope over the event and yielding an eventive interpretation (or subject-orientation for adverbs like *evjenikά* (politely)). Likewise, "manner" interpretation is the result of the adverb taking narrow scope with respect to the process of the transition. The sentences given in (55) will have the event structure shown by the schema below:

(61)



So, the narrow scope assignment schematised above is syntactically realised by the adverb appearing either after the verb or sentence-finally and thus taking scope with respect to the process projection (i.e. the projection of the verb).

7.2 Licensing Mechanism

In this section, I will propose a mechanism that will account for the syntactic licensing of "manner" adverbs in MG, in view of the facts I have discussed so far.

I will follow the insights of Higginbotham (1985, 1994), Roberts (1987), Rochette (1990), and Manzini (1995) and claim that "manner" adverbs have the status of predicates, to this extent, I disagree with

Zubizarreta (1987), Sportiche (1988) and Rijkhoek (1994) who do not apply any restriction as to the exact position of "manner" adverbs. For this reason alone their proposals are not sufficient for the licensing of adverbs. Furthermore, I disagree with Laenzlinger (1993) who proposed that adverbs are operators licensed by an *Adv*-criterion on the basis of feature checking. I do not think that "manner" adverbs possess any features that can be submitted to an operation such as feature checking. The checking mechanism, in its present status (cf. Chomsky (1995b)), is there to evaluate features with morphological or phonetic reflex. Adverb features (like [manner], [temporal] etc.) are completely different from features like [+negation], [+wh], [+Case], or [+topic] in that they do not have a morphological (or phonetic) realisation; if they really exist, they just encode the semantic type of a particular adverb. For the same reasons, my claim is opposed to the proposal by Alexiadou (1994) who also subscribes to the feature checking hypothesis for the licensing of "manner" adverbs.

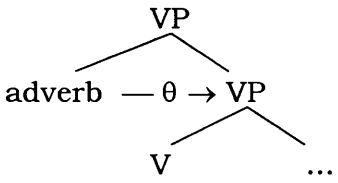
"Manner" adverbs appear to fail in the diagnostics for syntactic/grammatical categories postulated by Jackendoff (1977) and Stowell (1981) mainly because they are unable to take complements. On the basis of this fact, Travis (1988) assumes that adverbs are defective heads in the syntax and so they are unable to project in X-bar theory terms. I would like to disagree with Travis (1988) and assume that adverbs are able to project the full phrasal category AdvP, as is the case with ordinary syntactic categories. Their inability to take complements, or their ability to take specifiers, cannot be suggestive of their categorial status, in my opinion.

On the basis of Higginbotham's (1985, 1994), Roberts's (1987), and Rochette's (1990) proposals, I will further suggest that "manner" adverbs, being predicates, also have selectional properties. More specifically, I will assume that they are one-place predicates selecting a VP as their argument by assigning a theta-role to it.[28] As we saw in Section 7.1.2 above, the syntactic realisation of this selection is the adverb's appearing as the non-argument specifier of VP. Notice that this type of realisation is compatible

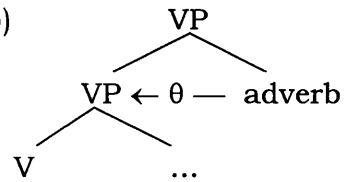
with both the R-modification Principle of Roberts (1987) and the Adjunct Projection Principle of Sportiche (1988) which require that the adverb must be adjacent to the phrase it modifies. Nevertheless, I will not adopt these principles here as they are unnecessary and incompatible with the minimalist programme. I will simply assume that a "manner" adverb is picked up by the numeration and is inserted by Merge in the structure by projecting the non-argument specifier position of VP. This part of the insertion operation satisfies the selectional properties of the "manner" adverb.

Following Sportiche (1994), I will assume that "manner" adverbs share the unique ability of adverbials, in general, to take their complements in a non-directional fashion, unlike verbs or adjectives (cf. Bowers (1993) for a similar proposal). This property offers them two options. First, they can assign their theta-role in the right direction, taking the VP as their "complement", thus appearing as the left non-argument specifier of VP. Second, they can assign their theta-role in the left direction, taking the VP as their "specifier", thus appearing as the right non-argument specifier of VP:

(62) (a)



(b)



The non-directional property of adverbial complementation, I believe, offers a satisfactory explanation for the question of how adverbs appear either to the left or to the right of a phrase. In addition to this, it avoids both the unwanted complications resulting from the analyses in Kayne's (1994) terms

for which see Manzini (1995), and *ad hoc* mechanisms such as the one suggested by Keyser (1968) about the free distribution of adverbials.

8. Conclusions

In this chapter I have discussed the syntax of "manner" adverbs in MG. In Section 2, I considered their lexical and syntactic properties. In Section 3, I examined the phenomenon of subject-orientation and I suggested that it is dependent on some inherent property of the relevant adverbs. In Section 4, I argued that there is no syntactic operation of adverb incorporation in MG and that the particular cases should be treated as involving some lexical operation. In Section 5, I considered the distribution of "manner" adverbs in MG and I observed that their positioning is either typical (with neutral intonation) or non-typical (with phonological effects). In Section 6, I gave a brief review of existing theories of adverbs. In Section 7, I proposed that "manner" adverbs appear as (left or right) non-argument specifiers of VP, accounting for their typical positioning. In their non-typical positioning, "manner" adverbs are either topicalised or focused, thus accounting for the prosodic effects involved. Moreover, I suggested that "manner" adverbs are licensed in virtue of the fact that they are predicates which (non-directionally) select a VP and assign to it a type of thematic role. Finally, I claimed that adverbs with a subject-oriented interpretation combine their inherent lexical properties (compatible with a "human" or "animate" agent) with wide scope over the whole sentence.

Endnotes

1 Notice that there are "manner" adverbs which do not end in *-ly*, for instance, the adverb *hard* in English.

2 See Nacas (1987) for further classifications of "manner" adverbs in MG, on semantic grounds.

3 To avoid confusion as to the structural representation of these adverbs (cf. Laenzlinger (1993)) I will not use the term "VP-adverbs".

4 Notice that these properties are not unique to "manner" adverbs as they may be shared by other semantic classes.

5 These suffixes appear to come (etymologically) from comparison particles meaning *similar to* (e.g. English from *like* or MG from *os*). However, there are some adverbs that do not end in *-ly* in English, or *-a* in MG, even though in the latter case they may be derived from an adjective: e.g. Adj: *pol-ís/-í/-í* --> Adv: *pol-í* (**pol-á*)).

6 Notice that in orthographical terms the masculine adjective ending in *-ós* is written with an *ómikron* (-ός) while the adverb ending in *-ós* is written with an *oméga* (-ώς).

7 In some languages, adverbs seem to bear agreement as reported by Zagona (1990) about Spanish:

(i) jugaron al tenis descalzos
played-3P of tennis barefoot-3P
"They played tennis barefoot"

This phenomenon is also found in MG as shown by the exact translation of (i):

(ii) épezan ténis ksipóliti
played-3P tennis barefoot-3P
"They were playing tennis barefoot"

However, there is no adverb deriving from the adjective *barefoot* that could be used in (ii) and mean *in a barefoot manner* (!). The question is, therefore, whether these lexical items are real adverbs or adjectives with adverbial function; I will favour the latter solution. Nevertheless, notice that "manner" adverbs share the same morphology as adjectives in the formation of comparatives and superlatives.

8 There are cases where verbs like *word, dress, last* etc. subcategorise for an adverbial expression (adverb or PP).

9 To be accurate, the adverb *cleverly* in this position is interpreted as describing a property of the subject.

10 Note that the adverb *clumsily* could also be separated by a comma signalling a pause intonation. In this case it is interpreted as a speaker-oriented adverb expressing the opinion of the speaker towards the situation described.

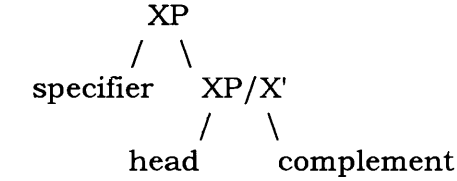
11 In order for the adverb to appear after the subject in MG it must be associated with a special intonational contour; I discuss this in Section 7.

12 However, it cannot mean that politeness is a permanent feature of Nikos's character.

13 There are native speakers who feel that in these positions the adverb orientation is ambiguous; it has both subject- and agent-orientation since both the grammatical and the logical subject are within its scope.

14 Laenzlinger assumes a phrase-structure model following Kayne's (1994) theory. However, he assumes that there are two types of specifiers, A- and A-bar specifiers. The former are occupied by arguments while the latter are occupied by (traditional) adjuncts, while adjunction does not exist. Furthermore, Laenzlinger argues that adverbs are licensed in the syntax by satisfying two independent conditions, first the Predication Principle (the predicative adverb m-commands its argument(s)), and second the *Adv*-Criterion (i.e. the semantic features of the adverb and of a head must agree (under spec-head).

15 Throughout this chapter, the terms "specifier" and "complement" should be understood in terms of an X-bar structure of the type illustrated below:

(i)


16 Notice that Travis (1988) assumes that adverbs are defective categories; they are heads unable to project.

17 Notice that these forms display all the morphophonological and syntactic properties of compounds. First, they have only one stress (borne by the verb):

(i)	mas'ao arγ'a (2 stresses)	→	arγomas'o (1 stess)
	chew-1S slowly		slowly-chew-1S

Second, they display vowel change (i.e. the final vowel *-a* of adverbs is changed to *-o*):

(ii) jenó δískola → δískol**a**+jenó → δiskol**o**jenó
give-birth-1S with difficulty with-difficulty-give-birth-1S

Third, the adverb which takes part in the compound cannot be modified by another adverb:

(iii) masáo polí arγá → *polí arγomasó
chew-1S slowly slowly-chew-1S

18 According to my and other native speakers intuitions this is completely ungrammatical in MG (cf. 35b)).

19 According to Keyser (1968), in languages like Latin, where the internal argument of the verb appears to have free positioning, these elements are also marked [+transportable].

20 All verbs, regardless of their aspectual type, are assumed to contain an event (*e*) position in their thematic grids. The *e*-position corresponds to "situations" and is bound by an existential quantifier.

21 This type of θ-marking is called *autonymous* and is characteristic of modification. It is different from the ordinary type in that the θ-marked expression is the value and not the θ-marker. Identification here means θ-identification in Higginbotham's terms. This is a mode of thematic discharge whereby the thematic positions of the modified element and the modifier are identified. So, in a modification compound *Fx* & *Gx* is formed by conjoining *Fx* and *Gx* and then identifying *y* and *x*.

22 Predication (Pr) is assumed to be a functional head. Its *raison d' être* is the predication between the specifier and its complement. Pr selects a predicate-XP (e.g. a VP) as its complement and its specifier position is assumed to be the "D-structure" position of the external argument of the predicate (see also Chomsky (1965) for postulating such a phrasal category).

23 Notice that Chomsky (1986b) prohibits adverbials from being structurally related (e.g. adjoined) to maximal projections that are arguments, so (argument) DPs are excluded by definition.

24 Apart from the fact that VoiceP is not genuinely motivated in minimalist terms, the adverb has no morphological requirements similar to those of arguments or verbs, so movement for feature checking cannot be postulated. In addition to this, there is no motivation for A'-movement either since the adverb is neither topicalised or focused, when in [Spec, VoiceP].

25 Chomsky (1986a, 1995a) also claims that adverbials are "base-generated" in their positions as movement is not motivated. However, Chomsky (1995a) suggests that an adverb can be generated in the lower

Specifier of a nested VP structure *à la* Larson (1988). I believe that this option is not available. In the Larsonian structure the specifier position of the embedded VP is where the direct internal argument of the verb receives its θ-role. This is clear if we consider the ditransitive sentence in (ia) below which is assigned the structure in (ib) (example from Larson):

(i) (a) John sent a letter to Mary.

(b) ... [$_{VP}$ [$_{NP}$John] [$_{V'}$ [$_{V}$ sent$_i$] [$_{VP}$ [$_{NP}$ a letter] [$_{V'}$ [$_{V}$ t$_i$] [$_{PP}$ to Mary]]]]]

26 Interestingly, Laenzlinger (1993) who works in Kayne's (1994) framework is in favour of right-adjunction and proposes an alteration to the LCA algorithm that accommodates rightward specifiers within Kayne's system. More specifically, he argues that a phrase can have both A'-specifiers (for non-arguments) and A-specifiers (for arguments). A-specifiers should only be to the left but A'-specifiers should be allowed either to the left or to the right. This is calculated by assuming that a pair of terminal nodes <*w*,*y*> (*w* an adverbial and *y* a head) can be taken to mean either *w* precedes *y* or *y* precedes *w*. In the former case we have a left specifier and in the latter case we have a right specifier. Whether or not Laenzlinger is correct, his proposal suggests that the restrictions on right-adjunction in Kayne's system need to be reviewed.

27 Notice that Andrews assumes that both *intentionally* and *twice* are VP-adverbials. In Chapter 4, I argued that *twice* is an aspectual adverbial, at least in MG, and so it should be represented as being an AspP-adverbial. For the sake of the argument I will assume that Andrews is correct.

28 This might be taken to mean that these adverbs select an "action" (in Rochette's terms) which is syntactically realised as a VP.

APPENDIX

This appendix contains data from Modern Greek which illustrate in detail the positioning of the adverbials discussed in this thesis (though excluding parentheticals or afterthoughts). It is divided into four sections: Section 1 contains examples with temporal adverbials; Section 2 contains examples with aspect-sensitive adverbials; Section 3 contains examples with manner adverbs; and finally, Section 4 contains examples of combinations with all three types of adverbials.

1. Temporal Adverbials

1.1 Distribution with SVO Order

(1) (a) O Níkos éδose ta leftá ston Spíro *xθes.*
the-Nikos-NOM PAST-give-3S the-money-ACC to-the Spiros yesterday
"Nikos gave the money to Spiros yesterday."

(b) O Níkos éδose *xθes* ta leftá ston Spíro.
the-Nikos-NOM PAST-give-3S yesterday the-money-ACC to-the Spiros
"Nikos gave the money to Spiros yesterday."

(c) O Níkos, *XθES* éδose ta leftá ston Spíro.
the-Nikos-NOM yesterday PAST-give-3S the-money-ACC to-the Spiros
"It was yesterday that Nikos gave the money to Spiros."

(d) *Xθes*, o Níkos éδose ta leftá ston Spíro.
yesterday the-Nikos-NOM PAST-give-3S the-money-ACC to-the Spiros
"Yesterday, Nikos gave the money to Spiros."

1.2 Distribution with VSO Order

(2) (a) éδose o Níkos ta leftá ston Spíro *xθes.*
gave-3S the-Nikos-NOM the-money-ACC to-the Spiros yesterday
"Nikos gave Spiros the money yesterday."

(b) éδose *xθes* o Níkos ta leftá ston Spíro.
gave-3S yesterday the-Nikos-NOM the-money-ACC to-the Spiros
"Nikos gave Spiros the money yesterday."

(c) *XθES* éδose o Níkos ta leftá ston Spíro.
yesterday gave-3S the-Nikos-NOM the-money-ACC to-the Spiros
"It was yesterday that Nikos gave Spiros the money."

(d) *Xθes*, éδose o Níkos ta leftá ston Spíro.
yesterday gave-3S the-Nikos-NOM the-money-ACC to-the Spiros
"Yesterday, Nikos gave Spiros the money."

1.3 Distribution with SOV Order

(3) (a) O Níkos ta leftá ta éδose ston Spíro *xθes*.
the-Nikos-NOM the-money-ACC them-ACC gave-3S to-the Spiros yesterday
"Nikos gave Spiros the money yesterday."

(b) O Níkos ta leftá ta éδose *xθes* ston Spíro.
the-Nikos-NOM the-money-ACC them-ACC gave-3S yesterday to-the Spiros
"Nikos gave Spiros the money yesterday."

(c) O Níkos ta leftá *xθes* ta éδose ston Spíro.
the-Nikos-NOM the-money-ACC yesterday them-ACC gave-3S to-the Spiros
"Nikos gave Spiros the money yesterday."

(d) O Níkos ta leftá *XθES* ta éδose ston Spíro.
the-Nikos-NOM the-money-ACC yesterday them-ACC gave-3S to-the Spiros
"It was yesterday that Nikos gave the money to Spiros."

(e) Xθes, o Níkos ta leftá ta éδose ston Spíro.
yesterday the-Nikos-NOM the-money-ACC them-ACC gave-3S to-the Spiros
"Yesterday, Nikos gave Spiros the money."

1.4 Distribution with VOS Order

(4) (a) éδose ta leftá ston Spíro *xθes* o Níkos.
gave-3S the-money-ACC to-the Spiros yesterday the-Nikos-NOM
"Nikos gave Spiros the money yesterday."

(b) éδose *xθes* ta leftá ston Spíro o Níkos.
gave-3S yesterday the-money-ACC to-the Spiros the-Nikos-NOM
"Nikos gave Spiros the money yesterday."

(c) *XθES* éδose ta leftá ston Spíro o Níkos.
yesterday gave-3S the-money-ACC to-the Spiros the-Nikos-NOM
"It was yesterday that Nikos gave the money to Spiros."

1.5 Distribution with OVS Order

(5) (a) ta leftá ta éδose o Níkos ston Spíro *xθes.*
the-money-ACC them-ACC gave-3S the-Nikos-NOM to-the Spiros yesterday
"Nikos gave Spiros the money yesterday."

(b) ta leftá *XθES* ta éδose o Níkos ston Spíro.
the-money-ACC yesterday them-ACC gave-3S the-Nikos-NOM to-the Spiros
"It was yesterday that Nikos gave Spiros the money."

1.6 Distribution with OSV Order

(6) (a) ta leftá o Níkos ta éδose ston Spíro *xθes.*
the-money-ACC the-Nikos-NOM them-ACC gave-3S to-the Spiros yesterday
"Nikos gave Spiros the money yesterday."

(b) ta leftá o Níkos *XθES* ta éδose ston Spíro.
the-money-ACC the-Nikos-NOM yesterday them-ACC gave-3S to-the Spiros
"It was yesterday that Nikos the money to Spiros."

2. Aspect-sensitive Adverbials

2.1 Distribution with SVO Order

(7) (a) I María épine bíra *sinίθos.*
the-Maria-NOM drank-IMPERF beer usually
"Maria usually drank beer".

(b) I María épine *sinίθos* bíra.
the-Maria-NOM drank-IMPERF usually beer
"Maria usually drank beer".

(c) I María, *SINIθOS* épine bíra.
the-Maria-NOM usually drank-IMPERF beer
"Maria usually drank beer".

(d) *Sinίθos*, i María épine bíra.
usually the-Maria-NOM drank-IMPERF beer
"Maria usually drank beer."

2.2 Distribution with VSO Order

(8) (a) épine i María bíra *siníθos*.
drank-IMPERF the-Maria-NOM beer usually
"Maria usually drank beer."

(b) épine i María *siníθos* bíra.
drank-IMPERF the-Maria-NOM beer usually
"Maria usually drank beer."

(c) *SINIθOS* épine i María bíra.
drank-IMPERF the-Maria-NOM beer usually
"It was usual that Maria drank beer."

(d) *Siníθos*, épine i María bíra.
usually drank-IMPERF the-Maria-NOM beer
"Usually, Maria drank beer."

2.3 Distribution with SOV Order

(9) (a) i María ti bíra tin épine *siníθos*.
the-Maria-NOM the-beer-ACC it-ACC drank-IMP usually
"Maria drank usually beer."

(b) i María ti bíra *SINIθOS* tin épine.
the-Maria-NOM the-beer-ACC usually it-ACC drank-IMP
"It was usual that Maria drank beer."

(c) *Siníθos*, i María ti bíra tin épine.
usually the-Maria-NOM the-beer-ACC it-ACC drank-IMP
"Usually, Maria drank beer."

2.4 Distribution with VOS Order

(10) (a) épine bíra *siníθos* i María.
drank-IMP beer-ACC usually the-Maria-NOM
"Maria drank usually beer."

(b) *SINIθOS* épine bíra i María.
usually drank-IMP beer-ACC the-Maria-NOM
"It was usual that Maria drank beer."

2.5 Distribution with OVS Order

(11) (a) ti bíra tin épine i María *siníθos.*
the-beer-ACC it-ACC drank-IMP the-Maria-NOM usually
"Mary drank usually beer."

(b) ti bíra *SINIθOS* tin épine i María.
the-beer-ACC usually it-ACC drank-IMP the-Maria-NOM
"It was usual that Maria drank beer."

2.6 Distribution with OSV Order

(12) (a) ti bíra i María tin épine *siníθos.*
the-beer-ACC the-Maria-NOM it-ACC drank-IMP usually
"Mary drank usually beer."

(b) ti bíra i María *SINIθOS* tin épine.
the-beer-ACC the-Maria-NOM usually it-ACC drank-IMP
"It was usual that Maria drank beer."

3. Manner Adverbs

3.1 Distribution with SVO Order

(13) (a) O Jánis éfaje to mílo *prosektiká.*
the-Yanis-NOM ate-3S the-apple-ACC carefully
"Yanis ate the apple carefully."

(b) O Jánis éfaje *prosektiká* to mílo.
the-Yanis-NOM ate-3S carefully the-apple-ACC
"Yanis ate the apple carefully."

(c) O Jánis, *PROSEKTIKA* éfaje to mílo.
the-Yanis-NOM carefully ate-3S the-apple-ACC
"It was carefully that Yanis ate the apple."

(d) *Prosektiká*, o Jánis éfaje to mílo.
carefully the-Yanis-NOM ate-3S the-apple-ACC
Carefully, Yanis ate the apple."

3.2 Distribution with VSO Order

(14) (a) éfaje o Jánis to mílo *prosektiká.*
ate-3S the-Yanis-NOM the-apple-ACC carefully
"Yanis ate the apple carefully."

(b) éfaje o Jánis *prosektiká* to mílo.
ate-3S the-Yanis-NOM carefully the-apple-ACC
"Yanis ate the apple carefully."

(c) *PROSEKTIKA* éfaje o Jánis to mílo.
carefully ate-3S the-Yanis-NOM the-apple-ACC
"It was carefully that Yanis ate the apple."

(d) *Prosektiká*, éfaje o Jánis to mílo.
carefully ate-3S the-Yanis-NOM the apple-ACC
"Carefully, Yanis ate the apple."

3.3 Distribution with SOV Order

(15) (a) O Jánis to mílo to éfaje *prosektiká.*
the-Yanis-NOM the-apple-ACC it-ACC ate-3S carefully
"Yanis ate the apple carefully.

(b) O Jánis to mílo *PROSEKTIKA* to éfaje.
the-Yanis-NOM the-apple-ACC it-ACC carefully it-ACC ate-3S
"It was carefully that Yanis ate the apple."

3.4 Distribution with VOS Order

(16) (a) éfaje to mílo *prosektiká* o Jánis.
ate-3S the-apple-ACC carefully the-Yanis-NOM
"Yanis ate the apple carefully."

(b) éfaje *prosektiká* to mílo o Jánis.
ate-3S carefully the-apple-ACC the-Yanis-NOM
"Yanis ate the apple carefully."

(c) *PROSEKTIKA* éfaje to mílo o Jánis.
carefully ate-3S the-apple-ACC the-Yanis-NOM
"It was carefully that Yanis ate the apple."

3.5 Distribution with OVS Order

(17) (a) to mílo to éfaje o Jánis *prosektiká.*
the-apple-ACC it-ACC ate-3S the-Yanis-NOM carefully
"Yanis ate the apple carefully."

(b) to mílo *PROSEKTIKA* to éfaje o Jánis
the-apple-ACC carefully it-ACC ate-3S the-Yanis-NOM
"It was carefully that Yanis ate the apple."

3.6 Distribution with OSV Order

(18) (a) to mílo o Jánis to éfaje *prosektiká.*
the-apple-ACC the-Yanis-NOM it-ACC ate-3S carefully
"Yanis ate the apple carefully."

(b) to mílo o Jánis *PROSEKTIKA* to éfaje.
the-apple-ACC the-Yanis-NOM carefully it-ACC ate-3S
"It was carefully that Yanis ate the apple."

4. Combinations of Adverbials

4.1 Aspectual and Temporal Adverbials

(19) (a) O Anδréas aγórase *pérsi δjó forés* kenúrjo mixanáki.
the-Andreas-NOM bought-PERF last year twice new motorbike
"Last year Andreas bought a new motorbike twice."

(b) O Anδréas aγórase *pérsi* kenúrjo mixanáki *δjó forés.*
the-Andreas-NOM bought-PERF last year new motorbike twice
"Last year Andreas bought a new motorbike twice."

(c) O Anδréas aγórase kenúrjo mixanáki *δjó forés pérsi.*
the-Andreas-NOM bought-PERF new motorbike twice last year
"Last year Andreas bought a new motorbike twice."

(d) O Anδréas aγórase *δjó forés* kenúrjo mixanáki *pérsi.*
the-Andreas-NOM bought-PERF twice new motorbike last year
"Last year Andreas bought a new motorbike twice."

(e) *Pérsi*, o Anδréas aγórase *δjó forés* kenúrjo mixanáki.
last year the-Andreas-NOM bought-PERF twice new motorbike
"Last year, Andreas bought a new motorbike twice".

(f) *Pérsi*, o Anδréas aγórase kenúrjo mixanáki *δjó forés*.
last year the-Andreas-NOM bought-PERF new motorbike twice
"Last year, Andreas bought a new motorbike twice".

(g) O Anδréas, *PERSI* aγórase *δjó forés* kenúrjo mixanáki.
the-Andreas-NOM last year bought-PERF twice new motorbike
"It was last year that Andreas bought a new motorbike twice".

(h) O Anδréas, *PERSI* aγórase kenúrjo mixanáki *δjó forés*.
the-Andreas-NOM last year bought-PERF new motorbike twice
"It was last year that Andreas bought a new motorbike twice".

(i) *Djó forés*, o Anδréas aγórase *pérsi* kenúrjo mixanáki.
twice the-Andreas-NOM bought-PERF last year new motorbike
"Andreas twice bought a new motorbike last year."

(j) *Djó forés*, o Anδréas aγórase kenúrjo mixanáki *pérsi*.
twice the-Andreas-NOM bought-PERF last year new motorbike
"Andreas twice bought a new motorbike last year."

(k) O Anδréas, *DJO FORES* aγórase *pérsi* kenúrjo mixanáki.
the-Andreas-NOM twice bought-PERF last year new motorbike
"It was twice that Andreas bought a new motorbike last year."

(l) O Anδréas, *DJO FORES* aγórase kenúrjo mixanáki *pérsi*.
the-Andreas-NOM twice bought-PERF new motorbike last year
"It was twice that Andreas bought a new motorbike last year".

4.2 Aspectual and Manner Adverbials

(20) (a) O maθitís élise *mjá forá sostá* tin eksísosi.
the-student-NOM solved-PERF once correctly the-equation-ACC
"The student once solved the equation correctly".

(b) O maθitís élise *mjá forá* tin eksísosi *sostá*.
the-student-NOM solved-PERF once the-equation-ACC correctly
"The student once solved the equation correctly".

(c) O maθitís élise *sostá* tin eksísosi *mjá forá*.
the-student-NOM solved-PERF correctly the-equation-ACC once
"The student once solved the equation correctly".

(d) O maθitís élise tin eksísosi *sostá mjá forá*.
the-student-NOM solved-PERF the-equation-ACC correctly once

"The student once solved the equation correctly".

(e) O maθitís, *SOSTA* élise tin eksísosi *mjá forá.*
the-student-NOM correctly solved-PERF the-equation-ACC once
"It was correctly that the student solved the equation once."

(f) O maθitís, *MJA FORA* élise tin eksísosi *sostá.*
the-student-NOM once solved-PERF the-equation-ACC correctly
"It was once that the student solved the equation correctly."

(g) *Sostá,* o maθitís élise tin eksísosi *mjá forá.*
correctly the-student-NOM solved-PERF the-equation-ACC once
"Correctly, the student solved the equation once."

(h) *Mjá forá,* o maθitís élise tin eksísosi *sostá.*
once the-student-NOM solved-PERF the-equation-ACC correctly
"Once, the student solved the equation correctly."

4.3 Temporal and Manner Adverbials

(21) (a) I María épline ta pjáta *próθima símera.*
the-Maria-NOM washed the-dishes-ACC willingly today
"Maria washed the dishes willingly today."

(b) I María épline *símera* ta pjáta *próθima.*
the-Maria-NOM washed today the-dishes-ACC willingly
"Maria washed the dishes willingly today."

(c) I María épline *simera próθima* ta pjáta.
the-Maria-NOM washed today willingly the-dishes-ACC
"Maria washed the dishes willingly today."

(d) I María, *SIMERA* épline ta pjáta *próθima.*
the-Maria-NOM today washed the-dishes-ACC willingly
"It was today that Maria washed the dishes willingly."

(e) *Símera,* i María épline ta pjáta próθima.
today the-Maria-NOM washed the-dishes-ACC willingly
"Today, Maria washed the dishes willingly."

(f) I María, *PROθIMA* épline ta pjáta *símera.*
the-Maria-NOM willingly washed the-dishes-ACC today
"It was willingly that Maria washed the dishes today."

(g) *Próθima,* i María épline ta pjiáta *símera.*
willingly the-Maria-NOM washed the-dishes-ACC today
"Willingly, Maria washed the dishes today."

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