ADVERB INCORPORATION AND THE SYNTAX OF ADVERBS IN MODERN GREEK*

1. **Introduction**

1.1

This paper identifies two syntactic classes of Modern Greek Adverbs: (a) those which are internal to the VP, similar to NP-complements in the syntactic representation, (1a), and may form a complex word with V by the syntactic process known as Incorporation, as in (1b), with the Adverb occurring strictly before the Verb forming a grammatical morphological unit, vs. (b) those external to the VP, (1c), which fail to incorporate, as in the ill-formed (1d), where the Adverb precedes the Verb too, but the complex unit is not viable.

(1)a. I Maria tha to girisi anápoda  
*The Mary will it turn upside + down*

b. I Maria tha to anapodo-  
*The Mary will it upside + down-*

girisi  
*turn*  
Mary will turn it upside down (= (1a-b))

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Special thanks go to Sabine Iatridou for many insightful comments, to Bob Ingria, and to Ken Hale. Portions of this paper were presented to the 1990 Modern Greek Seminar at MIT and I thank the members of that class for a wonderful discussion.

This version has benefitted from the comments of Jan van Voorst and several anonymous reviewers, who may not agree with the answers I provide for the interesting points they raised.

I study Adverb Incorporation from the perspective of Baker’s general theory of Incorporation (1988a). Baker develops his proposals in view of movements which affect grammatical functions exclusively, such as Noun Incorporation (NI) and Preposition Incorporation (PI), and for phrases which have traditionally been considered arguments of the incorporating head. Here, I show that his approach extends easily to Adverb Incorporation (AdvI), even though such process does not change grammatical relations, and the role of Adverbial Phrases as arguments has seldom been recognized, in contrast with the NP-complements focus of much attention in previous studies on Incorporation.

Although the status of Adverbs is unclear in current semantic and syntactic theories of various types, MG AdvI provides syntactic tests and arguments for fine grained distinctions in their formal role of interest to semanticians and syntacticians concerned with the mapping between semantics and syntax.

Adverb ‘compounding’, as a theoretically neutral designation, is very productive in MG, and dictionaries frequently include many possible combinations of the type Adverb + Verb under entries such as ksaná ‘again’, a common Aktionsart incorporator, as seen in Section 2.3: ksana + vlépo ‘see again’. By treating such ‘compounding’ as a subcase of the larger family of constructions including NI, and subject to similar syntactic constraints, my analysis correctly distinguishes between the class of Adverbs that may incorporate and the types that are ungrammatical if incorporated. Briefly, I argue that Adverbs functioning as complements, such as the Manner class, may incorporate into the V as governing head, while Adverbs functioning as predicates or non-complements, such as the Time and Aspect classes, fail to incorporate. Still, MG sentences with incorporated Adverbs (and also Nouns) have the same syntactic properties as their non-incorporated counterparts. As argued in Section 4, compounding – a lexical rather than syntactic operation – has different properties, allowing the combination of non-argument Adverbs such as the Sentential class.

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There are no agreed transcription systems for MG. Here I use a rough phonetic system, but the letters d and g correspond to both fricatives and stops.
From the perspective developed in this paper, MG AdvI mirrors the complement vs. non-complement asymmetry of NI as Head-movement, which results from the Empty Category Principle in the Government and Binding framework.

If Incorporation can be used as a test for argumenthood in less clear situations than that of the N-head incorporating into a transitive V from the NP-object position, this paper shows that for MG AdvI, interesting distinctions can be made as to the role of Adverbs in relation to different levels of sentential structure. As stated, a clear dichotomy can be established between Adverbs functioning as VP-modifiers internal to the VP, such as the Directional and Manner types (kalá ‘well’), which may incorporate, and those that are external to the VP and fail to incorporate, such as the Time type (tóra ‘now’). More subtle distinctions separate MG Adverbs belonging to the Aspectual type, which are nonincorporators (akómi ‘still’), and those related to the modification of the action expressed by the V or Aktionsart, which may incorporate (sixná ‘often’). Thus, as argued in Section 2.3, MG Aktionsart and Aspect Adverbs must be distinguished morphosyntactically; in the initial syntactic representation or d-structure, the first are complements (or arguments) of the Verb, while the second are not. Since similar distinctions appear in Nahuatl AdvI, as shown in passing, this suggests that the previous properties belong to UG and are not language particular. Therefore, AdvI provides a window into relatively unexplored characteristics of lexical structure.

1.2.

I now review the main formal characteristics of the syntactic process of Incorporation. Baker (1988a) has proposed an interesting treatment of incorporations involving changes in the grammatical function of NPs. Namely, the head of a complement such as NP or PP incorporates into a lexical head such as V, as an instance of Move alpha in syntax. Baker assumed that Incorporation is subject to the Head Movement Constraint (Travis 1984), making a head move to the immediate superior head, and disallowing the Long Head Movement discussed by Lema and Rivero (1989a, b), which bypasses a non Theta-marking functional head intervening in the movement path. Baker and Hale (1990) propose instead that Incorporation is subject to the ECP and Relativized Minimality in the sense of (Rizzi 1989). As a result, an X° must move into the Y° which (properly) governs it, but the derivation need not comply with the strict
locality of the Head Movement Constraint, since an intervening functional head will not block proper government by a lexical head (and see Chomsky (1988), Lema and Rivero (1989a,b), and Roberts (1990) for relevant discussion too).

As an example of Incorporation, consider the Southern Tiwa NI in (2b), which Baker (1988a, p. 77) borrows from Allen, Gardiner, and Frantz (1984). The head *seuan* 'man' of the object NP moves into the subcategorizing V mu 'see' by Move alpha to form a complex unit, as schematically depicted in (3) (order irrelevant). The complex counts as the proper governor for the trace left in the lower head position, in compliance with the ECP. Pattern (2a) is the unincorporated version with N within NP.

(2)a. Seuan-ide ti- mu-ban
   Man- SUF lsS/AO- see-PAST
   I saw the/a man

b. Ti- seuan-mu-ban
   lsS/AO-man- see- PAST
   I saw the/a man

(3)a. $\text{INC}$

Baker does not discuss incorporations where (a) grammatical function is not affected, and (b) selection/subcategorization plays less clear a role, but I argue that a prime case of such situation is represented by the MG patterns in (1) and (4), where (a) has the unincorporated Adverb, and (b) shows incorporation. Similar contrasts are found in Nahuatl, as in (5), which I will compare with MG but will not analyze, suggesting that the parallelism is rooted in UG principles.

I argue that MG AdvI, as in (4), has essentially the properties of (3), as shown in (6). As a consequence, Incorporation applies to Adverbs which in the initial syntactic representation or d-structure occupy positions reserved for traditional arguments of V, that is, to the class McConnell-Ginet (1982) labels *Ad-verbs*, which are dominated by V' in the syntactic
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representation I propose. Also, the MG NI of reflexives in (7), examined in Section 3 together with reciprocal NI, is of type (3) as well. Therefore, MG NI and AdvI are structurally parallel. Also, the two differ in similar ways from compounding, which affects Adverbs and reflexive/reciprocal-like elements as well, as discussed in Section 4.

(4)MG: a. O Yánis den théli polí ti María
   The John not wants much the Mary

   b. O Yánis den polí-théli ti María
   The John not much-wants the Mary

John does not really want Mary

   Really it-know a + lot
   He really knows a lot

   b. Nél- kʷ'alani (Beller and Beller 1979)
   Really- be + mad
   He really gets mad

(6)

(7)a. O Yánis didáski ton eafa to tu
   The John teach + Act + 3s himself

   b. O Yánis afo-didáskete
   The John self-teach + NAct + 3s
   John teaches himself (=6a, b)

The paper is organized as follows. In Section 2, the different syntactic subclasses of MG incorporating Adverbs are examined in detail, and contrasted with the nonincorporating types. Section 3 deals with MG Noun Incorporation, and its relation to Adverb Incorporation, in order to
provide the basis for the argumentation in Section 4 that MG Incorporation is a syntactic process rather than a lexical one. Section 4 closes the paper with the discussion of core differences between N and Adv compounding, a lexical operation, and N and Adv Incorporation, which mirror syntactic properties and are considered syntactic operations, without entering into the field of morpho(phono)logy per se.

2. MG ADVERB INCORPORATION

In this section I identify the syntactic type of MG Adverbs which may incorporate into the V they modify. Namely, incorporating Adverbs correspond to VP modifiers rather than sentence modifiers. Within VP-modifiers, incorporating Adverbs have the properties of complements, rather than non-complements or adjuncts.

2.1. The General Class of Incorporating Adverbs

Sentences such as *Lisa rudely departed* have two interpretations. The Stative reading is roughly equivalent to *It was rude of Lisa to depart* (even though she left acting with extreme politeness). The Manner reading is parallel to *Lisa's actions when departing were rude* (since she left slamming the door loudly). McConnell-Ginet (1982) argues that Adverbs such as *rudely* in the Manner reading (or, in her terms, *Ad-verbs*) are parallel to NP-complements which function as arguments of the predicate designated by the V, restricting the range of events referred to, and should not be formalized in terms of predicate modifiers, but correspond to an additional argument of the Verb. Within the Government and Binding framework (Chomsky 1981 and later work), this semantic approach has a clear syntactic translation. Namely, in the initial syntactic representation or d-structure, VP-internal adverbs (a) correspond to (usually optional) subcategorized complements of V, (b) are licensed by the same principles as complement NPs (for concreteness, Theta-role assignment, as in (Larson 1985) for NPs functioning as Adverbs), and (c) appear as complements
of $V$ forming a $V'$ with it, as in (8), a hypothesis MG incorporation justifies from quite an independent syntactic perspective.\(^1\)

\[(8) \quad [\text{VP} [v, V^0 \text{ AdvP}]]\]

Also, MG Incorporation provides syntactic motivation for the hypothesis that *Ad-verbs* are both (a) VP-internal, and (b) complements, as in (8), rather than VP-internal adjuncts (i.e., non-complements), since such adjuncts fail to incorporate into $X^0$ in structures such as $[X_{\text{max}} [X^* X^0] \text{ AdvP}]$.

As to licensing conditions at LF (Chomsky 1986, p. 101), in this analysis VP-internal Adverbs are licensed as $X_{\text{max}}$, or maximal projections and

\(^1\) Higginbotham (1989) and Pustejovsky (1988) object to McConnell-Ginet's semantic analysis, proposing different treatments for the VP internal/external distinction or the Manner/ Stative dichotomy.

Higginbotham (1989, p. 479) points out that McConnell-Ginet's treatment of the Manner reading licenses the conditional *If Lisa departed in a rude manner, then Lisa departed* as true, and a matter of logical form. However, the factivity of the construction is not equally reflected in her treatment of the Stative reading. He proposes instead that Verbs contain an extra argument place or e(vent)-position (Davidson 1980 (1967), Higginbotham 1985). In the Manner reading, a modifying Adverb takes the Verb as one of its arguments in the semantic relation he labels Theta-marking, within a conjunction of two attributes predicated of a single individual within Theta-identification, as in (i) for *Lisa rudely departed* (Higginbotham 1989, p. 479). In the Stative reading, which I do not show, the Adverb *rudely* takes an extra argument. Thus, these Adverbs are predicates whose different readings depend on the number of arguments they take. For Higginbotham, formulas such as (i) do not necessarily correspond to a specific level of formal representation within the grammar of a natural language such as English.

\[(i) \quad \exists e \{\text{depart} (e, x) \land \text{rude} (e, e' [\text{departo} (e')])\}\]

Pustejovsky objects to the idea that *rudely* should be seen as sometimes a two-argument, sometimes a three-argument predicate. For him, the difference is one of scope, since the semantic structure of *depart* contains a subevental representation separating the action of departing from the resulting state, with the predicate *rude* modifying the first subevent in the Manner reading, (ii.a), and the total event in the Stative reading, (ii.b).

\[(ii)\]

\[(iia)\quad [\tau e \text{ act}(x) \land \text{rude} (e) e \text{ departed} (x)]_{\tau}\]

\[(iib)\quad [\tau e \text{ act}(x) e \text{ departed} (x)]_{\tau} \text{ rude} (T)\]

If a lexical entry such as a Verb includes a Lexical Conceptual Structure, or LCS, and a Lexical Syntactic structure as initial representation of grammatical relations in syntax, or LS (Hale and Keyser 1986), MG Adverb Incorporation motivates the hypothesis that Adverbs which show or can be used with a Manner reading are internal arguments of $V$ at the LS level. In other words, McConnell-Ginet’s proposals for *Ad-verbs* correspond very closely to the LS representation, where $V$ and AdvP must form a $V'$, as in (8), if my proposals are correct. Also, if the mapping between LCS and LS is one-to-one, Incorporation provides syntactic justification for an analysis first proposed on semantic grounds. However, if LCS contains a more complex subeventual structure along the lines of either Higginbotham’s or Pustejovsky’s proposals for concreteness, such a representation must be mapped to a simpler LS where the lexical entry of $V$ corresponds to a single event with AdvP as complement.
arguments (or traces of arguments), not as X°s, or heads (contra Travis 1988, whose proposals I discuss in Section 2.3).

As argued in the next sections, VP-internal Adverbs are potential incorporators in MG, including those counting as obligatory rather than optional arguments of V, which have been viewed as strictly subcategorized items in the previous literature (Jackendoff 1972), such as xazd ‘foolishly’ in xazo + férrno I foolishly + behave ‘I behave foolishly’, as discussed in Section 2.2.

The class McConnell-Ginet considers VP-external adverbs, and those used in the Stative sense (see Section 2.4), treated as sentential operators in a Montagovian sense, cannot incorporate in MG. In terms of LF licensing conditions within GB, this second class may contain predicates, as Rothstein (1983) and Chomsky (1986, p. 101) have suggested, when proposing that Time Adverbials are predicated of INFL. Therefore, classes other than that of Ad-verbs should not incorporate in MG as they identify adverbial expressions external to the VP, and this is a correct prediction. As expected, Time adverbs such as tóra ‘now’, xthés ‘yesterday’, and dávio ‘tomorrow’, referring to deictic points in time, or pânda ‘always’ and poté ‘never’ cannot incorporate in MG, as discussed in Section 2.3. In this paper, non-incorporating classes of Adverbs are alike in a negative sense exclusively: they are not complements of V. However, they may still belong to different types, a topic I will not discuss except when strictly relevant for the incorporating kind. In this respect, VP-external Adverbs may modify inflectional layers encoding Aspect or Tense, and fail to incorporate, even though the MG Verb raises to the affixes for Aspect and Tense by a process of Head-Movement, as discussed in Section 2.3. Thus, I suggest that such Adverbs are likely to be syntactic adjuncts of TP or AspP, rather than syntactic complements. The analysis proposed in this paper is motivated by syntactic and morphological rather than semantic arguments, as the following discussion shows, but it coincides with proposals based on semantic grounds.

Let us first motivate the claim that in (1b) and (4b) the MG Adverb forms a complex word or morphological unit with the Verb it precedes.

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2 Thomason and Stalnaker (1973) identify two major logical classes of Adverbs in English: (a) Sentence Adverbs like necessarily, and (b) Predicate Adverbs like slowly. The distinction appears inadequate from several perspectives (see Heny 1973, discussing early versions of the proposal, and McConnell-Ginet 1982 in particular), but it also correlates with the Adverbs which may incorporate in MG and those that do not. Namely, incorporating Adverbs belong to the equivalent of type (b), such as sigd ‘slowly’ in Section 2.2; for Thomason and Stalnaker this class does not produce substitution failure, so that The mayor of New York walks slowly is a valid inference from John walks slowly and John is the mayor of New York. Subclasses of MG Adverbs corresponding to category (a), such as pithanós ‘possibly, probably’, fail to incorporate.
First, from a phonological perspective in incorporated patterns such as (1b) and (4b), the Adverb always lacks stress. However, it is stressed in unincorporated patterns such as (1a) and (4a), regardless of the position the Adverb, which is quite free in MG sentences. Also, as a reviewer points out, depending on morphophonological conditions, incorporated Adverbs such as anapod- 'upside down' in (1b) may be joined to the Verb they precede by -o-, or the 'union' vowel in compounds such as andro-gino 'man and woman'; this follows from the assumption that words formed by Incorporation are subject to rules of morphophonology, which I do not discuss, in the same sense compounds are.3

More importantly, in MG no syntactic constituent can ever separate a Verb and a pronominal Clitic such as to 'it' in (1b); thus the position of the Adverb anapod- 'upside down' in (1b) indicates that Adverb and Verb form a morphological unit. By contrast, nonincorporating Adverbs such as akómi in (1c) cannot stand between a Clitic and a Verb, as shown by (1e) and the contrast between (9a) and (9b).

Likewise, only Pronominal Clitics can stand between the Modal Particle tha as Future marker in (1) and the Verb, so that the position of the Adverb in (1b) indicates Incorporation from that perspective too. Even though a non-incorporated Adverb may stand after a preverbal subject in MG, it must be located before the Modal particle tha, rather than follow it, as shown for amésos 'immediately' in (9c) (and see (Rivero 1988) for analysis). In conclusion, rigid word order constraints concerning Modal Particles, pronominal Clitics (and also Negation) in MG lead to clear differences between Adverbs which have incorporated into Verbs, and those which have not, which are reinforced by morphophonological aspects.

(9)a. Den se iksera akómi
_Not you knew + 1s yet_
I did not know you yet

b. *Den se akómi iksera

c. Ta pediá amésos tha ksipnisun
_The children immediately will wake + up_
The children will wake up immediately

3 I take the position that morphology is not an autonomous component in the sense that word formation can be either syntactic, via Incorporation, or lexical. However, regardless of their source, words must comply with well-formedness conditions and principles of a morphological nature. In this sense morphology has unique properties not shared by syntax, a topic I do not discuss (and see Grimshaw (1986) and Baker (1988) for relevant discussion).
Within incorporating Adverbs, (a) Manner/Direction, and (b) Aktion-sart modifiers raise interesting issues in relation to (1) crosslinguistic types of Incorporation, (2) the classification of certain phrases with an unclear syntactic or semantic status as arguments of Verbs, (3) and the syntactic location of Adverbs vis-à-vis their semantic type. In the following sections I discuss the properties of these two subclasses from a syntactic point of view, and use them to motivate the different aspects of the solution outlined above. Section 2.2 deals with Manner and Direction, while Section 2.3 establishes the distinction between Aspect and Time Adverbs which cannot incorporate, and Aktionsart Adverbs, which may.

2.2. Manner and Direction

Consider the MG verb *férome* ‘behave’. Like its English counterpart, it subcategorizes obligatorily for an Adverb of Manner in the sense of Chomsky (1965), as seen in (10a) vs. (10b). In this and the following examples Adverbs appear capitalized.

(10)a. I María férete KAKÁ stin adelfi tis
   *The Mary behaves badly to + the sister hers*
   Mary behaves badly to her sister

4 Combining position within the Sentence, and aspects such as Subject/Speaker orientation, Jackendoff identifies a Manner class of English VP-adverbs, such as *well* and *hard*, which are interpreted by attaching their ‘semantic markers to the reading of the verb without changing its functional structure’ (1972, p. 161). This group contains strictly subcategorized Adverbs such as *carefully* in *John worded the letter carefully*. For Bellert (1977), Jackendoff’s Manner class modifies the meaning of the Verb in a way which makes the sentence containing the Adverb imply the corresponding affirmative sentence without it. Thus, the Manner class is similar to predicate Adverbs in Thomason and Stalnaker’s terminology (1973) (i.e., *John walks slowly implies John walks*). Jackendoff’s Speaker and Subject-oriented adverbs, such as *cleverly* and *frankly*, have different properties as to inference and implication. In Jackendoff’s sense, the MG Manner class identifies incorporating items, while other classes such as the Subject-oriented type containing *eksipna*, and *efós* ‘cleverly’ fail to incorporate. Also, when a given Adverb has two uses or belongs to more than one class, it incorporates in its Manner use exclusively, as seen later.

On the basis of syntactic position, Jackendoff excludes English *often* from the Manner class, since it has the same distribution as *fortunately*. However, in terms of truth conditions, frequency Adverbs belong to the Manner/Predicative type, as Bellert (1977) points out. MG Adverbs are free to occur in many positions, so location within S is not a good criterion to establish classifications. However, in Section 2.3 I argue that MG duration and iterative Adverbs are generated within the VP, and modify the inherent aspectual meaning of the verb, or Aktionsart. In this sense, Adverbs such as *sxná* ‘often’, which incorporate, belong to Jackendoff’s Manner class.
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(10)b. *I María férete stin adelfí tís

* Mary behaves to her sister

Also, in the English You better behave! or the parallel MG counterpart, a Manner phrase is implicit rather than absent.

In GB theory (Chomsky 1981), subcategorization is traditionally assumed to presuppose Theta-role assignment, so from this perspective it could be concluded that the Adverb in (10a) is Theta-marked by the V that governs it. However, if Theta-role assignment is not a primitive but a derivative relation, as recent research suggests, the crucial aspect in this situation is that AdvP enters into the same structural relation with V as an NP object with a transitive V, so the Adv-head should be able to incorporate in Baker's sense (1988a), much like Ns incorporate in many languages, including MG, as discussed in Section 3. Example (11) shows incorporation of the Adverb into the Verb, with the same interpretation as (10a).

(11) I María Kakoférete stin adelfí tís

The Mary badly + behaves to + the sister hers

The Manner class contains many productive incorporators in MG. The examples in (12) identify some of the commonly used Adverbs that incorporate. The alternations exemplified for kaká 'badly' in (10a–11) are fully productive for these Adverbs (but see my later comments on the nature of V), and the incorporated version has no idiosyncratic semantic interpretation, but is synonymous with the unincorporated pattern. Also, the list is far from exhaustive, so other Adverbs could be added (an anonymous reviewer suggests that pára ‘excessively’ seems to incorporate fairly freely).

(12)a. argá ‘slowly’
    b. dískola ‘hard’
    c. gorgá ‘fast’
    d. kaká ‘badly’
    e. kalá ‘well’
    f. krifá ‘secretly’
    g. psilá ‘lightly’
    h. sfixtá ‘tightly’
    i. sigá ‘softly’
    j. stravá ‘slanted’

    a’. argomasó ‘(I) chew slowly’
    b’. diskologenó ‘give birth with difficulty’
    c’. gorgopetó ‘fly fast’
    d’. kakologó ‘talk badly’
    e’. kalovelépo ‘see well’
    f’. krifogeló ‘chuckle’
    g’. psilosálizome ‘feel slightly dizzy’
    h’. sfixtangaliázo ‘embrace tightly’
    i’. sigotragudó ‘sing softly’
    j’. stravokitó ‘look sideways’

When Directional Adverbs such as píso ‘backwards’ (or xámo ‘down’,
among others) are considered, as in (13), with (13c) the incorporated version, similar comments apply.

(13)a. O Yánis tha patísí PÍSO

*The John FUT steps back*

John will step back

b. ?O Yánis tha patísí

c. O Yánis tha PISOpatisí

More often, Manner/Directional incorporating Adverbs correspond to optional arguments of V, as in (14) for Manner and (15) for Direction, but the distinction between optional vs implicit is at times unclear. In (15a) a Directional seems implicit, given the meaning of *turn*.

(14)a. To fagitó tha vrásí

*The food FUT boil*

The food will boil

b. To fagitó tha vrásí SIGÁ

The food will boil slowly

c. To fagitó tha SIGOvrásí

(15)a. I María tha to girísí

*The Mary FUT it turn*

Mary will turn it

b. I María tha to girísí ANÁPODA

Mary will turn it upside down

c. I María tha to ANAPODOgirísí

In this paper, I concentrate on incorporating Adverbs exclusively, and do not examine the Vs that allow incorporation, the other side of the coin. However, the study of such Verbs is equally important for theories of lexical structure, the mapping between syntax and semantics, and restrictions on incorporation. Using Lakoff’s (1965) Vendler’s (1967) and Dowty’s (1979) well-known distinction between Stative and Non-stative predicates as only a first approximation to a task I will not pursue, it can be seen that, on the one hand, MG Vs allowing incorporation are Non-stative, and refer to actions, processes, and changes of state, as the ex-
amples given in this paper show. On the other hand, Statives seem to forbid incorporation. In this respect, consider *katikó ‘live’ and *kondá ‘close’ in (16). It could be argued that the V subcategorizes for a Locative, but it nevertheless disallows incorporation, as in (16b). However, the Adverb can incorporate when the V is Non-stative, as in the alternation between (16c) and (16d).

(16)a. Ta pediá katíkún KONDÁ
   The children live close
b. *Ta pedíá KONDOkatikún
c. Ta pedíá símosan KONDÁ sti fotiá
   The children approached close to + the fire
d. Ta pedíá KONDOsímosan sti fotiá
   The children came close to the fire (= (16c, d)

Also, patterns such as (17) refer to a change in position in the sense of English ‘Stop fidgeting and sit comfortably!’, and not to a state per se. Likewise, (12g’) refers to a change of state.

(17)a. Káthome STRAVÁ
   1-sit sideways
b. STRAVÓkáthome

So, the properties of incorporating Vs could provide interesting syntactic answers about differences in subeventual structure between various semantic/syntactic classes of Verbs, as they appear to suggest a fundamental distinction between States and Non-states.

Also, a reviewer points out that while polithlí ‘to want a lot’ as in (4b) is fine, a V such as tromázi ‘frightens’, as in *Me tromázi polí ‘(It) frightens me a lot’, disallows incorporation (*Me polítromázi). This fact appears to be related to the nature of the V, not to the Adverb per se, suggesting that the special syntactic properties of Psych Verbs, a source of long debates in the generative literature, may affect incorporation too. However, I do not see these restrictions as a decisive factor in choosing between Incorporation as lexical or syntactic in the sense discussed later, because the mentioned distinctions have both syntactic and lexical correlates; in brief, that Incorporation is not completely unconstrained does not necessarily imply that the process is lexical, as this reviewer suggests. I motivate the distinction between lexical compounding vs syntactic incorporation in
Section 4 (and see footnote 3), and claim that pattern (17b) among others belongs to the second type, not the first.

Returning to AdvI, when we contrast MG with Nahuatl, the parallelisms are striking, as seen in this and the following section, and the similarities suggest that the principles behind AdvI are not language-particular, but belong to UG.

First, as to the Manner class, the MG patterns in (18) and the previous examples correlate closely with Nahuatl (19), with (19b) showing incorporation since the Adverb follows the Object maker *ki-. Also, the surveys in (Langacker 1979), the source of my Nahuatl examples, show that Manner Adverbs are productive incorporators in this language, much like they are in MG. Second, in relation to Directionals, the MG examples in (15) compare to N (20), where the Adverb *cin* follows the Object marker and is incorporated into V.

\begin{enumerate}
\item[(18)a.] MG Den tha fái KALÁ
\textit{Not FUT eat well}
He will not eat well
\item[(18)b.] MG Den tha KALOáfá
\item[(19)a.] N As teki-ti K"̈ALÍ
\textit{Not work-VR well}
He does not work well
\item[(19)b.] N Ki-K̂AL- tlali (Beller and Beller 1979)
\textit{It-well- put}
He fixes it (= puts it well)
\item[(20)] N Ki-ČIN- K̂êpa (Sischo 1979)
\textit{It-bottom-return}
He turns it bottom side up
\end{enumerate}

And see Section 2.3 for additional parallelisms between MG and N Aktionsart/Aspectual Adverbs.

Directionals are compared to Goal PPs in (Jackendoff 1987), since they indicate the goal of a motion along a path. In \textit{Mary threw the ball to John} and \textit{Mary stepped back}, the relation between \textit{threw} and \textit{to John}, and \textit{stepped} and \textit{back} is therefore parallel, and, for concreteness, appears encoded as Theta-marking in both cases. From this perspective, the MG and N AdvIs in (15c) and (20) are similar to the so-called Dative applica-
tive constructions, which are common cross-linguistically, and incorporate a Preposition into a Verb out of a PP-complement, as exemplified in the Bahasa Indonesia patterns in (21), cited in (Baker 1988a: 234) from (Chung 1976): *kan* ‘to’ as P has moved to V.

(21)a. Saja mem- bawa surat itu KEPADA Ali  
*I TRANS-bring letter the to Ali*

b. Saja mem- bawa-KAN Ali surat itu  
*I TRANS-bring-to Ali letter the*  
*I brought the letter to Ali*

Patterns (15c–20) differ from (21b) in that the first show intransitive items that incorporate, while the second has a transitive incorporator which leaves its complement behind.

Manner applicatives are not as common as Goal applicatives cross-linguistically, but they do exist, as in the Kinyarwanda case Baker (1988a, p. 471) takes from Kimenyi (1980), with the Preposition *an-* ‘with’ incorporating into V in (22b):

(22)a. Umugabo a- ra- som-a ibaruwa  
*Man SP-PRES-read-ASP letter*  
*N’- ibyiishiimo*  
*with-joy*

b. Umugabo a- ra- som-AN-a ibaruwa  
*Man SP-PRES-read-with-ASP letter*  
*ibyiishiimo*  
*joy*  
*The man is reading a letter with joy*

Again, (22b) is the transitive counterpart of the productive Manner AdvI in (18) and (19).

In brief, Manner and Goal Adverbs are productive incorporators, leading to the hypothesis that they can function as complements internal to the VP, and the same is true of Manner and Goal PPs. Thus, the following patterns of Manner and Goal incorporation are found crosslinguistically, supporting my assumptions:

(a) The head of the Manner or the Goal Phrase incorporates into V, whether intransitive, as in MG generally and N (19b–20), or transitive, as in Bahasa Indonesia (21b) and Kinyarwanda (22b).
It appears that P-Incorporation may not exist in MG, and Bob Ingria (p.c.) suggests a possible reason for this: some MG Prepositions procliticize-as in (10a) with s- ‘to’ a clitic of the Det tin ‘the’, which makes them unavailable for incorporation. Developing this idea, it can be be suggested that syntactic cliticization places P in an A-bar position, as often assumed for pronominal clitics, so that incorporation as A-to-A movement is inapplicable; however, this dichotomy requires further research, and a reviewer points out that some ‘preverbs’ such as apo in apo-fevgo ‘escape (the notice of)’ could perhaps be amenable to a P-Incorporation treatment. However, from the outlined perspective, MG Manner and Goal applicatives should be absent, even though MG Manner and Goal Adverbs are frequent incorporators.

(b) The head N of the complement of a transitive incorporator moves into P, with the complex incorporating into V in an instance of successive Incorporation, as in the Nahuatl Goal in (23). I assume that the N⁰ nakas ‘ear’ moves to P⁰ ika ‘with’, and the two raise to V⁰ tieka ‘lay’, forming the complex that follows the object marker:

\[
\begin{align*}
(23) N & \quad \text{Ki-NAKAS-IKA-tieka} \quad \text{(Tuggy 1979)} \\
& \quad \text{It- ear- with-lay} \\
& \quad \text{He places it around the base}
\end{align*}
\]

(c) Finally, Noun-Incorporation into V out of Manner/Goal complements and across P is not reported and unlikely to exist in natural language. This is expected if Manner/Goal Ps assign a Theta-role to their complement NP, and intervene in the incorporation path, blocking movement of N to V. From this perspective, Manner and Goals are arguments of V, with the same properties as the Benefactives discussed in (Baker 1988b).

2.3. Aspect vs. Aktionsart

Traditional European structuralist studies of languages with verbal systems rich in aspectual distinctions, such as the Slavonic family, establish a semantic division between Aspect and Aktionsart or ‘kind of action’ (and see (Bache 1982) for discussion, early references, and a critique of Comrie (1972) from this perspective). Roughly speaking, Aspect refers to the dichotomy often labelled Perfective/Imperfective, and the distinction between a situation viewed either as ‘a single unanalysable whole’ (perfective), to use Comrie’s words (1972), or in its phases and internal structure
ADVERB INCORPORATION IN MODERN GREEK

(Imperfective). On the other hand, *Aktionsart* refers to characteristics of the inherent meaning of verbs (Comrie 1972), and the internal properties of States of Affairs/Events as expressed by predicates such as verbs, and is partially behind classifications such as Vendler’s (1967) influential distinction between States (*know*), Achievements (*reach the summit*), Accomplishments (*draw a circle*), and Activities (*run*), and several later elaborations of these classes.

From the above perspective, much recent work on so-called aspectual properties of verbs, including the early writings of Verkuyl (1972), inspired in the Generative Semantics approach, or his recent work (1989), the Montague tradition originating in Dowty (1979), the recent Government and Binding papers in (Tenny 1988), studies seeking to derive Thematic Roles from aspectual relations as primitive (Tenny 1987, van Voorst 1988), or proposals to the effect that argument structure contains an independent aspectual layer (Grimshaw 1989) deal mainly with Aktionsart as defined by the inherent meaning of verbs, and its interaction with Aspect, but do not systematically distinguish the two notions.

The traditional literature discussed by Bache (1982) maintains that Aspect and Aktionsart should be kept distinct from a semantic perspective, and within a model close to the one used in this paper, Platzack (1979) adopts a similar position for Swedish, by assigning Aspect to the Modal Structure of a sentence, and Aktionsart to the propositional content. Here I argue that in Modern Greek the two are independent from a syntactic and a morphological point of view as well, as motivated by the formal properties of Adverb Incorporation. My approach does not pretend to deny connections between Aspect and Aktionsart, but suggests that they should be viewed from a modular perspective, raising many questions well beyond the scope of this paper.

On the one hand, I propose that Aktionsart is part of the frame or Conceptual Structure/Lexical Structure of the V, relating to the internal properties of the Event expressed by the predicate, and in this sense it is ‘internal’ to the VP in the syntactic representation (similar to Platzack’s (1979) Aktionsart as part of the propositional content of the sentence, as defined by V and its arguments). On the other hand, Aspect, or the Perfective/Imperfective distinction, is a category heading a phrase external to the VP, as shown in (Rivero 1990) from a different perspective (and see (Tenny 1987, p. 210) on the syntactic representation of aspect, but referring both to Aspect and Aktionsart, and Platzack (1979) who relates Aspect to semantic Modal structure, corresponding to the level above the VP in syntax). Under this approach, syntactic Aspect and Aktionsart are
roughly as in (24), with Aspect, but not Aktionsart, structurally parallel to Tense or TP. The position of AspP is discussed in Section 2.3.2 in more detail.

As a result, Adverbs which modify Aktionsart characteristics, which in MG includes the durativity and iterativity of an action considered as a whole, should be treated as VP-internal, and are able to incorporate, as argued in Section 2.3.1, while those that modify Aspect are VP-external and do not incorporate, as in Section 2.3.2. In a few words, in the MG counterpart of English *John is singing again*, the act of singing is viewed in its entirety, and, syntactically speaking, *again* is treated as an Aktionsart Adverb within the VP headed by *singing*, so it may incorporate into that V. On the other hand, in the MG counterpart of English *John is still singing*, the act of singing is viewed in its internal phases as incomplete or imperfective, and the Adverb is treated as aspectual and fails to incorporate. Such syntactic and semantic distinctions may be difficult to visualize from the perspective of languages like English, and perhaps they are not encoded along identical dimensions in some languages, but, as we shall see, Aspect and Aktionsart Adverbs divide along similar lines in Nahuatl, so these properties are probably not language-specific. In the literature, durativity/iterativity are frequently assigned to the realm of (semantic) Aspect, often on intuitive grounds, but the following discussion shows that in MG (and Nahuatl) they formally belong to the realm of (syntactic) Aktionsart, raising important questions about the mapping between semantics and syntax I will not attempt to answer.

Thus, AdvI sheds light on the syntactic representation of a dichotomy traditionally established for languages rich in aspectual distinctions such as Modern Greek, and usually identified on semantic grounds.

(24) Aktionsart and Aspect in MG

\[
\text{IP} \rightarrow \text{TP} \rightarrow \text{AspP} \rightarrow \text{VP} \rightarrow V^0
\]

\[\text{[Aktionsart, ...]}\]
2.3.1. Aktionsart

I have taken the position that Aktionsart is a characteristic of the inherent meaning of a Verb, or the internal properties of an Event as expressed by V, including durativity and iterativity in MG, and that it is independent of Aspect.

In MG, Aspect is grammatically coded in the tense system for Past and Future, giving the distinction between Aorist and Future Perfective or Perfective tenses, and Imperfect and Future Imperfective or Imperfective Tenses shown in (25).

MG Aktionsart Adverbs may modify a Verb irrespective of its morphological Aspect, as shown for *ksaná* 'again' in (25) (*sixná* 'often', *páli* 'again' and *diplá* 'twice' have similar properties). The patterns in (25) reflect the common observation that a situation can be viewed in an iterative fashion, which is a notion assigned here to Aktionsart, irrespective of whether the situation is presented from the perspective of its internal phases or as a whole, which relates to Aspect. The syntactic behavior of Aktionsart Adverbs contrasts with that of Aspect Adverbs such as *akómi* 'still' and *mólis* 'just', which are sensitive to the Imperfective/Perfective distinction from a formal point of view, as discussed in the next section.

(25)

a. O Yánis mísíse KSANÁ AORIST/SIMPLE PAST
   The John speak again
   John spoke again

b. O Yánis mísíi se KSANÁ IMPERFECT
   John was speaking again

c. O Yánis tha mísíi KSANÁ FUTURE PERFECTIVE
   John will speak again

d. O Yánis tha mí lái KSANÁ FUTURE IMPERFECTIVE
   John will be speaking again

A second morphosyntactic distinction between Aktionsart Adverbs such as *ksaná* and Aspect Adverbs such as *akómi* 'still' is that the first type incorporates, as shown in (26b), while the second cannot, as seen in the next section.
(26)a. O Yánis mu thímise KSANÁ tin 
*The John me reminded again the*
istoría tu
*story his*

John reminded me again of his story

b. O Yánis mu KSANAthímise tin istoría tu

The incorporated Adverb follows the clitic *mu* 'me' and is stressless, two independent symptoms of incorporation. Although unincorporated Adverbs may stand between the subject NP and the verbal complex, as pointed out before, such is not the position of *ksaná* in (26b).

From a syntactic perspective, Aktionsart Adverbs are similar to the Manner and Directional types in Section 2.2. That is, they are licensed by the Lexical-Conceptual Structure of Verbs, and must be projected as syntactic complements. In this sense, they are VP-internal, and parallel to NP-arguments. However, licensing conditions for Aktionsart Adverbs relate to unfamiliar properties of Event structure, rather than the traditional Theta-roles such as Goal behind the Directionals.

Nahuatl Adverbs pattern along similar formal (i.e., morphosyntactic) lines as to the Aspect/Aktionsart distinction. On the one hand, the Aktionsart Adverb *nen* 'habitually, continually' may incorporate into the verb stem, as in (27), and follow the object marker. Notice that the gloss provided by Beller and Beller is not equivalent to the English sentence 'Habitually, she helps her', where the Adverb is assumed to quantify over possible worlds, and is not a manner-like expression, as a reviewer points out. Rather, the Nahuatl Adverb is equivalent to 'in a manner which is *x*'.

(27)N Ki- NEN -palewiya (Beller and Beller 1979)

*Her-habitually-helps*

She helps her continually

On the other hand, the N Perfective marker *ya* 'already' (Spanish *ya*), or an Aspectual as discussed in the next section, is proclitic, preceding object markers, or enclitic on V, but does not incorporate.

To summarize, I have distinguished Aspect from Aktionsart, which syntactically speaking is internal to the VP, showing that Aktionsart adverbial modifiers may incorporate. This contrast motivates not only different syntactic representations for Aktionsart and Aspect, but for the Adverbs related to each type too: Aktionsart Adverbs are syntactic
complements within VP, while Aspect Adverbs are VP-external, and probably adjuncts of the Aspect Phrase, rather than complements, as discussed next.

2.3.2. Aspect

As stated, Aspect is morphologically encoded, or grammaticalized, in the tense system of MG, and much attention is traditionally dedicated to this topic in the literature on the language (and see (Mackridge 1985) for references). Also, aspectual differences are more pervasive in the modern stage than they were in Classical Greek. The Imperfective/Perfective contrast in the Futures in (25c, d) and (28), with (28a) Perfective and (28b) Imperfective, was absent in Ancient Greek, where it was restricted to the Past (Aorist vs. Imperfect). The Present is neutral as to Aspect.

(28)a. O Yánis tha agapísí ti María
   John will love Mary

 b. O Yánis tha agapáí ti María
   John will be loving Mary

2.3.2.1. The Location of Aspect. To capture the above formal dichotomy, Koutoukas (1962) proposes that the MG conjugated verb contains an Aspect morpheme, which in the Perfective Future in (28a) corresponds to -s- (but which, with other Vs, may involve vowel change as a morphological process in the sense of Footnote 3), and Rivero (1990) argues that this morpheme heads a maximal phrase in syntax, within an analysis where Perfective and Imperfective simple tenses have the same phrase-structure representation as Perfect compound tenses.

When the Aspect Phrase is headed by the Perfective or the Imperfective Affix, the result is what is traditionally labelled a simple tense, or a one-word unit, as the main V raises to amalgamate with it, and then with Tense, and Agreement, providing the appropriate surface order of morphemes within the word. Under such an approach, the basic structure of the Aorist agápise ‘he loved’ is as in (29a), before V-raising applies. When the Aspect phrase is headed by the Perfect Aux, as in éxi agápísí ‘(He) has loved’, the result is what is traditionally called a compound or two-
word tense, as in (29b), once the Aux raises to Tense and Agr, while the main V remains in situ.\(^\text{5}\)

\[(29)\]

\begin{align*}
\text{a. AORIST} & \\
\text{b. PRESENT PERFECT}
\end{align*}

In this analysis, Aspect is external to the main VP; also, it is a Phrase with distinct properties from VP, since it is projected from Perfective/Imperfective and Perfect morphemes. This does not entail that Perfect and Perfective are identical categories, only that they occupy the same structural slot, preventing MG \textit{éxo} from being inflected for Aspect, thus lacking the Aorist/Imperfect distinction seen in Spanish \textit{haber} 'have' (había amado vs. hubo amado 'He had loved'). As a reviewer points out, a different solution must be proposed for main Vs such as \textit{káno} 'do, make' which do not show aspectual distinctions either; within my proposals it could be that Aspect as the higher phrase selects certain properties of Aktionsarten, as encoded in the VP as complement.

By contrast with the Aspect Phrase in (29), the main VP is an Aktionsart Phrase as stated, that is, a projection of the first type of aspectual relations exclusively, within the dichotomy established above.

That Aspect is external to the main VP follows from the treatment of the Non-Active morpheme proposed in (Rivero 1990) as well. There, it is argued that NActive Phrases such as Passive are always affixes in MG, as opposed to Albanian where they can surface as Auxiliaries or Clitics, and must be strictly adjacent to the VP with argument structure, surfacing with main verbs exclusively. As a result, NAct separates AspP from VP in d-structure, and appears with the main V after V-raising (or Affix-Hopping), as seen in the contrast between the simple and compound

\(^5\) Iatridou (1990) argues against splitting AgrP and TP, contra Pollock (1989). I know of no evidence to separate them in MG either, but this is immaterial for the purposes at hand, so I represent them with Person/Number external in the word after V-movement.
tenses in (30a), where *th* signals the Passive (which may appear within a non-segmentable portmanteau morpheme in other cases). Under this approach, the Aorist in (30a) corresponds to (31a), and the Present Perfect in (30b) to (31b).

(30)a. *I Maria plithike apo to Yáni*  
*The Mary was + washed by the John*

(30)b. *I Maria exi plithi apó to Yáni*  
*The Mary has been + washed by the John*

(31)a. PASSIVE AORIST  
(31)b. PASSIVE PRESENT PERFECT

In brief, MG Aspect is a distinct inflexional category, treated as a syntactic phrase above VP in my proposals, so it is parallel to Tense and unlike Aktionsart. In this sense, the syntactic representations in (29) correlate with Platzack’s semantic proposal (1979) that Aspect, as opposed to Aktionsart, belongs to Modal Structure, or the layers above VP in structures such as (29).

2.3.2.2. *Aspectual and Temporal Adverbs.* Certain MG adverbs are formally sensitive to the aspectual distinction between Perfective and Imperfective tenses outlined above, as seen in the contrast between *akómi* ‘still’, an Imperfective Adverb, and *mólis* ‘just’, a Perfective Adverb.

Consider how *akómi* ‘still’ is used in affirmative declarative sentences (excluding polarity items, and negation). This Adverb is grammatical with
Imperfective tenses, as in (32a, b), and ungrammatical with the Aorist and the Future Perfective: (32c, d). *Akómi* 'still' serves to modify the situation viewed as ongoing, that is in its internal organization or phases, so it is an Aspect Adverb of the Imperfective type.

(32)a. O Yánis milúse AKÓMI IMPERFECT
The John speak still
John was speaking still

b. O Yánis tha miláí AKÓMI FUTURE IMPERFECTIVE
John will still be speaking

c. *O Yánis mflíse AKÓMI AORIST

d. *O Yánis tha milísí AKÓMI FUTURE PERFECTIVE

A second formal property of *akómi* tied to the first in my analysis is that this Adverb, together with other Aspectuals, fails to incorporate. This is seen in (33a, b), with the V appearing in the tenses the Adverb may modify, namely the Imperfect in (a), and the Future Imperfective in (b).

(33)a. *O Yánis AKOMImilúse

b. *O Yánis tha AKOMImiláí

These two apparently independent syntactic phenomena, aspect sensitivity and absence of Incorporation, fall together if Aspectuals are modifiers of material outside the VP in the syntactic representation, so not internal to it in the relevant sense.

The opposite situation leading to the same conclusion is represented by *mólis* ‘just’ (and also *améso* ‘at once’). This Adverb appears only with Perfective Tenses, as shown by the contrast between the grammatical Aorist (34a) and the ungrammatical Imperfect (34b). The semantic correlate of the formal restriction is that *mólis* serves to modify the situation when viewed in its entirety, rather than in its internal organization, and in this sense it is a Perfective Adverb. As (34c) shows, Aspectuals fail to incorporate, even under appropriate conditions, such as an Aorist tense.

(34)a. O Yánis MÓLIS mflíse AORIST
John just spoke

b. *O Yánis MÓLISmilúse IMPERFECT
The ungrammaticality of (34c) follows if Perfective/Imperfective Adverbs cannot be VP-internal syntactically, but, there is a further consequence from these patterns. The impossibility of incorporating Aspectual Adverbials to the MG V suggests that they are not syntactic complements of AspP, but adjuncts (or specifiers). Otherwise, they would become candidates for incorporation, after V-raising to Asp (and Tense/Agr).

In other words, if Aspect is a head with a (partial) lexical representation, it does not project an internal position in syntax for an Aspect Adverb to function as its syntactic complement. Thus, if these Adverbs have a semantic treatment parallel to the one frequently suggested for Time Adverbs as modifiers of Tense, they seem to map into adjuncts rather than complements in syntax. Under Baker’s Transparency corollary (1988a), once V-movement raises V through Aspect/Tense, as I assume (and see (Rivero 1988) for some arguments), V and AspP come to form a unit governing the complements of each one of these phrases. Since the Aspectual Adverb is nevertheless unable to incorporate to V, as shown, I conclude that it is not within the government domain of the complex formed by V-raising, that is, not a complement at any level.

When we turn to Nahuatl from the above perspective, a similar situation obtains, as the aspectual ya ‘already’ indicates.

(35)a. \( YA = ti\text{-}wey\text{-}yi \)
\( Already = you\text{-}big\text{-}ADJR \)

You are big already \( \) (Beller and Beller 1979)

b. \( Mo\text{-}tata\text{-}\dot{c}ih\text{-}ki = YA \)
\( REFL\text{-}father\text{-}make\text{-}PAST = already \)

He became a father already

Nahuatl Ya ‘already’ is a clitic, as indicated by = as boundary symbol. It precedes the V-complex as proclitic, as in (35a), or follows it as enclitic, (35b), but fails to incorporate.

The situation in (35) shows that incorporating Adverbs must be analyzed as complements, in contrast with proposals by Travis (1988). Travis considers that Baker’s Incorporation Theory is not suited for AdvI. She sees Adverbs as defective categories which fail to project to the Xmax level (i.e., they are heads or \( X^0 \)s), and this property allows them to incorporate into V, even though they do not function as arguments. She suggests that
morphological incorporation is a two-step procedure. First, a sequence of
two heads $Y^0 + X^0$ is required, be it formed by movement or in the base,
as she assumes for the Adverb + Verb combinations underlying AdvI;
second, morphological incorporation forms a complex out of the two.
Clitics can be heads ($X^0$) adjoining to a head-complex, as proposed by
Kayne (1989) for Romance: $X^0 + Y^0$; so the same treatment could be
extended to the N Adverb in (35). However, this relation, which is for-
mally identical to the one proposed by Travis as a prerequisite for morpho-
logical AdvI, does not lead to incorporation, since the Adverb is not a
complement of V. Also, Clitics stand for arguments (pronominal object
Clitics in various languages), for less clear relations (Datives/Genitives of
Interest in MG and Spanish, etc.), or for adverbial adjuncts (French $y$
‘there’), but incorporated items relate to arguments exclusively if my
proposals are correct.

Finally, Time Adverbs pattern like Aspectuals in relation to Incorpo-
ration, and cannot incorporate, whether the reading of the Adverb is
deictic, such as ávrio ‘tomorrow’, or non-deictic such as poté ‘never’ and
pánda ‘always’. In this respect consider (36), showing the freedom of
position within the Sentence many MG Adverbs enjoy. In particular,
(36b) has the Adverb between Subject and verbal complex, preceding the
negation. The ungrammaticality of (36d) indicates the unavailability of
incorporation.

(36)a. I ginékes den kapnázun TÓRA
   *The women not smoke now
   Women do not smoke now

   b. I ginékes TÓRA den kapnázun

   c. TÓRA i ginékes den kapnázun

   d. *I ginékes den TÓRAkapnázun

In brief, Aspect and Time Adverbs are similar in being external to the
VP, and do not incorporate, so the last type syntactically modifies Tense
not as complement, but as adjunct or specifier, if my approach to AdvI
is correct. 6

6 The contrasting behavior of MG Aktionsart vs. Aspect/Time Adverbs in incorporation
eliminates two intriguing options suggested in (Craig and Hale 1988) for adjunct-like items.
2.4. A Last Consequence of the VP-Internal/External Distinction

Adverbs which can be used as Sentential modifiers exclusively such as pithanós 'possibly' are not incorporators, and (37a) does not alternate with (37b).

(37)a. PITHANÓS ta pediá tha figún
   Possibly the children will leave

   b. *Ta pedía tha PITHANOSfigún

Certain MG Adverbs appear to favor the Manner use strongly, such as kalá 'well', or the Directionals, and belong to the incorporating type, as discussed in Section 2.2. However, some Adverbs have two uses, showing the Stative reading McConnell-Ginet correlates with a representation where the Adverb is a predicate external to the VP, and a Manner or VP-internal reading, as discussed in Section 2.3. In MG, gorgá 'fast' and argá 'slowly' are among these ambiguous Adverbs, when they appear unincorporated. However, if incorporated they are unambiguous, showing the Manner reading exclusively, as expected from the previous proposals.

In this respect consider (38); it can be interpreted in two ways. In the Stative reading equivalent to 'Immediately, the pigeon flew over the clouds', we could be describing how quickly the pigeon reacted to some event before flying away, but the speed of the flight need not be high. In the Manner reading, we are speaking of the speed of the flight, but it could be that the pigeon took a long time to react and actually fly.

(38) To peristéri pētakse GORGÁ páno ap’ ta sínefa

   The pigeon flew fast above of the clouds

In the incorporated version in (39) only the second reading is possible, which follows from the proposal that Adverbs functioning as complements of V are amenable to incorporation, while other types are not.

(39) To peristéri GORGOpētakse páno ap’ ta sínefa

It is beyond the scope of this paper to develop proposals on syntactic positions for different kinds of MG Adverbs. However, under my assump-
tions, it follows that if V raises to Agr/Tense/Aspect, the d-position of gorgá in (38) could be either VP-external, or VP-internal, reflecting the ambiguity between the Stative and the Manner readings, without movement of the Adv itself.7

7 VP-Preposing may provide a syntactic test for Adverb constituency, but MG (like Bulgarian) lacks the rule for two reasons. First, the only Aux arguably taking a VP-complement is the Aspectual éxo 'have', which disallows the process, like French avoir and Spanish haber. Second, the equivalent of the Modals which in Spanish and French allow VP-Preposing take clausal rather than VP-complements in MG. However, Spanish VP-Preposing confirms the conclusions reached for MG based on incorporation. In brief, Manner Adverbs front with the VP, so they are VP-internal. Aspectuals do not move along with the VP, since they are external, as shown in (i).

(i)a. Juan puede hablar deprisa todavía

John can talk fast still

b. Hablar deprisa Juan puede todavía

c. Hablar deprisa Juan todavía puede

d. Hablar deprisa, todavía puede Juan

e. *Hablar deprisa todavía, Juan puede

In (i,b,c) the VP with the V hablar 'speak' and the Manner Adverb deprisa 'fast' is fronted, while the Aspectual todavía 'still' is unaffected; notice that VP-Preposing occurs with preverbal subjects. Pattern (i.d) combines VP-Preposing and movement of the Aspectual separately, as shown by the pause indicated by the comma, and the fronting of the modal puede 'can' triggered by the moved todavía. VP-Preposing carrying the Aspectual leads to deviance: (i.e). Manner (Roberts 1987, p. 76) and Time Adverbs (Andrews 1982) prepose with the VP in English, but the modification properties of the Time Adverb may be affected. A similar situation holds for Spanish. A distinction between Time as adjunct of the VP or adjunct of Inf could account for this situation, and the lack of incorporation in MG.

A variety of phenomena in the literature seem to reflect the VP external/internal distinction in parallel ways. Hornstein and Weinberg (1981) have proposed that English inner locatives reanalyze, as in (ii.a, b), while outer locatives do not, as in (ii.c, d), and Baker (1988a) proposes that reanalysis is a form of incorporation.

(ii)a. I slept in my bed last night

b. My bed was slept in last night

c. I slept in New York last night

d. *New York was slept in last night

In a similar vein, Bosque (1990) suggests that a Spanish adjectival Manner Adverb such as firme 'firmly' must be adjacent to the V, as in (iii.a, b), because the two form a reanalyzed-type complex.

(iii)a. Juan pisó FIRME sobre las rocas

John stepped firmly on the rocks

(iii)b. *Juan pisó sobre las rocas FIRME

In Italian, a Manner Adv may separate V and object, as in (iv.a), while a Time Adv may not, as in (iv.b). This leads Koster (1986) to suggest that the first belongs to the verbal complex, while the second does not, which is my proposal for MG too on the basis of
In the next section I briefly examine Noun-Incorporation in Modern Greek, so as to provide the necessary basis to contrast Incorporation as a syntactic process with Compounding as a lexical process.

3. MG NOUN-INCORPORATION

Anaphors functioning as arguments may incorporate into V in MG, as shown in the very productive reflexive and reciprocal patterns in (40–41), with (40b–41b) showing a complex unit formed by reflexive/reciprocal and V. Therefore, from my perspective, Adv and NI are parallel in that both affect complements in the relevant sense.

The interaction of Adv and NI provides arguments for Incorporation as a syntactic operation in MG, as argued in Section 4, so in this section I will examine two patterns of NI which are relevant for the hypothesized distinction between compounding and incorporation.

(40a) Ta pediá thavmázun TUS EAFΤÚΣ TUS
*The children admire + Active themselves

(41a) Ta pediá thavmázun TO ÉNA TO ÁLO
*The children admire + Active each each other

3.1. Anaphor Incorporation

In (40b–41b) after and alilo are the incorporated counterparts of tus eaftíus tus and to éna to áló in (40a–41a). In addition, detransitivizing or Non-incorporation patterns.

(iv)a. Mario ha letto ATTENTAMENTE un libro
Mario has read a book carefully

b. *Mario ha letto IERI un libro
Mario has read a book yesterday
Active morphology is obligatory when anaphor incorporation applies, as shown by the contrast between (40b–41b) and (42), where V has Active morphology.

(42)a. *Ta pediá AFTO-thavmázon
   b. *Ta pediá ALILO-thavmázon

Baker (1988a, p. 105ff) shows that an NP whose head N incorporates need not be Case-marked, since the Incorporation relation allows the NP to receive a Theta-role. If MG Non-Active morphology is a detransitivizer, or absorber of the Accusative Case the transitive V assigns, then the patterns in (40–41) resemble those of Eskimo, where N-incorporation correlates with intransitive morphology and unincorporated patterns show transitive morphology too (Baker 1988a, p. 124) (but see (Rosen 1989) for a different interpretation).

However, in languages such as Mohawk and Southern Tiwa incorporated and unincorporated patterns show transitive morphology, since no universal prohibition exists against Case-marking the NP whose N undergoes incorporation. Also, we will immediately see that MG exemplifies this case too, if the incorporating N is not an anaphor.

In view of this duality, I suggest a reason independent of Incorporation for the obligatoriness of Non-Active morphology in MG anaphor NI, based on how Empty Categories are identified in the syntactic representation. Under my perspective, detransitivizing morphology is not a symptom that MG anaphor NI is lexical compounding, with N satisfying the argument structure of the compound (contra Rosen (1989) and see Section 4), since MG NI does not necessarily appear in intransitive syntactic configurations.

Consider the paradigms in (43–45). In (optional) Clitic doubling, Clitic *ton can double the anaphor ton eafortó tu ‘himself’ in (43b), or the pronominal afortón ‘him’ in (44b) (or an R-expression). However, when the Clitic is ‘alone’, forming a chain with an Empty Category in object position, as in (45), it stands for the pronominal him, not the anaphor himself, and the sentence is interpreted as (44) rather than (43).

(43)a. O Yánis ktípise ton eafortó tu
    The John hurt-Act himself
(43)b. O Yánis ton ktípise ton eafortó tu
    The John CL hurt-Act himself
    John hurt himself  (= (43a, b))
(44a)  O Yánis ktípise aftón  
*The John hurt + Act him*

b. O Yánis ton ktípise aftón  
*The John CL hurt + Act him*

John hurt him  

(45)  O Yánis ton ktípise  
*The John CL hurt + Act*

John hurt him  

(44a, b))

In view of the above, I have proposed (Rivero 1987) that MG Clitics do not encode the pronominal/anaphor distinction, and can double anaphors, pronouns, or R-expressions without conflict. In (45), the EC in object position is unambiguously identified as little *pro* (or the null pronominal subject to Principle B of the Binding theory) through a combination of (a) Case assignment by the V, usually transmitted through the Clitic, not a Case absorber, and (b) the features of the Clitic itself (namely Gender/Number/Person, but not [+pro] or the equivalent index). Under this view, little *pro* is identified by Case Marking in the presence of the Active morphology in (45), an idea which is not new (Rizzi 1986).

The identification of MG little *pro* provides a reason for the presence of Non-Active morphology in anaphor N-Incorporation. Namely, if the V Case-marked the EC left by NI, it would identify it as little *pro*. However, the EC left by this type of NI is an anaphor in the usual sense of the term; thus, Non-Active morphology is needed to absorb Case from the V. Under this approach, (40b–41b) and (45) are related, and the obligatory-ness of Non-Active morphology in Anaphor incorporation need not be stipulated.

I will leave open the role of MG Non-Active Morphology in its different manifestations, a topic which raises many of the issues of Romance *se/si* (and see Cinque 1988) for some recent proposals). Although Case Absorption seems to be the property shared by Non-Active Morphology in all uses, its role as argument, and its anaphoric character seems to vary. Excluding middles and passives and concentrating on anaphoric readings exclusively, two comments about Non-Active morphology are in order in

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8 Iatridou (1988) views Clitic *ton* in (43b) as an inherent pronominal, equivalent to an expression in A-position subject to Principle B of the Binding theory. Here I take the more common view that Clitics are not subject to the BT, but form chains with expressions in A-position which are; the pronominal/anaphoric value of the Clitic is determined syncategorematically, as for Romance *se/si*, which has many uses other than the anaphoric.
view of the previous analysis. First, in MG anaphor NI in (40–41), Non-Active morphology absorbs Case, but not Theta-role, since the external and the internal arguments of the V are present. So, in this construction Non-Active is not an argument, plays a role similar to a Clitic in some analyses of Clitic doubling, and is not anaphoric per se.

Second, Modern Greek (with Albanian (Hubbard 1985)) expresses a reflexive/reciprocal reading through the exclusive use of Non-Active, as in (46), which has a Passive reading too.

(46)  
Ta pediá thavmátıonde  
'The children admire themselves' or 'The children admire each other' or 'The children are admired'

Here, 'reflexive-reciprocal' Non-Active can be viewed as the argument with anaphoric characteristics assigned both the external Theta-role and the Accusative Case, similar to Romance se/si in some treatments, whereby the internal argument NP-moves to subject position (as proposed by Marantz (1984, p. 152ff) for Albanian in slightly different terms, and adapted to (the parallel) Chichewa by Baker (1988a, p. 385)).

3.2. Double-Object Incorporation

Returning to NI, MG patterns such as (47), from (Kostopoulou 1989), mirror the properties of the English double object construction through incorporation, and provide motivation for the role of Non-Active Morphology from a different perspective.

(47)a. I kínóttìa díni FAGITÓ stus ftoxús  
_The community give + ACT food_ to + the poor

b. I kínóttìa TROFOdotí tus ftoxús  
_The community food + give + Act the poor_  
The community gives food to the poor

c. I ftoxi TROFOdotíðhikan apó tin kínóttìa  
_The poor food + give + Pass by the community_  
The poor were given food by the community

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9 To my knowledge, Albanian lacks anaphor NI, so the dual role of Non-Active morphology in reciprocal and reflexive (40b–41b) vs. (46) does not arise, and the 'doubling' use is absent.
Example (47a) shows the Theme *fagító* ‘food’ as Accusative object, and the Goal as PP, with the P *s-* ‘to’ Case-marking *tus fíoxús* ‘the poor’. In this pattern the Preposition is obligatory, as MG has no grammatical equivalent to English *The community gives the poor food*. In (47b) the N-head of the Theme incorporates into the Verb, and need not be Case-marked, so the Accusative Case of the V with Active Morphology is assigned to the necessarily prepositionless Goal. In (47c), the Theme is incorporated and the Goal passivized. Thus, in MG NI, detransitivizing morphology is not obligatory, since its presence derives from an independent syntactic factor, the need to prevent the NI trace from being identified as little *pro*, and not from the intrinsic properties of incorporation as a lexical operation. In (47b), Case, the means of identification for little *pro*, is assigned to the Goal, not to the trace of NI; the prepositionless nature of the Goal follows from the necessity to prevent Case from being assigned to the NI-trace as well. In (47c), Non-Active absorbs Case.

The alternations in (47) support the common idea that Datives are Theta-marked by the V, so that their Preposition (*s-* in (47a)) is necessary for Case-marking purposes, but does not play the semantic role of a contentful item, partly ‘mimicking’ the information available in the frame of a V such as *give* (Larson 1989). Thus, P is unnecessary when another way of Case-marking the Goal NP becomes available, which is observed in MG when Accusative is freed as the result of NI for the object.

This outline of MG NI provides the tools for the discussion in Section 4 of Incorporation as a syntactic process.

4. INCORPORATION VS. COMPOUNDING

One important aim of this paper has been to establish that in argument structure a well-defined set of Adverbs function as complements to Non-stative Verbs. In view of Section 2 and the demonstration of (a) how Adverbs and Verbs form complex items in MG, and how (b) possible and impossible combinations are defined, this result would stand whether Incorporation is syntactic (Sadock 1980 and later work, Baker 1988a), or compounding in the lexicon (DiSciullo and Williams 1987, Rosen 1989), with the Adverb satisfying an argument of the stem. In other words, if

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10 A reviewer points out that an approach where morphology is treated as syntax leads to inattention concerning the morphology of incorporated formations, objecting to the idea that *trofo-* derives from the source *fagító* in (47). If word formation is subject to the principles of morphology, regardless of how words are formed, as mentioned in Footnote 3, the issue is parallel to the problem of establishing morphological relations between suppletive forms, but this paper omits discussion of morphology per se.
my argumentation is correct, theories of syntax and/or morphology must formally distinguish Ad-verbs from other types of Adverbs in word formation.

However, in my view MG AdvI and NI are syntactic and exhibit properties not associated with lexical word formation from several perspectives, as I now show by distinguishing lexical word formation from compounding in a limited sense, without venturing into the very rich field of MG morphology in any detail.

4.1. The Identification of Little pro

First, remember that in the previous section I provided a syntactic rather than a lexical motive for Non-Active morphology in MG Anaphor incorporation. Namely, the construction is subject to requirements on the identification of empty categories in syntax, and Active morphology is viable when Case will not identify little pro. Thus Non-Active morphology is not the result of argument satisfaction in the lexicon rather than the syntax.

4.2. The Thematic Hierarchy

Consider the different possibilities when AdvI and NI combine, as in (48).

(48)a. O Yánis diafimízi TON EAFTÓ TU SIXNÁ
   The John advertise + Act himself often
   John promotes himself often

b. O Yánis AFTOdiafímízete SIXNÁ NI
   The John self-advertise + NAct often

c. O Yánis SIXNOdiafímízi TON EAFTÓ TU AdvI
   The John often-advertises himself

d. O Yánis SIXNOAFTOdiafímízete AdvI + NI
   The John often-self-advertises + NAct

Pattern (48a) is the unincorporated version. In (48b), the anaphor is incorporated but not the Adverb, while (48b) represents the opposite scheme; both are completely ordinary. Finally, in (48d) the Adverb and the anaphor have incorporated; this last pattern is grammatical, not frequently used, but one of the productive devices to create humourous words. Let us consider these sentences from the perspective of how the
arguments are arranged inside vs. outside the complex word. In Section 4.4, I examine how two arguments compose when they both incorporate, as in (48d).

For English, Lieber (1983) proposes that arguments of a compound must all be satisfied within the compound, finding flower-arranging in vases deviant, because flower is within the compound, but in vases is not. Examples (48b, c) argue against importing such principle into MG, or against these MG forms being morphological compounds.

Grimshaw (1989) proposes instead that the Thematic Hierarchy serves as an organizational principle, with less prominent arguments satisfying argument structure first. In her view, the Theme (flower) is less prominent among internal arguments, so it must be inside a compound if only one argument is thus expressed, which is behind the difference between flower-arranging in vases vs. *vase-arranging of flowers. Regardless of the Theta-role labels assigned to the arguments in (48), or the specific arrangement of the Thematic Hierarchy, (48b) or (48c) and patterns along similar lines will count as counterexamples to this approach, if these constructions contain compounds. For instance if the Reflexive is seen as a Theme or the less prominent argument, then (48c) is problematic since the anaphor is not inside the compound. Using English to make this point in a few words, if Profit-sharing equitably, with the Theme inside, Equitably-sharing profits, with the Theme outside, and Equitably-profit-sharing were equally grammatical as compounds, many principles of word-formation proposed in the literature would have to be abandoned.

If the MG constructions are syntactic incorporations instead, they show the freedom of structures where the Thematic Hierarchy does not play a role according to Grimshaw; in brief, arguments are satisfied inside VP in the syntactic representation regardless of the Hierarchy, and incorporate independently of it, so a Theme need not incorporate even when other arguments do. The patterns in Section 4.4 point towards the same conclusion.

4.3. Discontinuity in Incorporation

As S. Iatridou has pointed out to me, in Perfect tenses the Adverb may incorporate into the Aux éxó, not only into the V with argument structure as already discussed; (49b, c) and (50b, c). The sentences in (49a–50a) are the unincorporated versions, and all these patterns appear synonymous to E. Kostopoulou, who finds them completely grammatical (but an anonymous reader points out that other speakers object to (49c)). Also, it is
the main V rather than the Aux that defines incorporation in the sense of Section 2, since Stative Vs disallow incorporation into Perfect Aux too.

(49)a. Éxo fái KALÁ
    *I-have eaten well

b. Éxo KALOfái

c. KALOéxo fái

(50)a. Éxo diavási KSANÁ
    *I-have read again

b. Éxo KSANAdiavási

c. KSANAéxo diavási

Éxo ‘have’ as Auxiliarly is a light V in the sense of (Grimshaw and Mester 1989) and lacks (a complete) argument structure, so from this perspective (49c–50c) represent cases where Transfer (or the ‘lending’ of the arguments of V to the Aux) feeds Incorporation. I suggest that Aux and V can be treated as a discontinuous head in a two-segment structure (Chomsky 1986), so an Adv complement of V may incorporate into either segment. Two aspects motivate this view. On the one hand, the absence of VP-Preposing out of éxo supports the idea that VP and Aux form a unit, while main V and Complements are not a separate constituent from the Aux. On the other hand, when two Adverbs incorporate, they can both compose with the Aux, or with the V, (51b, c), or one composes with the Aux, and the other with the V, as in (51d).

(51)a. Éxo fái POLÍ KSANÁ
    *I-have eaten a + lot often

b. KSANAPOLIéxo fái

(51)c. Éxo KSANAPOLIfái

d. KSANAéxo POLIfái

11 The phenomena in (49–50) resemble MG Clitic placement, but are nevertheless different. MG Clitics attach to the V with argument structure, and Clitic Climbing is totally absent, with one exception. In Perfects the Clitic is with the Aux, as in To éxo fái ‘I have eaten it’, not with the V. *ÉXo to fái. Because of this distinction, coanalysis applied to incorporation as in (Sadock 1985, Di Sciullo and Williams 1987) – with éXo fái showing both a morphological tree as complex word and a syntactic tree as two constituents – will not cover these patterns.
In my view, irrespective of the analysis adopted for the interesting patterns in (49–51), the possibility to incorporate ‘long distance’ separates MG AdvI from ordinary compounding in most languages, as it constitutes a counterexample to conditions such as, for example, the First Sister Principle of Roeper and Siegel (1978, p. 208) prohibiting ‘hypotheses for the lexicon in terms of discontinuity’ (1978, p. 214) for compounds, preventing the complement of a V and an Aux from forming a complex word, among other cases.

4.4. The Order of Composition

The combination of NI and AdvI exemplified in (48d) produces uncommon, funny combinations, but intuitions about possible and impossible words in such a situation are clear. Ns and Advs compose in a way which is insensitive to the Thematic Hierarchy, but sensitive to the obligatory/optional dimension. Roughly speaking, obligatory arguments or those more clearly required by the meaning of the V compose first, and optional items compose last. Thus Aktionsart Adverbs, which are optional, remain external in the word, and Manner/Directionals closely affecting or changing the concrete action referred to by the V are internal: (48d) vs. (52d). Similar comments apply to double AdvI, as in (51), but the intuitions are less clear.

On the one hand, the anaphor *afio in (48d), or Theme, is next to the stem, the Adv *sixno ‘often’ is the external layer, and the opposite order would produce the impossible word *afio + *sixno + diafimizete ‘self + often + advertise’. This is the characteristic way for Aktionsart Adverbs to incorporate.

On the other hand, the Manner/Directional in (52), composes in the opposite order, with the anaphor as Theme external, as seen in the contrast between (48d) and (52d). When Anaphor Incorporation applies, the V shows NActive morphology, (52b–d); otherwise it is Active, (52a, c).

(52)a. Ta pediá kúmbosan ANÁPODA TO ÉNA TO ÁLO
   The children button + Act upside + down each other
   The children buttoned each other the wrong way

b. Ta pediá ALILOkumbóthikan ANÁPODA
To my knowledge, the topic of how separate rather than successive incorporations combine has not been discussed in the literature and requires research, but the above contrasts may suggest that the closer argument incorporates by substitution, and the more remote item by adjunction (and see (Rizzi and Roberts 1989) for discussion of these two types of syntactic incorporation). Another possibility suggested by a reviewer is that the obligatory argument is represented in a lower position than the optional one, determining somehow the order of incorporation.

4.5. Compounding

MG Incorporation is syntactic as just argued, but MG compounding may be deverbal, as shown in (53a, b) whose V category is not ‘retained’ (similar to English), so complex Vs failing to observe the restrictions of Incorporation must be compounds which are back-formations from Ns, as in (54a), where N is Agent.

(53)a. Gineko-kataktitis a’. *gineko-katakto
Woman-conqueror *to women-conquer
b. Logo-plástis b’. *logo-plátho
Speech-maker *to speech-make

(54)a. olig-arXume a’. olig-arXía
few-govern + NAct oligarchy
to be governed by few
b. xenó-fertos b’. *xeno-ferno
foreigner-brought *to foreigner-bring
brought by foreigners

This does not exclude the existence of Object-Verb compounds in MG, and a reviewer points out cases such as emo-fitno ‘to spit blood’ from ema ‘blood’ and fitno ‘spit’.

Deverbal Adverb compounding need not observe the restrictions of syntactic Incorporation either, as in (55). The Adverbs efkola ‘easily’ and diskola ‘hard’ may be sentential, and correspond to It is easy to convince him, and It is difficult to read it, with the compound interpreted as a
Tough-construction in English (and see Joseph (1980) for discussion, with interesting comments on the diachronic emergence of such compounds).  

(55)a. efkoló-pistos  
   *easily-convinced  
   Easy to convince  

a’. *efkolo-pistévo or *efkolo-pítho  
*to be easily convinced or *to easily convince someone  

b. diskolo-diávastos  
   *hard-read  
   Difficult to read  

b’ *diskolo-diávázo  
*to have difficulty in reading something  

The difference between (55b) and (12b’) (diskologenó ‘give birth with difficulty’) is one of lexical compounding vs. syntactic incorporation from the above perspective. Namely, (a) the first is deverbal, while the second retains its V category, (b) the Adverb in a sentential use compounds in (55b), while it incorporates in the Manner sense in (12b’), (c) the first does not correspond to an applicative construction, while the second is essentially equivalent to a Manner applicative, and (d) (12b’) belongs to the set of constructions escaping constraints on word formation for argument-satisfying compounds.

Finally, compounding with alilo and afto, which is not productive, differs from Anaphor NI too. For alilo-compounding consider (56).

(56)a. I Maria alilo-graphí me to Yánι  
The Mary each + other-writes with the John  
Mary corresponds with John  

12 I consider (55a, b) root compounds in the sense of recent discussions of English, with their Adverb corresponding to a predicate not in the VP. With the Adverb in the VP, they could be synthetic compounds lexically derived from (middle) convince easily and read hard. This could account for the contrast between these MG compounds and English *easily-bribing bureaucrats, which is syntactically derived by Keyser and Roeper (1989). In Keyser and Roeper’s view, the impossible English compound derives from the transitive bribe bureaucrats easily and violates Roeper and Siegel’s First Sister Principle (1978). However, the English Middle requires modifiers having scope over the VP or the sentence, such as the modal in The bureaucrats will bribe, suggesting that easily is not a modifier within the subcategorization frame of V either.
(56)b. Alilographia ‘correspondence’

Even though *alilo* has a meaning of reciprocity, it does not satisfy an argument of the V, which has Active morphology. Also, *alilo* is not a reciprocal anaphor, since *I María* is singular.

For *afto*-compounding consider the alternation in (57–58) pointed out in (Kostopoulou 1989):

(57)a. O Yánis afto-sxedíase éna logídrio
   *The John* self-made + *Act* a short + *speech*
   John improvised a short speech

b. O organizmós afto-katapolemá ta mikróvia
   *The body* self-fight + *Act* the microbes
   The body fights the microbes on its own

In (57), *afto* ‘self’ does not satisfy an argument of the Active V, the compositional meaning of the compound is unclear, and *afto* contributes the reading on X’s own, perhaps parallel to *auto* in Spanish *Juan se autodefende* ‘John defends himself’, where *se* is part of the anaphoric chain. In passivization, *afto* remains “Agent-oriented”, as seen in (58), and X in on X’s own still stands for *John* and the *organism*.

(58)a. Éna logídrio afto-sxedíástike apó ton Yáni
   *A* short + *speech* self-made + *Pass by* the *John*
   A short speech was improvised by John

b. Ta mikróvia afto-katapolemúnde apó ton organizmó
   *The microbes* self-fight + *Pass* by the *organism*
   Microbes are fought by the organism on its own

In brief, there are clear distinctions between morphological compounding and the process of Adverb and Noun Incorporation discussed in the previous sections, which is a syntactic rather than a lexical operation, namely Move *alpha* as applied to heads of syntactic phrases.

5. SUMMARY AND CONCLUSIONS

In this paper two classes of MG Adverbs have been distinguished using syntactic tests: (a) VP-internal Adverbs, including the Manner and the Aktionsart types, vs. (b) Adverbs which are external to the VP, such as the Time and Aspect types.
On the one hand, MG VP-internal Adverbs share the formal characteristics of Nouns which incorporate out of NPs functioning as arguments of Verbs, so are capable of forming a complex word with Verbs too, through the process labelled Incorporation. On the other hand, VP-external Adverbs pattern differently, and fail to undergo Incorporation. As a consequence, MG Adverbs and Ns which incorporate should be syntactically represented as heads of complements in the VP, attached under V', and this applies not only to the Manner class including the MG equivalent of well, but to Aktionsart Adverbs relating to durativity and iterativity, such as the MG counterpart of again, which raises many potential questions as to the syntactic dichotomy between Aktionsart and Aspect, and the mapping between syntax and semantics, as it relates to these two traditional notions. The MG situation does not appear language-particular, since a parallel formal distinction in relation to Adverb Incorporation is found in Nahuatl, where Aktionsart and other VP-internal Adverbs incorporate, but Aspectual Adverbs as VP-external items do not.

Adverb Incorporation and Noun Incorporation, affecting reflexives and reciprocals, are syntactic processes and not lexical ones in MG, given that they show the properties of the rule Move \( \alpha \) in syntax, but disobey general constraints of word-formation associated with morphological compounding in the lexicon.

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ADVERB INCORPORATION IN MODERN GREEK


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