The present paper examines Middle Formation in Greek and English. It compares non-affix mediated middle constructions in the two languages and observes that Middle Formation is more constrained in the former language than in the latter. Furthermore, it is claimed that contra Hoekstra & Roberts' recent analysis, Middle Formation is related to both Lexical Conceptual Structure and Thematic Structure as well.
1. Introduction.

The middle constructions to be dealt with in the present work have received a
great deal of attention, from many scholars (cf. Erades (1950), Lakoff (1977),
Van Oosten (1977), O'Grady (1980) and, more recently, Keyser and Roeper
(1992), Doron & Rappaport-Hovav (1991) and Rosta (1992). There are also

As far as English is concerned, the term "Middle" is currently employed for
the construction exemplified in (1) below:

(1) a. This cake cuts easily
b. Sue seduces easily
c. Taxmen bribe easily
d. This door opens easily
e. China breaks easily
f. Pine saws well
g. Clay shapes well
h. This pipe smokes nicely
i. Wool rugs clean well
j. This book sells (well)
k. This umbrella folds

What is rather uncommon as far as the data above is concerned, is the fact
that the argument that occupies the subject position in (1) bears the role of
Theme or Patient rather than that of Agent, despite the fact that the verbs
denote actions and thus, the linking conventions (cf. Carter (1976) and Hale &
Keyser (1987)) do not apply to (1), given that the most prominent argument, in
accordance with the Thematic hierarchy, does not occupy the subject
position[1]. In fact the doer of the action in (1) is syntactically suppressed.
Roberts (1987) claims, with some justification, that the subject argument has
become a *Chonneur*, "unemployed", borrowing the term from Relational
Grammar. Most recent analyses claim that this suppressed subject has been
assigned an arbitrary θ-role with a generic meaning, expressed by the indefinite
pronoun one in English, (and by kanis, in the case of its counterpart in Modern Greek). Thus, a paraphrase of (1a-f), which would observe the linking convention would be as follows with the verb can introducing the modality feature of middle, something which will become clear in the process of their analysis when L(exical) C((conceptual) S(structure), in the sense of Hale and Keyser (1987), is taken into account (see (52) below for details).

(2) a. One can cut this cake easily
   b. One can seduce Sue easily
   c. One can bribe policemen easily
   d. One can open this door easily
   e. (One) can break china easily
   f. One can saw pine well
   g. One can shape clay well
   h. One can smoke this pipe nicely
   i. One can clean wool rugs well
   j. One can sell this book
   k. One can fold this umbrella

(1) is a typical case, of an idiosyncratic construction, as far as linking conventions(cf. Carter(1976)) are concerned, as we said, in the sense that the Agent of an action is left unexpressed and the subject position is occupied by the Patient or Theme. Thus, Middles are similar to Passives, in some respects, but different from them in others. That is, on the one hand, they have subjects bearing the same role as that of passive constructions (cf. This cake is easily cut) but, on the other, they are different in the sense that they do not have passive morphology and, even more importantly, in that they can never have an Agent by-phrase overtly expressed, unlike passives where, the by-phrase can (optionally) be present. Compare (3) with (4), below:

(3) a. The New Year cake is always cut at 12 midnight (by father)
   b. Sue is normally bribed (by very rich people)

(4) a. This cake cuts easily (*by father)
   b. Sue bribes easily (*by very rich people)
However, although, no Agent is syntactically manifested in any way, intuitively one feels that in both examples there must be some agency involved (but see below for some counterexamples to this claim).

2. Modern Greek Middle Constructions

Following previous analyses of English middles by (Keyser and Roeper, op. cit.), and by Roberts (1987), Tsimpli (1989) claims that Modern Greek constructions, like the following ones, with a Mediopassive affix, are the middle construction counterparts in the sense of Keyser & Roeper, op.cit. Examples 5b and c are from Tsimpli’s (1989) whereas (5a) is mine:

(5) a. *i akropoli vlept-ε apo poli makria
ART:N: NOM-SG: see:MedP-3SG from very far
* The Acropolis sees from very far
'Acropolis can be seen from very far'

b. ta yalika μαθεν-o-nde efkola
the:NOM-Pl:French learn:MedP:3Pl easily
* French learns easily
'French can be learned easily'

c. a Vì ti tenia parakolubí-te efxarista
this the:NOM-SG film see:MedP-3SG pleasantly
* This film watches pleasantly
'This film can be watched pleasantly'

Tsimpli’s description of (5) as middle constructions, similar to those of English in (1), is based on the fact that they share three properties with the English middles. First, like English middles (cf. (4a,b), they cannot accept an apo (‘by’) -phrase with a specific referent:

(6). a Vì fo vivlio δjavazete efxarista (*apo to jitona mi) (apo ton kαθena)
This book reads (MedP) with pleasure (*by my neighbour) (by everybody)

Secondly, like the English middles in (1), they require the presence of a manner adverbial, although there are many cases where Modern Greek middles can do without it and which Tsimpli fails to mention. In fact, she wrongly predicts that (7) is ungrammatical, because it lacks a manner adverbial:
(7) (*) after to vivlio διαβάζετε
This book reads: MedP

But note that (7) is perfect for most speakers of Greek (see discussion below).
Thirdly, like English, the constructions in (5) have an aspectual specification. They are Imperfective and generic in meaning.

(8) *after to vivlio διαβάσατε εξαρίστα
(ungrammatical in the relevant interpretation, according to Tsimpli)

However, the middle constructions in Modern Greek which Tsimpli (1989) is referring to, differ significantly from our English middles in (1) in two respects: (a) they are morphologically marked as Mediopassives, and not as actives, like their English equivalents in (1), that is, we are dealing with an affix-mediated alternation which means that the mediopassive morpheme may be analysed as a Case "absorbing" morpheme: the now caseless (logical) object NP will have to move to the empty subject position to receive nominative Case from Tns-Agr, just as it happens with unaccusative verbs, and, even more importantly: (b) they also differ in that they are not subject to the "affectedness" constraint (originated in Anderson (1977)) which has been invariably applied to middle constructions by Jaeggli (1986), Roberts (1987), Hale & Keyser (1987), Tenny (1988), Zubizarreta (1987) and Hale and Keyser (1988).

This can be seen in the starred English translations of (5a,b,c), above, where the NPs i Acropolis, ta yalika and after to film, respectively are not affected entities; and yet, the Middles are perfect in Modern Greek, given that they are affix-mediated and just like the se moyeu in French (see Fagan (1992)) need not have affected subjects.

The purpose of our analysis, however, is to compare English middle constructions with their genuine Modern Greek counterparts. We shall therefore exclude from our discussion affix-mediated middles, that is Middles with Mediopassive affixation, like those in Tsimpli (1989), which will be dealt with in another paper, and compare English and Modern Greek middle that share a common Lexical Conceptual Structure and a common morphosyntactic structure, as well. That is, we shall compare below, English and Modern Greek middle constructions which share a common feature: they both have active voice morphology.
3. Non-affix Mediated Middles in Modern Greek

There is, as we just said, another type of "Middle" that has been dealt with by Condoravdi (1989) and by Kakouriotis (1992) which, like English middle constructions, does not involve any phonological change whatsoever: the phonological output of that construction is identical to that of its input:

(9) a. aftp ta pukamisa kaθarizun efkola
   These shirts clean (Active affix) easily
   'These shirts clean easily'
b. bori kanis na kaθarisi aftp ta pukamisa efkola
   'One can clean these shirts easily'

(10) a. ta aspra sendonja leroni efkola
   'White bed sheets dirty (Active affix) easily
   b. bori kanis na lerosi efkola ta aspra sendonja
   'One can dirty white bed sheets easily'

(11) a. aftp i karekla diploni
   'This chair folds' (Active affix)
b. bori kanis na ti diplosi aftp tin karekla
   'One can fold this chair'

(12) a. aftp to anōriko pandeloni kumboni
   'This pair of man's trousers buttons' (Active affix)
b. bori kanis na to kumbosi aftp to anōriko pandeloni
   'One can button this pair of man's trousers'

(13) a. ta mikra peðja tromazun efkola
   'Small children frighten (Active affix) easily'
b. bori kanis efkola na tromaksi ta mikra peðja
   'One can easily frighten small children'

(14) a. i anipomonu anthropi nevriazun efkola
   'Impatient people (get) upset (Active affix) easily'
b. bori kanis na nevriasi efkola tus anipomonu anthropus
   'One can easily upset impatient people'
(15) a. to ϝ erma tis marias ksefluo$izi$ efkola to kalokeri
   'Mary's skin peels easily (Active affix) in summer'
   b. * bori kanis na kseflu$isi$ efkola to ϝ erma tis marias
     'one can peel Marias skin easily'

(16) a. i olimbia mavrizi efkola s ton iljo
   'Olympia blackens (Active affix)easily in the sun
   'Olympia gets a suntan easily'
   b. * bori kanis na mavrisi efkola tin olimbia
     'One can give a suntan to Olympia easily'
     (Ungrammatical in the relevant meaning)

Note that the middle constructions in (9) to (16) come from the specific semantic classes of ergative verbs of the break type (e.g. Someone broke the glass → The glass broke), that is, verbs that exhibit the causative/ergative alternation. Thus, unlike Tsimpli's (op.cit.) Middles, where a non-patient, non-affected argument can appear as s-structure subject, (cf. (5a, b, c), the non-affix mediated middles are restricted as far as their Argument Structure is concerned: their subject must, as a rule, be an affected entity. Thus, the non-affix mediating versions of middles in (5) i.e. the active voice verbs, are all out, because the verbs are not involved in any ergative alternation and their subjects are not "affected" in the sense of Anderson (op.cit.):

(5') a. * i akropoli vlepi apo poli makria
   Acropolis sees from very far
   b. * ta yalika ma$eton$en e$fkola
   French learns easily
   c. *afti i tenia parakou$ti e$karista
   This picture watches pleasantly

3.1. On the Arbitrary Nature of the Subject in Middle Constructions
Fagan, (1988), Tsimpli (1989) and Hoekstra & Roberts (1993), among others, have observed, following ideas found in Rizzi (1986), that middle constructions have an arbitrary logical subject. As a matter of fact, Tsimpli for Modern Greek and Hockstra & Roberts (op. cit.) for English have employed the indefinite pronouns kanis and one, respectively. Both, these, pronouns, however, are used
for [+Human] NPs, which in its turn implies that the "suppressed" logical subject NP must be an Agent. In fact, Hoekstra & Roberts offer an ergative and a middle construction claiming that only the latter (b) involves an Agent:

(17) a. The clothes hung nicely on the line
   b. The clothes hang nicely on the line

Note that the two sentences differ only in tense: present or more precisely imperfective, which is compatible with a generic reading and middles are supposed to be indisputably generic (cf. Condoravdi (1989)). However, one cannot be easily convinced by their intuitive claim concerning the presence of an Agent in the (b) sentence and its absence in the (a) sentence simply because they do not offer adequate syntactic evidence to prove their point. Intuitively, one can hardly imagine how the hanging of the clothes in the ergative case has taken place without any interference on the part of some Agent who hung them and in fact a sentence like They hang nicely on the line all by themselves (cf. the Keyser & Roeper (1984) test of all by itself to prove that ergatives involve no Agent) would certainly be interpreted as a case where the clothes hang somewhere "on their own", and not that the hanging occurred with some human interference (e.g. of an Agent). But H & R might have made their point clearer if they had used an example like

(18) a. The apples hang (nicely) on the tree

where an implicit Agent is impossible to obtain.

However, there are cases where we can claim that there is, in fact, an Agent present in the Modern Greek sentence below with the ergative verb anío, 'open' where the instrument implies that there is a human entity (i.e. an Agent) who uses it to do something:

(18) b. i portá anikse xorís kamia ðiskolia / me siðirolosto
   'The door opened without any difficulty/ with an ironbar'

Both prepositional phrases imply agency, i.e. effort on the part of an actor who did the opening and thus sentences like the one above seem to weaken the
strong claim that there is no implicit Agent in ergatives but there always is one in the middles.

It appears, therefore, that the initial claim made by Keyser & Roeper (op. cit.), and adopted by many others, namely that in ergatives there is no implicit Agent at all, whereas in middles there is (at least in some cognitive sense), is too powerful. Moreover, it is by no means consonant with the idea that ergatives are events and middles are states, as Keyser & Roeper themselves (op.cit.) claim. In fact, as far as ergatives are concerned, it can be claimed, in accordance with the data presented above, that semantically, they denote a change of state with or without an implicit Agent.

Coming now back to the middle construction, observe that neither kanís nor its counterpart one can apply to either (15) or (16). And even (13) and (14) are ambiguous depending on whether one is deliberately frightened / upset or "s/he is just imagining things". That is one's being in the psychological state of fright or anger does not necessarily imply that there is an Agent, or even an obvious Cause that brings about this psychological state given that such emotional states are of a rather subjective nature. Thus, despite the very obvious problems faced by an analysis claiming that non-stative psych-verbs (i.e. the amuse class) have an implicit Agent, (see examples below) those verbs seem to make very good middle constructions both in English and Modern Greek. Consider for instance the following sentence:

(19)a. o ðaskalos mas nevriazi me to típota

The teacher of us upsets with the nothing

'Our teacher gets worked up over nothing'

b. kanja fora ta peðakja tromazun xorís kanena apolitos loyo

'Sometimes children get frightened with absolutely no reason'

where the implication is that our teacher may get upset or the children may get frightened without any specific reason at all. Of course, we have taken some extreme cases that rather distort the picture. As we will see below, middles, do have a kind of CAUSE constable (i.e. an abstract verb) in their LCS(cf. (52), below). But this constable is lexically saturated in the LCS and cannot be projected onto what is known to be the syntactically relevant level of lexical representation, namely the A(rgument) S(tructure).
Note in passing that the implicit Agent claim, brings us to another important issue concerning middle constructions, which some scholars tend to ignore. Both Lakoff (1977) and van Oosten (1977) had made a very valid and insightful point in connexion with middle constructions, namely that the Patient/Theme argument is **primarily responsible** for the situation expressed by the verb. Van Oosten, (op. cit. p.460-1 ) in fact, goes on to claim that "... The Patient of action is to some extent 'acting as Agent' ". But if we put the two claims together, then, we might postulate a middle construction with an implicit **logical-subject Agent** and, at the same time, with an explicit "**logical-object Agent**", which would lead us to analytic impasse.

It is beyond any doubt that in a sentence like:

(20) Ambitious politicians bribe easily

there is sure to be an implicit Agent and this implicit Agent is, as Hoekstra & Roberts (op.cit.) claim, following Cinque's (1988) terminology, a "quasi universal arbitrary pronominal" .Recall that we have claimed that the Modern Greek counterpart *kanis*, is also such a pronominal (cf. also Levin (1982:624)), who claims that "...there is a **generic quantifier Q** which is intended to be read as 'people in general' or 'one', (e.g. people in general/one can bribe ambitious politicians). But surely, not all middle constructions **must necessarily** have that kind of implicit Agent (and conversely, one might just as well claim that not all ergatives necessarily lack an implicit Agent). For instance, (20) below does not imply that there **must** be an Agent, i.e. a quasi universal arbitrary pronominal if we take into account that such middles may simply express the ability or propensity of the Patient/Theme s-structure subject to undergo whatever situation is expressed by the verb:

(21) Those fishing boats sink easily
(21') *afies i psarovarkes vujazun efkola*
(22) This butter melts easily
(22') *afto to vutiro lioni efkola*

In sum, the point to be made here is that the allegedly clear-cut distinction between ergatives, which have no implicit Agent argument, and middles, which have an implicit Agent cannot always hold. This is more obvious in middles
which come from verbs that also participate in the ergative alternation. And
probably, the most telling evidence to support the claim that middles do not
necessarily have to have an implicit Agent, is the semantic class of non-stative
psych-verbs which, as has been pointed out, make very good middles in both
English and Modern Greek and yet the status of non-Experiencer argument is
far from clear given the subjective nature of emotions involving anger, fright
etc..

In the sections to follow we will try to prove that middle constructions are,
indeed associated with both LCS and AS, the inventory of 9-roles. In order to
do so we will discuss the physically present argument that occupies subject
position in the middle constructions' s-structure.

4. Middles: Lexicon or Syntax?

Keyser and Roeper (1984), Roberts (1987) and Hoekstra & Roberts (1993),
henceforth H & Rall propose a syntactic analysis of middles; on the other hand,
Fagan (1988) and (1992) claim that middles are formed in the lexicon by an
operation on the AS of transitive verbs. The internal argument (i.e. the
Theme/Patient) is externalized whereas the erstwhile external argument is not
projected onto syntax, i.e. is no longer an argument, in fact, but is saturated in
the lexicon (cf. Rizzi (1986) for details about the possibility of saturation in the
lexicon). Furthermore, the lexically saturated external argument receives an
arbitrary interpretation (cf. one, kanis, people in general, see above) and it is
defined as [+generic, +human]. Like Fagan (op.cit.), H&R have adopted
Rizzi's insights concerning arbitrary grammatical relations, but as was said
above, they have opted for a syntactic derivation of the middle construction.
The main argument that H & R use against a lexical derivation of middle
coustructions is based on their claim that middles are not a lexical process sen-
titive to θ-roles in the sense that the "Externalize Theme" rule (Williams
(1981)) does not seem to apply to middles (cf H & R op cit.). In their view,
"some Dutch data which proves that personal middles can be formed in cases
where the externalized argument is an adjunct, pose insuperable problems for
any lexically based theory of middles" (cf. H&R op cit., p. 197). I have
deliberately borrowed here two of their examples, ((23 a & b) because their
Modern Greek counterparts are also grammatical, unlike their English glosses,
which have been starred by H & R, (although my informants' opinions vary in
that respect) :
(23) a. *Dit mes snijdt lekker
   "This knife cuts nicely"
b. *Die pen schrijft fijn
   "That pen writes well"

(23') a. *afto to maxeri kovi orea
   "This knife cuts nicely"
b. *afti i pena yrafi kala
   "This pen writes well"

Furthermore, they claim, that the "Externalize Theme" rule fails to capture the facts about middles in other respects, as well, given that externalization can apply to argument roles, other than Themes, namely Experiencers (24b) and Locatives (24b):

(24) a. *Children scare easily
   b. *This truck loads easily

Again, we can find Modern Greek sentences (which are word-for-word translations of (24)), as in (24'), below:

(24') a. *ta pedja tromazun efkola
   "Children scare easily"
b. *afto to kamioni fortoti efkola
   "This truck loads easily"

Let us first take the case of what H&R call the "adjunct" examples. One question which many scholars find hard to answer is the one that has to do with drawing a clear-cut distinction between arguments and adjuncts. In fact, some recent analyses have tried to find a way out by postulating an intermediate case, that of "argument adjuncts", the passive by-phrase counting as one of them (cf. Grimshaw (1990)).

In the sections that follow, we will prove that what H&R take to be adjuncts are in fact canonical arguments. Our evidence will be drawn from the syntactic behaviour that some Instrumental semantic roles exhibit. This will offer us concrete, as far as their syntactic realization is concerned.
4.1. *On the Instrumental Alternation*

First, let us consider our examples from Dutch and Modern Greek. It should be pointed out that Instruments are supposed to be of two kinds, namely intermediary and facilitating (cf. Marantz (1984), Rappaport et al (1988)). The former allow what I will call instrumental alternation whereas the latter do not. Both English and Modern Greek exhibit this alternation in a uniform way:

(25) a. We squeezed the lemon with that gadget  
b. That gadget squeezed the lemon

(26) a. We examined the blood with the microscope  
b.* The microscope examined the blood

(27) a. stipsame to lemoni me afito to marafeti  
b. afito to marafeti estipse to lemoni

(28) a. eksetasame to ema me to microscopio  
b.* to microscopio eksetase to ema

An intermediary instrument can perform the action somewhat autonomously, whereas a facilitating instrument cannot. Schlesinger (1988: 192) has claimed that "...when there is no Agent or where the attention is drawn away from it, the instrument may be regarded as Agent." (emphasis added). It, therefore, seems that intermediary instruments are canonical external arguments and not externalized adjuncts or the sort of "impure grammatical relations" that Marantz (1984) refers to.

This claim can be bolstered up by syntactic evidence adduced from the process of passivization which can prove that Instruments can occupy external argument position, as canonical arguments, and not as elements which have moved from an adjunct status to occupy subject position via a kind of sporadic movement. Rappaport et al (1988) have proposed that instruments should be analysed as external arguments because they appear in subject position with verbs that can take external arguments. Consider their example from English and from Modern Greek where passivization has applied and the Instrumental NP appears as by/apo phrase:
(29) a. The master key unlocked the door
    b. The door was unlocked by the master key
(30) a. afto to maxeri exi kopsis ekatondaes kavrelja
      'This knife has cut hundreds of loaves'
    b. ekatondaes kavrelja exun kopi apo afto to maxeri
      'Hundreds of loaves have been cut by this knife'
(31) a. afti edo i pena exi yrapsi ta pjo omorfα erotika yramata
      'This pen here has written the nicest love letters'
    b. ta pjo omorfα erotika yramata exun yrafiti apo aftin edo tin pena
      'The nicest love letters have been written by this pen'

If we hypothesized that the instrumentals, the key, to maxeri, 'the knife' and i pena, 'the pen' were derived subjects which occurred in subject position, as a result of a sort of movement from an adjunct position, in the active sentences, above, then, in accordance with 1-Advancement Exclusiveness Law (the IAEX law) of Relational Grammar (cf. Perlmutter & Postal (1984) and see also Marantz for an adaptation of this law to a modified GB framework in Marantz (1984)), an active verb with a derived subject would not be allowed to passivize. Thus, the passive sentences from English and Modern Greek, above would have been ruled out as ungrammatical. Note that this is exactly what happens with other verbs in which a kind of oblique or bare NP adjunct phrase (cf. Larson (1985)) is advanced to subject position:

(32)a. Ed will buy a fairly good shirt for 20 pounds
    b. A fairly good shirt will be bought for 20 pounds by Ed
    c. Twenty pounds can buy Ed a fairly good shirt
    d.* Ed will be bought a fairly good shirt by twenty pounds
(33)a. kapios perastikos vrike tus διο neus ksaplomenus stin amo to proi
      'Some passer-by found the two youngsters lying on the sand in the morning'
    b. i διο nei vreðikan ksaplomeni stin amo apo kapiο perastiko to proi
      'The two youngsters were found lying unconscious by some passer-by in the morning'
    c. to proi vrike tus διο neus ksaplomenus stin amo
      'The morning found the two youngsters lying on the sand'
    d.* i διο nei vreðikan ksaplomeni stin amo apo to proi
      'The two youngsters were found lying on the sand by the morning'
As can be seen, when the subject is an impure grammatical relation, passivization is not possible, whereas in the cases where the subject is the canonical non-derived grammatical relation, advancement of an object to subject position through the passivization process is allowed. Of course, the ungrammaticality of (32d) and (33d) above can also be accounted for by linking conventions and the Thematic Hierarchy. Both buy and *find/vrisko* must be assigned the *buyer* and the *finder* as external Θ-roles, i.e. as Agents. The ungrammaticality is due to the fact, then, that, although there is an Agent argument, i.e. a logical subject, the by-phrase contains a non-Agent role, i.e. Means, and Time respectively.

We can claim, therefore, that our Modern Greek examples with *cut* and *write* (and probably their Dutch counterparts), do not involve any kind of advancement from an oblique to the subject position, i.e. they are not adjuncts which move to subject position but are canonical external arguments, hence the possibility of their taking part in the process of passivization. Furthermore, we can claim that the Dutch and Modern Greek examples are simply not middle constructions, at all; in the first place, their argument subjects are not affected entities, as the subjects of middles usually are, and in the second, we never find middle constructions with instruments, subjects. Simply the verbs *cut* and *write* are used intransitively (or, more precisely, unergatively) and have the NPs *the knife* and *the pen* as their external (and not as externalized through a lexical or syntactic rule) arguments that bear the instrument role, in the sense described by Schlesinger (op. cit.).

The question now is why the Dutch and Modern Greek examples in (22) and (23) are grammatical, whereas their English counterparts are not. Schlesinger (op. cit. p.205) claims that "Each language provides its speakers with options (not necessarily the same for all languages) for talking about the world and thus organizes and categorizes it." For instance, Japanese does not allow Instruments to become subjects at all and in general, as Schlesinger (op. cit.) observes, Agents, Patients Instruments and Experiencers can be expressed in all languages but the way these semantic roles are categorized may be different from language to language. It appears that both Dutch and Modern Greek are more liberal in using Instruments as subjects than English. Thus, the fact remains: some Instruments are canonical external arguments and, according to Schlesinger, "Agents of sorts", whereas others are genuine adjuncts, most
notably the facilitating Instruments which, as we have seen do not seem to alternate, e.g.

(34) a. I ate the sweet with a fork
    b. * The fork ate the sweet.

5. Affectedness and Experiencers: Nonstatic Psych-Verbs in M. Greek

We shall now proceed to discuss the Experiencer and Locative subject middles repeated here together with their Modern Greek counterparts for convenience:

(35) a. Children scare easily
    b. This truck loads easily

(35') a. ta pe équipa tromazun etkola
    b. affo to kamioni forttoni etkola

According to H & R middle constructions like those in (35) present a problem for a lexical analysis, given that they are not sensitive to the rule "Externalize Theme", since they have no Theme arguments in the first place. Now the problem that theta role labels present is well known to anyone who has dealt with them. The Theme, in particular, seems to be the most problematic theta role label of all. Rizzi (1986) observes that "this label identifies a spurious collection" and goes on to add optimistically that "This conclusion is not particularly undesirable or surprising, given that the label 'Theme' is less intuitively unitary and conceptually unified than other labels" (Rizzi, op. cit. p. 540). Let us repeat here the typical case of nonstatic psych-verbs that we have already referred to. All standard analyses including the one by Belleti and Rizzi (1988) claim that those verbs have an AS like the following:

(36) AS for nonstatic psych-verbs: (Frighten/tromazo)
— < "Theme", Experiencer>.

But clearly, what they wrongly call the Theme here is the Cause of a psychological state change as, for instance, is the NP Mary in the sentence Mary unintentionally upset father, where father is the Experiencer, the
(affected) entity undergoing a kind of (psychological) state change (cf. the "happened" test, i.e. *What happened to father was that Mary upset him*). In fact, Jackendoff (1990) talks of "affected" Experiencers, when he refers to grammatical objects of nonstative psych-verbs of the *amuse* class. And yet, by any standard definition, it is the Theme that undergoes change. In sum, one might claim that it is not that the middles are not sensitive to θ-roles, as H & R believe, but rather it is because there is some definitional weakness in connexion with θ-roles labels which prevents one from being able to see whether middles are sensitive to θ-roles or not. In fact, their treatment, simply as labels that facilitate the reference to argument positions, has led to such a misuse of them that one can often make the wrong predictions, that we see in H & R analysis.

Rizzi (op. cit.) has tried to overcome this definitional weakness related to Theme by drawing a distinction between Theme1 and Theme2. The latter is defined as "a syntactic natural class in that it rules out a number of syntactic options otherwise available" (op. cit. p.538). Among these unavailable options is Middle, given that Theme2 represents non-affected entities and thus is not eligible for either middles or passive nominal constructions:

(37) a. *The cliff avoids easily
   b. *The car pursues easily
   c. *The mistake acknowledges easily

(38) a. *The cliff's avoidance
   b. *The car's pursuit
   c. *The mistake's acknowledgement

And, in fact, both English and Modern Greek middles appear to have affected external arguments:

(39) a. These vases crack easily
   b. Those ships sink easily
   c. Ice cream melts quickly
   d. Synthetic clothes dry before you can say Jack Robinson

(39') a. *afta ta vaza rajizun efkola
   b. ekina ta plia vuljazun efkola
c. *to payoto lioni yiroya  
d. *ta sinθetika ruxa steynonun mexri na pis kimino

In these examples the subject is affected in Anderson’s (1977), i.e. "changed, moved, altered in status, or created" (Anderson op. cit., p. 15). But the same applies to (35a) where the Experiencer argument undergoes a change of psychological state as well as in (35b) where the truck changes state from unloaded to fully loaded (cf. it is "holistically" affected). On the other hand, Theme2, where the argument is not an affected entity, as for instance, *Tina Turner and the miracle in (40a & b) below, makes middle formation impossible:

(40) a. Peter adores Tina Turner  
    b. The girl saw the miracle

(40') a. *o petros latrevi tip tina terner  
     b. to koritsi iče to Θavma

(41) a.*Tina Turner adores easily  
    b.*The miracle sees easily

(41') a.*i tina terner latrevi efkola  
     b.*to Θavma vlepi efkola

We, therefore, conclude that middle constructions are, in fact, sensitive to θ-roles and that their formation crucially depends on whether the externalized argument is Theme1 (affected) in the sense of Rizzi (op. cit.).

5.1. On the Affected Argument of the Locative Alternation

The load-fortono middles, which H & R have used as a case against the lexical derivation of these constructions, can, in fact, add further evidence to our claim that they are, in fact, sensitive to θ-roles, instead of causing problems to a lexical analysis of middles, as H & R have wrongly assumed. The verbs in question exhibit the so called Locative Alternation (cf. Anderson (1977), Schwartz-Norman (1976) Rappaport et al (1988), Pinker (1989) and Kakouriotis (1992)), exemplified in (42) and (42'):
(42) a. Paul loaded the truck with boxes
    b. Paul loaded boxes onto the truck

(42') a. *o pavlos fortose to kamioni me kutila
    b. *o pavlos fortose kutila s to kamioni

As has been pointed out by Anderson (1977) and Rappaport et al. (op. cit), the two alternants are not synonymous and have no indentical ASs. In the first place, the (a) examples, where the "Location" is the direct object, there is a "holistic" interpretation of this NP argument, in the sense that it is "wholly affected" by the action denoted by the verb. In other words, in the (a) examples above, the truck can be thought of as being full of boxes whereas in the (b) examples there is not necessarily such an implication:In the (b) examples the same argument may be considered only "partly affected". Now as far as the AS of the two alternants is concerned, it appears that each of them has a different Theme. In the (b) examples the NP boxes-kutila qualifies as a Theme in accordance with the Gruber (1976) and Jackendoff (1972) definition of Theme as the entity that moves from a source to a goal. But on the other hand, the NP truck-kamioni in the (a) example also qualifies as the Theme in the sense that it undergoes some change, it is an affected Theme in Anderson's (1977) terms. In fact Rappaport et al. (op. cit.) propose two ASs for the two variants of the locative alteration which they call the "with-variant" and the "locative variant", respectively. The fact that each variant has a different Theme reflects the subtle difference in meaning that distinguishes them (i.e. holistic vs. non-holistic interpretation).

Given, that the Modern Greek counterpart of load the verb fortomo behaves in a similar way, in the sense that both English and Modern Greek have a with and a locative variant, we may take that verb to have the same ASs, too:

(43) a. Load/fortomo: \(x < y \text{P} \text{ with } z\)
    b. Load/fortomo: \(x < y \text{P} \text{ loc } z\)

Thus, both the English sentence *this truck load easily* as well as its Modern Greek counterpart *auto to kamioni fortomo efkola* have externalized an affected Theme and so neither them, nor the non-stative psych-verbs and nor even the allegedly adjunct subjects of cut and write, which, as we have proved, are not
adjuncts but canonical external arguments of non-middle constructions, can cause any serious damage to a lexical derivation of middles.

Of relevance to our discussion are some observations in Roberts (1987) in connexion with the objections that some scholars (most notably, Jackendoff 1972) have raised to the θ-criterion:

(44) Each argument bears one and only one θ-role, and each θ-role is assigned to one and only one argument.

However, Roberts (op.cit. p. 46) has observed that, "...certain arguments intuitively seem to bear two θ-roles..." (examples from Roberts (1987) refer to the subjects):

(45) a. John received the package (Goal+Agent)
b. John sent the package to Bill (Source+Agent)
c. John opened the door (Instrument+ Agent)
d. John worried about Bill (Experiencer + Agent)

Roberts proposes that θ-roles are assigned either structurally or inherently. (cf. also structural and inherent Case assignment). He goes on to elaborate on his analysis by claiming that "some θ-roles are only assigned structurally." (Roberts op. cit.). I should think that our examples from English and Modern Greek above belong to a case similar to the one that Roberts cites, above:

(46) a. ἀφτὸ τοῦ μαξερί κοβι ὀρεά (Instrument+Agent)
   This knife cuts nicely
b. Children scare easily (Experiencer+Patient)
b'. τὰ πεδία τρώμαζαν ἑσκολά
   c. This truck loads easily (Locative+ Theme)

In sum, from the data we have considered so far, it appears that middles are sensitive to θ-roles, pace H & R. On the other hand, however, the rule of "Externalize Theme" must be modified. Thus, a more precise formulation of William’s rule to apply to both English middle formation as well as to non-affix mediated Modern Greek middle formation, and take into account Rizzi’s
distinction of Themes into Theme1 and Theme2, would be appropriately formulated here, as:

(47) **Externalize Affected direct Θ-role**

Rizzi (op. cit. p.540) adds more evidence to what we have presented so far in connexion with middle constructions' sensitiveness to Θ-roles. He claims that "...the affected-unaffected distinction appears to be of higher syntactic relevance than most distinctions offered by Θ-theory" and he further suggests that:

The carriers of some Θ-roles appear to be necessarily affected by the process (or state) referred to by the verb in that the process (or state) necessarily implies some modification (or involvement) of their physical or psychological state. This is clearly the case when the Θ-role is different from theme: an experiencer, a beneactive, a source, a goal, a location is always affected in that sense. (Rizzi op. cit. p.538)

We have seen that Middles can be formed from affected Experiencers and affected (Theme) Locatives. Notice also the syntactic relevance of affected/unaffected distinction in connexion with double object constructions in Modern Greek (cf. Kakouriotis (1995)). Indirect Object formation from Source argument NPs is possible only as long as the Source NP is affected:

(48)a. klepsane ta lefia apo ti maria
    steal:AOR-3PL ART:NOM:N from ART:ACC:N
    'Someone stole the money from Maria'

    b. tis ta klepsane ta lefia tis marias
       'Someone stole the money from Maria'

(49)a. emaθa ta anglika apo ti mitera mu
    learn:AOR-1SG ART:ACC:N-PL from:ART:NOM:N
    'I learned English from my mother'

    b. tis ta emaθa ta anglika tis miteras mu
Indirect Object formation, which involves an NP in the dative-genitive case, as an alternant of the object of the preposition apo, 'from' is possible only in the first example, where the NP Maria is affected, i.e. *What happened to Maria is that they stole the money from her. In the second example, however, the Source NP ti mitera mu 'my mother' is not affected, i.e. *What happened to my mother is that I learned English from her. We see, then, that the claim concerning the syntactic relevance of the distinction affected/ unaffected applies to Modern Greek Source arguments as it does to Experiencers and Locatives and it is in fact of highly syntactic relevance given that it distinguishes between Source NP arguments which can be promoted to (dative) indirect objects from objects of prepositions, as in (48), and those which cannot (49) [2].

6. Adverbial Modification in Middles

Most scholars claim that a manner adverbial is an obligatory modifier of middles. As a matter of fact, they tend to associate the obligatoriness of the adverb with a kind of Agent deletion that is supposed in Middles. Thus, the presence of an adverb is necessary to prove the Agent's recoverability. In our analysis, above, we have claimed that an implicit Agent is not out of the question. However, middles do not necessarily need to have an implicit Agent. Similarly, an obligatory adverbial modifier is not a sine qua non, although I will not relate this to the fact that they do not need to have an implicit Agent.

We have already offered examples of middles in Modern Greek where no adverbial modification is needed. The grammaticality of the English glosses proves that in English, too, adverbs are by no means obligatory, as the examples from English (50) and from Modern Greek will show:

(50) a. This magazine sells
    b. This bread cuts
(51) a. afti i karekla dipioni
    'This chair folds up'
    b. afto to andriko pandeloni kumboni
    'These man's trousers button up'

Middle constructions in general refer to special properties and propensities of their s-structure subjects. From a discourse point of view these properties convey new information, i.e. they are focuses. Or alternatively, they may
express a property of the subject that is unique to it and then function in discourse as *Contrastive Topics*, or both. For example, the magazine in question may sell unlike other magazine that go through a crisis and lack of readers or subscribers. Similarly, the bread in (50b) may be compared to other breads that are too stale and too hard to cut. In the Modern Greek examples, on the other hand, although a similar interpretation is not impossible, we may take the verb itself to be the focus of new information. Not all chairs fold up and thus this special property, that is, the fact that it is different from ordinary chairs that normally do not fold, constitutes in itself new information. Finally, given that trousers nowadays have zippers rather that buttons, the verb *kumbono* is again newsworthy information.

7. On the Semantics of English and Modern Greek non-affix Middles

The best known and most cited analysis of middles in English (cf. Keyser & Roeper (1984)) treats these constructions as an operation similar to that of passivization and the Italian *si* middle formation: This enables them to form a syntactic Move Alpha rule. In passive this is triggered by the passive morpheme *-en* which absorbs Case and thus the direct argument, the d-structure object NP, has to move to receive nominative from INFL(TENSE/AGR). In the case of English middles, however, they are forced to make up an *ad hoc* rule to the effect that, like Italian, English has a phonologically null "*si*" which, like the English passive morpheme *-en* absorbs Case and subsequently syntactic Alpha Movement is applied. Such an analysis is, apparently, more of a problem causer than a problem solver given that Modern Greek middles, for instance would either have a non-phonologically realized middle morpheme or the mediopassive morpheme, (see also Roberts (1987) and references therein that reject the Keyser & Roeper's invisible *si* analysis used to simply justify Alpha Movement). We will have nothing more to say about syntactic movement given that we have already adopted a lexical derivation of the middles both in English and Modern Greek. Furthermore, it appears that middle and passives differ in some crucial way, as has already been pointed out.

A basic difference between passives and the middle constructions we have not discussed so far is that the latter, but not the former, have an aspectual meaning of *potentiality* in them. We have paraphrased middles above by using *one*, as a kind of arbitrary subject and also by using the modal *can* to modify the main verb. Now, a detailed LCS for a middle construction verb, like *break*
and its Modern Greek counterpart, _spazo_, which would also take into account the fact that s-structure subjects are very different from their passive counterparts in the sense that, unlike the latter, they possess such special properties as primary responsibility for what is denoted by the middle construction verb, might take the following form:

(52) LCS for break / _spazo_.

The properties (of y) such that for x arbitrary it is generally possible that x CAUSE [y come to be broken].

However, _x arbitrary_ does not necessarily invoke an Agent, as it is the case in passive, which has a "suppressed" argument, and, therefore, the pronoun _one_ used in (2e) is rather an inaccurate substitution for the implicit argument of middles, given that, on the one hand, breaking can be caused by non-Agents and on the other, this quasi universal quantifier refers to persons, or more precisely in the case of the middles to prototypical agents (see also the Modern Greek examples which lead to the same conclusion).

8. Conclusion

We have taken a careful look at English Middles and their Modern Greek counterparts (i.e. non-affix mediated middle constructions). *Contra* Hockstra and Roberts (1993), we have claimed that both thematic roles and Lexical Conceptual Structure are relevant to the analysis of middles. Hockstra and Roberts' claim that adjuncts can occur as subjects of Middles is inaccurate, as our analyses of Instrumental roles has shown. Also, the consideration of other cases of thematic roles e.g. Experiencer and Locative, has shown that these roles can be analysed as "Themes1" in the sense of Rizzi (1986), i.e. as affected arguments. In other words, Middles normally occur when the verb's direct internal argument is affected and thus it can subsequently undergo a lexical rather than a syntactic externalization.

FOOTNOTES

[1] For a discussion of Thematic Hierarchy, see Jackendoff (1972) and, more recently Speas (1990).

REFERENCES