

# **PARTICIPLE-ADJECTIVE FORMATION IN MODERN GREEK**

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## 1 Introduction

This paper deals with Modern Greek (henceforward MG) words ending in *-menos*:

- (1) To nifiko                                    itan ra-**meno**                                    apo ton rafti me  
the wedding-dress.NEUT.N was sew.PRTC.NEUT.N by the tailor with  
hrisi klosti.  
golden thread  
“The wedding dress was sewn by the tailor with golden thread”.

Agreeing with the proposal of Markantonatou et al. (1996), according to which Modern Greek words ending in *-menos* should be considered to be participles rather than adjectives for reasons we present in Sections (3) and (3.2) below, our aim here is twofold:

1. to try to account for the fact that participles in *-menos* appear in the typical position of adjectives in Modern Greek (see Section (3.1)), and
2. to provide a formal account in LFG for participle-adjective formation in Modern Greek (see Section (5.2))

As far as the first of our aims is concerned, we show in Section (4) that participle-adjective formation in Modern Greek is better accounted for in the spirit of Bresnan’s (1996) proposal for participle-adjective conversion in English, and not in the spirit of the predictions of Ackerman (1992) and Markantonatou (1995), which we also present briefly in the same section.

The main contribution of this paper, though, is the formalization in LFG of Bresnan’s (1996) proposal for participle-adjective formation that we present in Section (5.2). The formalization we propose does not only cover the Modern Greek and English data at hand, but we are confident that it can easily be extended in order to account for the phenomenon of participle-adjective formation cross-linguistically.

## 2 Modern Greek words in *-menos*

Most of the literature to date has focused on the question whether the words ending in *-menos* in Modern Greek are adjectives or they bear a verbal nature, i.e., they are participles. The analyses proposed so far are split into two different classes as far as their conclusions are concerned.

Thus, according to the first class of analyses, Modern Greek words ending in *-menos* are adjectives. The analyses which take this assumption as their starting

point conclude that the expressions *ime... -menos* (be... -menos; cf., example (1) above) are phrase structures consisting of the auxiliary *ime* (be) and a complement (see Mozer (1994)).

According to the second class of analyses, though, Modern Greek words ending in *-menos* are participles. The analyses which take this assumption as their starting point conclude that the structures *ime... -menos* (be... -menos) are periphrastic expressions of the Passive Present Perfect (Present Perfect B'; see Veloudis (1990)).

Researchers who adopt the former view claim that the semantics of words ending in *-menos* is the same as the semantics of Modern Greek deverbal adjectives ending in *-tos*. That is, according to such views, *ine anigmenos/klismenos* and *ine anihotos/klistos* (be open/close) convey the same meaning (see Mozer (1994)).

### 3 Modern Greek words in *-menos*: Participles rather than Adjectives

Markantonatou et al. (1996), though, have shown that words ending in *-menos* bear more verbal characteristics than Modern Greek deverbal adjectives in *-tos*. That is, they have proposed clearly that words ending in *-menos* are participles rather than adjectives.

Look, for instance, at example (1), repeated here for convenience:

- (2) To nifiko                                    itan ra-**meno**                                    apo ton rafti    me  
the wedding-dress.NEUT.N was sew.PRTC.NEUT.N by the tailor with  
hrisi    klosti.  
golden thread  
“The wedding dress was sewn by the tailor with golden thread”.

In (2) above the expression *itan rameno* supports two complements, one denoting the “agent” (*ton rafti*) and the other denoting the “instrument” (*me hrisi klosti*). Both of these complements correspond to verbal complements, i.e., the subject and the instrument supported by the verbal head in example (3):

- (3) O raftis    erapse                    to nifiko                    me hrisi    klosti.  
the tailor.N sew.PAST.3S the wedding-dress.A with golden thread  
“The tailor sewed the wedding dress with golden thread”.

In contrast, deverbal adjectives ending in *-tos* do not permit the co-appearance of such complements in the same sentence (see example (4) below), showing thereby that their nature is “less verbal”:

- (4) To nifiko itan raf-**to** (\*apo ton rafti)  
 the wedding-dress.NEUT.N was sewn.ADJ.NEUT.N (\*by the tailor)  
 (\*me hrisi klosti).  
 (\*with golden thread)  
 “The wedding dress was sewn (\*by the tailor) (\*with golden thread)”.

In the following some more examples are added in order to show clearly that the words ending in *-menos* bear more verbal characteristics than the Modern Greek deverbal adjectives in *-tos*:

- (5) I porta itan anig-**meni** apo tus astinomikus me  
 the door.FEM.N was open.PRTC.FEM.N by the policemen with  
 losto.  
 metal-bar  
 “The door was opened by the policemen with a metal bar”.
- (6) Vrikan tin porta anig-**meni** me losto.  
 they-found the door.FEM.A open.PRTC.FEM.A with metal-bar  
 “They found the door opened with a metal bar”.
- (7) I porta itan anih-**ti** (\*apo tus astinomikus) (\*me  
 the door.FEM.N was open.ADJ.FEM.N (\*by the policemen) (\*with  
 losto).  
 metal-bar)  
 “The door was open (\*by the policemen) (\*with a metal bar)”.
- (8) Vrikan tin porta anih-**ti** (\*me losto).  
 they-found the door.FEM.A open.ADJ.FEM.A (\*with metal-bar)  
 “They found the door open (\*with a metal bar)”.

In example (5) the periphrasis *itan anig-meni* (was open) supports a complement which denotes the “agent” and a complement which denotes the “instrument”. Both of these complements correspond to verbal complements, i.e., the logical subject and the instrument supported by the verbal head as shown in example (9) below:

- (9) I astinomiki anixan tin porta me losto.  
 the policemen.N.PL open.PAST.3PL the door.A with metal-bar  
 “The policemen opened the door with a metal bar”.

Even more evidence for the fact that words ending in *-menos* bear more verbal characteristics than Modern Greek deverbal adjectives in *-tos* comes from incorporation phenomena, as Markantonatou et al. (1996) have shown. That is, words

ending in *-menos* form compounds with adverbs of manner, such as *kala* (well), *kaka* (badly), *prohira* (off hand), etc., exactly like the corresponding verbs that they are derived from:

- (10) Afta ta paputsia ine prohiroftiag-**mena**.  
 these the shoe.NEUT.N.PL be.3PL made-off-hand.PRTC.NEUT.N.PL  
 “These shoes seem to me to be made off hand”.
- (11) Tha ta prohirorapso ta paputsia tora ke tha ta  
 I-will cl.A.PL stich-off-hand.1S the shoe.A.PL now and I-will cl.A.PL  
 doso ston tsagari avrio.  
 give.1S to-the shoemaker tomorrow  
 “I will stich these shoes off hand now and I will give them to the shoemaker tomorrow”.

The deverbal adjectives ending in *-tos*, though, cannot form compounds with adverbs of manner:

- (12) \*Afta ta paputsia ine prohiroraf-**ta**.  
 these the shoe.NEUT.N.PL be.3PL stiched-off-hand.ADJ.NEUT.N.PL  
 “These shoes seem to me to be stiched off hand”.

We must underline here that the incorporation phenomena related to Modern Greek words ending in *-menos* persist even when the words ending in *-menos* appear in the typical position of adjectives. That is, for instance, after verbs like *fenete* (seems), *dihni* (shows), and so forth:

- (13) Afta ta paputsia mu fenonte  
 these the shoe.NEUT.N.PL cl.G seem.3PL  
 prohiroftiag-**mena**.  
 made-off-hand.PRTC.NEUT.N.PL  
 “These shoes seem to me to be made off hand”.
- (14) \*Afta ta paputsia mu fenonte  
 these the shoe.NEUT.N.PL cl.G seem.3PL  
 prohiroraf-**ta**.  
 stiched-off-hand.ADJ.NEUT.N.PL  
 “These shoes seem to me to be stiched off hand”.

### 3.1 Modern Greek Participles in *-menos* as Adjectives

As Markantonatou et al. (1996) have also shown, Modern Greek participles in *-menos* may appear in the typical position of adjectives, as in example (6) above.

That is, in example (6) the participle in *-menos* appears as a complement in the typical position of an adjective. It is also very interesting to underline that the participle in *-menos* permits the co-appearance of another complement in the same sentence which denotes the “instrument”, showing thereby its verbal nature.

In contrast, the deverbal adjectives ending in *-tos* do not licence the coappearance in the same sentence of such complements (see example (7) above), showing thereby clearly that their nature is “less verbal” than that of Modern Greek participles in *-menos*.

Below a few more example are given in order to show that participles in *-menos* have a verbal nature, but at the same time they can appear in the typical position of adjectives in Modern Greek:

- (15) To buti                    ine poli psi-**meno**                    apo tin pano meria  
the thigh.NEUT.N is    very roast.PRTC.NEUT.N from the upper side  
pu ekege                    o furnos ala apo tin kato                    ine shedon  
where burn.PAST.3S the oven.N but from the bottom(side) is    almost  
**apsi-to**.  
uncooked.ADJ.NEUT.N  
“The thigh is overroasted on the upper side where the oven was burning  
but on the bottom side it is almost uncooked”.
- (16) To kotopulo                    itan pio psi-**meno**                    apo to  
the chicken.NEUT.N was more roast.PRTC.NEUT.N than the  
arni                    pu    itan shedon **apsi-to**.  
lamb.NEUT.N which was almost uncooked.ADJ.NEUT.N  
“The chicken was cooked more than the lamb which was almost uncooked”.
- (17) To kotopulo                    mu fenete psi-**meno**.  
the chicken.NEUT.N cl.G seem.3S roast.PRTC.NEUT.N  
“The chicken seems done to me”.

### 3.2 Overview

In the remaining of this section we are showing some more aspects of the verbal nature of Modern Greek participles in *-menos*, which differentiate them from Modern Greek deverbal adjectives in *-tos*. Some of the discussion here can also be found in Markantonatou et al. (1996; in Greek).

The syntactic realization of each predicate is assumed to be linked to its semantics, which consists of a group of semantic arguments that are related to each other by some logic variable. This assumption is deliberately very general in order to allow for flexibility as far as the semantic structure of predicates is concerned.

We are interested here neither in the variety of the semantic arguments, nor in their number.

Now, Modern Greek participles in *-menos* allow for a complement which denotes the “instrument” (see, for instance, examples (1), (5), and (6)). This does not hold for Modern Greek adjectives in *-tos* (see, for instance, examples (4), (7), and (8)). This complement, i.e., the “instrument”, is related to the existence of a semantic argument which denotes *volitionality*.

But what do we mean by the term *volitionality*? Definitely something along the following terms: *Gianis* in example (18) below is a volitional participant in the event denoted by the verb, while *o aeris* (the air) in example (19) denotes only the (natural) cause that brings about the event described by the verb:

- (18) O Gianis espase to parathiro.  
 the Gianis.N break.PAST.3S the window.A  
 “John broke the window”.
- (19) \*O aeris espase to tzami me to tasaki.  
 the air.N break.PAST.3S the window.A with the ashtray  
 “\*The air broke the window with the ashtray”.

It seems that a semantic argument which denotes *volitionality* in the sense exhibited in examples (18) and (19) above is available to the participles in *-menos*, but not to the deverbial adjectives in *-tos*:

- (20) Afta ta paputsia mu fenonte ra-**mena** me  
 these the shoe.NEUT.N.PL cl.G seem.3PL stich.PRTC.NEUT.N.PL with  
 spago.  
 string  
 “These shoes seem to me to be stiched with string”.
- (21) Afta ta paputsia mu fenonte raf-**ta**  
 these the shoe.NEUT.N.PL cl.G seem.3PL stiched.ADJ.NEUT.N.PL  
 (\*me spago).  
 (\*with string)  
 “These shoes seem to me to be stiched with string”.

Moreover, in many cases Modern Greek participles in *-menos* allow for an *apo*(by)-PP as a complement. Among others, the *apo*(by)-PP in Modern Greek denotes the “agent” in passive sentences, as well as the “cause”. In contrast, Modern Greek deverbial adjectives in *-tos* do not allow for such a complement:

- (22) To spiti fenotan egataleli-**meno** apo tus  
 the house.NEUT.N seem.PAST.3S abandon.PRTC.NEUT.N by the  
 katikus tu.  
 inhabitant its  
 “The house seemed to be abandoned by its inhabitants”.
- (23) To spiti fenotan rimag-**meno** apo tin fotia.  
 the house.NEUT.N seem.PAST.3S destroy.PRTC.NEUT.N by the fire  
 “The house seemed to be destroyed by the fire”.
- (24) Vrika to fagito magire-**meno** apo tin Eleni.  
 I-found the food.NEUT.A cook.PRTC.NEUT.A by the Eleni  
 “I found out that Helen had cooked the food”.
- (25) To stifado fenete magire-**meno** apo kalo majira.  
 the stew.NEUT.N seem.3S cook.PRTC.NEUT.N by good cook  
 “The stew seems to be cooked by a good cook”.
- (26) \*Ta papoutsia mu fenonte raf-**ta** apo kalo  
 the shoe.NEUT.N.PL cl.G seem.3PL stiched.ADJ.NEUT.N.PL by good  
 tsagari.  
 shoemaker  
 “The shoes seem to me to be stiched by a good shoemaker”.

Similar phenomena can be found in English, too. According to Quirk, Greenbaum, Leech, and Svartvik (1985), the participles ending in *-ed* in English can co-occur with the adverb *very* and a *by*-PP, when the prepositional phrase denotes a “non-personal semi-agent”:

- (27) I am very disturbed by your attitude.

But personal agents are not excluded, either:

- (28) ?I was very influenced by my college professors.

All the above shows that Modern Greek participles in *-menos* bear one semantic argument more than Modern Greek deverbal adjectives in *-tos*: the “agent” or the “cause” that brings about the action denoted by the verb. This semantic argument allows for the instantiation of the “instrument” syntactic argument.

Thus, it seems that the contrast between verb and adjective is not vertical in Modern Greek, but they are intermediate, transitional linguistic types. Modern Greek words in *-menos* seem to function both as participles and as adjectives with a more “dynamic” semantic dimension than their corresponding adjectives ending in *-tos*. Modern Greek has the *morphological means* to denote such a contrast.



## 4 Participle-Adjective Formation in Modern Greek

But why? That is, why can Modern Greek participles in *-menos* appear in the typical position of adjectives at all?

Here we support the view that the conversion of Modern Greek participles in *-menos* to adjectives, and consequently, their appearance in the typical position of adjectives in Modern Greek follows from the fact that they refer to the result state of the action denoted by the verb they are derived from.

Both *anig-meni* (open.PRTC) in example (5) (repeated here as example (29) for convenience) and *psi-meno* (roast.PRTC) in example (16) (repeated here as example (31) for convenience) refer to the result state of the action denoted by the verbs they are derived from (*anigo* (open) in example (9) (repeated here as example (30) for convenience) and *psino* (roast) in example (32) below, respectively):

- (29) I porta itan anig-**meni** apo tus astinomikus me  
the door.FEM.N was open.PRTC.FEM.N by the policemen with  
losto.  
metal-bar  
“The door was opened by the policemen with a metal bar”.
- (30) I astinomiki anixan tin porta me losto.  
the policemen.N.PL open.PAST.3PL the door.A with metal-bar  
“The policemen opened the door with a metal bar”.
- (31) To kotopulo itan pio psi-**meno** apo to  
the chicken.NEUT.N was more roast.PRTC.NEUT.N than the  
arni pu itan shedon apsi-**to**.  
lamb.NEUT.N which was almost uncooked.ADJ.NEUT.N  
“The chicken was cooked more than the lamb which was almost uncooked”.
- (32) Epsisan to kotopulo pio poli apo to arni  
they-roasted the chicken.NEUT.A more much than the lamb.NEUT.A  
pu itan shedon apsi-**to**.  
which was almost uncooked.ADJ.NEUT.N  
“They roasted the chicken more than the lamb which was almost uncooked”.

This view is in agreement with Bresnan’s (1996) proposal for participle-adjective formation

“...adjective conversion in general denotes a state derived from the semantics of the base verb. This seems to be true for all types of conversion, including the English present participles (*a smiling woman*)...The

state denoted by the adjective appears to be the result state of the eventuality denoted by the participle” (Bresnan (1996, p. 12-13)).

To support her analysis of participle-adjective formation Bresnan uses English examples like the following:

- (33) wilted lettuce, lettuce that has wilted  
elapsed time, time that has elapsed  
an escaped convict, a convict who has escaped
- (34) \*the run child, the child who has run  
\*an exercised athlete, an athlete who has exercised  
\*a flown pilot, a pilot who has flown  
\*a recently left woman, a woman who has left recently

She suggests that wilting in example (33) above involves an involuntary change of state, but even highly volitional eventualities such as having escaped can entail result states, such as freedom. She also points out that

“it is strange to say *a run child*, because the activity of running lacks an inherent result state. But when the goal is supplied to the activity, a result state is defined, and conversion is possible (*a run-away child*)” (Bresnan (1996, p. 13)).

Thus, the converted adjectives of the following ergative past participles are all possible:<sup>1</sup>

- (35) a run-away slave, a slave who has run away  
an over-exercised athlete, an athlete who has exercised overly  
a flown-away bird, a bird that has flown away  
the widely-travelled correspondent, the correspondent who has travelled widely

whereas, in contrast, as Bresnan (1996, p. 13) explains, the verb *leave* in (34)<sup>2</sup> is bad because the predicate focuses on the source of motion, not on the goal, or result state.

Before drawing, though, our final conclusions for the phenomenon of participle-adjective formation in Modern Greek, we are going to explore the potential of Ackerman’s (1992) and Markantonatou’s (1995) proposals for participle-adjective formation when applied to the Modern Greek data at hand.

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<sup>1</sup>Example (28) of Bresnan (1996, p. 13).

<sup>2</sup>Example (27b) of Bresnan (1996, p. 12).

Ackerman (1992) and Markantonatou (1995) predict that adjectival participles are related only to predicates which have a [-r] argument in their a(argument)-structure. For Modern Greek, examples like the following illustrate clearly the predictions of Ackerman's (1992) and Markantonatou (1995)'s analyses:

- (36) I giagia magirepse to fagito.  
 the grandmother.N cook.PAST.3S the food.A  
 "The grandmother cooked the food".  
*magirevo* <AGENT THEME>  
 IC -o -r  
 Mapping Principles SUBJ OBJ
- (37) To fagito ine magire-**meno**/\*magiref-**to** apo tin giagia.  
 the food.N is cook.PRTC.N/cook.ADJ.N by the grandmother  
 "The food is cooked by the grandmother".

But examples like the following:

- (38) O Gianis ipie poli krasi htes vradi sto parti.  
 the Gianis.N drank much wine.A yesterday night at-the party  
 "John drank too much wine at the party last night".  
*pino* <AGENT THEME>  
 IC -o -r  
 Mapping Principles SUBJ OBJ
- (39) O Gianis itan pio-**menos** htes vradi sto parti.  
 the Gianis.N was drink.PRTC.N yesterday night at-the party  
 "John was blind drunk at the party last night".

show that Ackerman's (1992) and Markantonatou's (1995) predictions that adjectival participles are related and refer **only** to a [-r] argument of predicates which contain such an argument in their a-structure, though not incorrect, do not cover all the cases of participle-adjective formation, at least in Modern Greek.

Our conclusion, thus, must be that Bresnan's (1996) proposal, which we have briefly shown earlier in the current section, is more reliable when it comes to participle-adjective formation in Modern Greek (see examples (29)-(32) above).

Moreover, employing the semantic concept of *result state* that Bresnan (1996) has proposed for participle-adjective conversions in English, we can also explain the restrictions on the formation of passive adjectives related to psychological predicates in Modern Greek without having to assume that the *experiencer* argument of Accusative Experiencer-Object Psych Verb Constructions (henceforward EOPVCs)

in Modern Greek bears the intrinsic classification feature [-r], as Markantonatou (1995) does.

Consider, for instance, examples (40)-(42)<sup>3</sup> below:

- (40) O Gianis tromakse ton Kosta.  
the Gianis.N frighten.PAST.3S the Kosta.A  
“John frightened Kosta.”
- (41) O Kostas ine tromag-**menos**.  
the Kostas.N be.3S frightened.ADJ.N  
“Kostas is frightened.”
- (42) O Gianis ine tromag-**menos**.  
the Gianis.N be.3S frightened.ADJ.N  
“John is frightened.”

(40) implies (41), but not (42). We agree with Markantonatou (1995, p. 291) that passive adjectives related to psychological predicates in Modern Greek refer to the experiencer semantic argument of Accusative EOPVCs. But this fact should not be assumed that it automatically entails in any way that this experiencer semantic argument must be considered to bear the Intrinsic Classification (IC) feature [-r].

The process of passive adjective formation, which is related to Accusative EOPVCs in Modern Greek, is not affected, though. Passive adjectives like the ones in (41) above are related to Modern Greek Accusative EOPVCs (cf., for instance, (40)) because these constructions clearly denote a *result state*. That is, the passive participles related to Accusative EOPVCs in Modern Greek denote a *result state*, and therefore, their conversion to adjectives is possible, according to Bresnan’s (1996) predictions that we have seen above.

Our conclusion, then, is that passive adjectives related to Accusative EOPVCs in Modern Greek:

1. refer to the *experiencer* semantic argument of Accusative EOPVCs, and
2. their relation to these constructions is explained by the fact that Accusative EOPVCs clearly denote a *result state*. That is, the passive participles related to these constructions also denote a *result state*; thus, their conversion to passive adjectives is possible, according to Bresnan’s (1996) predictions, which as we have already shown at the beginning of the current section explain the phenomenon of participle-adjective formation in Modern Greek in its entirety (for more details see Kordoni (2002)).

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<sup>3</sup>Examples (74), (75), and (76) of Markantonatou (1995, p. 291).

## 5 Formalization of Participle-Adjective Formation in LFG

In the remaining we provide a formalization of participle-adjective formation in Modern Greek. This we are doing by formalizing in LFG the semantic concept of *result state* that Bresnan (1996) has proposed for participle-adjective conversions in English.

The formal proposal we present in this section is inspired amongst others by some aspects of the analysis of Grimshaw (1990) for derived nominals (see Grimshaw (1990, Chapter 3)).

In brief, we assume that Modern Greek words in *-menos* behave like result deverbal nominals. This, as we will show below, leads to the assumption that Modern Greek words in *-menos* have the Lexical Conceptual Structure (LCS) representation of verbal predicates, with one of their variables bound to the *R* argument, which according to Grimshaw is a non-thematic argument appearing at the level of a(argument)-structure. According to her, this *R* argument is originally postulated to capture the predication or referentiality of nominal expressions. It serves as the external argument of nouns, but it is distinct from thematic arguments in that it is not realized in the syntactic representation.

The formalization of participle-adjective formation in Modern Greek that we propose in this section is based on the assumptions above.

### 5.1 Lexical Representations of Modern Greek Verbs and Nouns

Before moving onto the lexical representations of Modern Greek participles in *-menos*, though, we will present briefly the lexical representations of ordinary nouns and verbs in Modern Greek. The semantic and syntactic representations of Modern Greek nouns and verbs that we present here are in the spirit of the LFG analysis of Ohara (2001) for Japanese verbal nouns.

So the lexical representation of an ordinary noun in Modern Greek is as follows:

	LCS	vazo'(x)
(43)	a-structure	vazo <R(=x)>
	f-structure	(↑PRED) = 'vazo'

That is, the lexical representation of the ordinary Modern Greek noun *vazo* (vase) in (43) above includes a Lexical Conceptual Structure (LCS) level, an a(argument)-structure level, and a predicate value at the f-structure level. The *R* argument is identified with a variable (x) at the level of LCS. Unlike a thematic argument, the *R* argument is not realized as a grammatical function at the f-structure level.

In addition, the lexical representation of an ordinary verb in Modern Greek is as follows:

- (44) LCS             $\lambda y \lambda x \lambda e [\text{spazo}'(e) \ \& \ \theta(e,x), \ \& \ \theta(e,y)]$   
       a-structure                    spazo <[P-A],    [P-P]>  
       f-structure    ( $\uparrow$ PRED) = 'spazo <SUBJ,    OBJ>'

As shown in (44) above, the two participants of the event *spazo* (break) are linked to a Proto-Agent (P-A) and a Proto-Patient (P-P) argument at the level of argument structure (a-structure), and these arguments are in turn mapped to a subject and an object grammatical functions at the level of f-structure, respectively (in the spirit of Alsina (1996)).

We believe that the correspondence/linking between the levels of representation which describe the semantics and the syntax of ordinary nouns and verbs in Modern Greek is straightforward and can be extended so as to make the correct predictions about the relation between the semantics and the syntax of result deverbal nominals in Modern Greek.

Look, for instance, at example (45) below:

- (45) LCS             $\lambda y \lambda x \lambda e [\text{paratiro}'(e) \ \& \ \theta(e,x), \ \& \ \theta(e,y)]$   
       a-structure                    paratirisi <R(=y)>  
       f-structure    ( $\uparrow$ PRED) = 'paratirisi'

In (45) above, the deverbal nominal *paratirisi* (observation) has the LCS representation of the Modern Greek verb *paratiro* (observe). Moreover, because it is a result deverbal nominal, its second participant is bound to the *R* argument at the level of argument structure (a-structure). This captures the fact that a result deverbal nominal refers to some concrete entity, which is associated with the event of the base verb it is derived from.

This way, result deverbal nominals are treated as having verbal information at the level of Lexical Conceptual Structure (LCS), which is mainly responsible for their conversion to nominals at the level of argument structure (a-structure) through the binding of a variable to the *R* argument of their a-structure.

For clarity, we need to add here that simple (i.e., non-result) deverbal nominals also have the Lexical Conceptual Structure (LCS) representation of the verb they are derived from. They also include the *R* argument in their a(argument)-structure. But the variable bound to this *R* argument is different in reference than that of the result deverbal nominals we have just discussed above. Instead of binding the variable of a participant, the *R* argument of simple deverbal nominals in Modern Greek binds the variable of the whole event (e). This is shown in example (46) below:

- (46) LCS             $\lambda y \lambda x \lambda e [\text{proetimazo}'(e) \ \& \ \theta(e,x), \ \& \ \theta(e,y)]$   
a-structure    proetimasia  $\langle R(=e) \rangle$   
f-structure    ( $\uparrow$ PRED) = 'proetimasia'

Example (46) basically captures formally the fact that a simple deverbal nominal in Modern Greek, such as the nominal *proetimasia* (preparation), refers to the event itself, without looking at its internal structure. But since a simple deverbal nominal in Modern Greek has the *R* argument in its a(rgument) structure, it has referentiality, and behaves like a noun.

## 5.2 Lexical Representations of Modern Greek Participles in *-menos*

Turning to the case of Modern Greek words ending in *-menos* and as we have already mentioned at the beginning of Section (5.1) above, we assume that these behave like result deverbal nominals. That is, we assume that Modern Greek words in *-menos* have the LCS representation of verbal predicates, with one of their variables bound to the *R* argument, exactly like Modern Greek result deverbal nominals (see, for instance, example (45) in Section (5.1) above).

Look, for example, at (47) below:

- (47) LCS             $\lambda y \lambda x \lambda e [\text{magirevo}'(e) \ \& \ \theta(e,x), \ \& \ \theta(e,y)]$   
a-structure    magiremeno  $\langle R(=y) \rangle$   
f-structure    ( $\uparrow$ PRED) = 'magiremeno'

In (47), *magiremeno* (cook.PRTC) of example (37), which is repeated here for convenience:

- (48) To fagito ine magire-**meno**/\*magiref-**to** apo tin giagia.  
the food.N is cook.PRTC.N/cook.ADJ.N by the grandmother  
"The food is cooked by the grandmother".

has the LCS representation of the verb *magirevo* (cook) of example (36), which is also repeated here for convenience:

- (49) I giagia magirepse to fagito.  
the grandmother.N cook.PAST.3S the food.A  
"The grandmother cooked the food".

Moreover, the second participant of the Modern Greek word *magiremeno* (cook.PRTC) as shown in (47) above is bound to the *R* argument at the level of argument structure (a-structure).

In this way, we capture the intuition that *magiremeno* (cook.PRTC), which refers to the result state of the action denoted by the verb *magirevo* (cook) that it is derived from, refers to some concrete entity, which is associated with the event of the base verb *magirevo* that the word *magiremeno* (cook.PRTC) is derived from.

Thus, the conclusion we are drawing here is that Modern Greek words ending in *-menos* have verbal information at the level of Lexical Conceptual Structure (LCS), exactly like Modern Greek result deverbal nominals that we have seen in Section (5.1) above (see, for instance, example (45)).

As in the case of Modern Greek result deverbal nominals, the fact that Modern Greek words ending in *-menos* are correctly treated as having verbal information at the level of Lexical Conceptual Structure (LCS; see examples (37), (48), and (47) above) is mainly responsible for their conversion to participles at the level of argument structure (a-structure) through the binding of a variable to the *R* argument of their a-structure. These participles, thus, are similar in nature to Modern Greek result deverbal nominals. A fact that justifies their appearance in the typical position of adjectives in Modern Greek, – in a typical position where a nominal category may appear, – as we have also shown in Section (4) in the previous.

Let us also take a closer look at example (39) that we have seen in Section (4) above, repeated here for convenience in (50) below:

- (50) O Gianis itan pio-**menos** htes vradi sto parti.  
 the Gianis.N was drink.PRTC.N yesterday night at-the party  
 “John was blind drunk at the party last night”.

The participle *piomenos* (drink.PRTC) in (50) has the Lexical Conceptual Structure (LCS) representation which is shown in (52) below. This is the LCS representation of the verb *pino* (drink) of example (38), repeated here for convenience in (51) below:

- (51) O Gianis ipie poli krasi htes vradi sto parti.  
 the Gianis.N drank much wine.A yesterday night at-the party  
 “John drank too much wine at the party last night”.

*pino* <AGENT THEME>  
 IC -o -r  
 Mapping Principles SUBJ OBJ

- (52) LCS  $\lambda y \lambda x \lambda e [pino'(e) \ \& \ \theta(e,x), \ (\& \ \theta(e,y))]$   
 a-structure *piomenos* <R(=x)>  
 f-structure ( $\uparrow$ PRED) = ‘*piomenos*’

The non-optional participant of the event denoted by the verb *pino* (drink)<sup>4</sup> is

<sup>4</sup>The notation ( $\& \ \theta(e,y)$ ) denotes optionality.



bound to the *R* argument at the level of argument structure (a-structure) of the word *piomenos* (drink.PRTC) in (52) above.

In this way, we capture the intuition that *piomenos* (drink.PRTC) in (39) and (50), which refers to the result state of the action denoted by the verb *pino* that it is derived from, refers to the concrete entity which is associated to the non-optional participant of the event denoted by the base verb *pino*; that is, the participant denoted by the subject *o Gianis* in examples (38) and (51) above, in contrast to the predictions of Ackerman (1992) and Markantonatou (1995) that we have presented in Section (4) in the previous.

## 6 Conclusions

In this paper we have focused on Modern Greek words ending in *-menos*, which should be considered to be participles rather than adjectives, as Markantonatou et al. (1996) have shown (see Section (3)), since they bear one semantic argument more than Modern Greek deverbal adjectives ending in *-tos* (see Section (3.2)). This additional semantic argument of Modern Greek words ending in *-menos* is the “agent” or “cause” that brings about the action denoted by the verb which the words ending in *-menos* are derived from. Look, for instance, at examples (1)-(4) and (36)-(37), repeated here for convenience:

- (53) To nifiko                                    itan ra-**meno**                                    apo ton rafti me  
the wedding-dress.NEUT.N was sew.PRTC.NEUT.N by the tailor with  
hrisi klosti.  
golden thread  
“The wedding dress was sewn by the tailor with golden thread”.
- (54) O raftis erapse                    to nifiko                    me hrisi klosti.  
the tailor.N sew.PAST.3S the wedding-dress.A with golden thread  
“The tailor sewed the wedding dress with golden thread”.
- (55) To nifiko                                    itan raf-**to**                                    (\*apo ton rafti)  
the wedding-dress.NEUT.N was sewn.ADJ.NEUT.N (\*by the tailor)  
(\*me hrisi klosti).  
(\*with golden thread)  
“The wedding dress was sewn (\*by the tailor) (\*with golden thread)”.
- (56) I giagia                    magirepse                    to fagito.  
the grandmother.N cook.PAST.3S the food.A  
“The grandmother cooked the food”.

- (57) To fagito ine magire-**meno**/\*magiref-**to** apo tin giagia.  
the food.N is cook.PRTC.N/cook.ADJ.N by the grandmother  
“The food is cooked by the grandmother”.

Moreover, in Section (3.1) of this paper we have shown that Modern Greek participles in *-menos* may also function as adjectives with a more enriched semantics than their corresponding adjectives in *-tos*.

Trying to account for the fact that participles in *-menos* appear in the typical position of adjectives in Modern Greek we first looked in Section (4) at the phenomenon of participle-adjective formation in Modern Greek. Our conclusion in the same section has been that participle-adjective formation in Modern Greek is better accounted for in the spirit of Bresnan’s (1996) proposal for participle-adjective conversion in English, and not in the spirit of the predictions of Ackerman (1992) and Markantonatou (1995) that we have presented in the same section.

But this is not the only contribution of this paper as far as the phenomenon of participle-adjective formation is concerned.

In Section (5.2) we have presented a formalization in LFG of Bresnan’s (1996) proposal for participle-adjective formation adapted, of course, to the Modern Greek data at hand. For this formalization we followed the analysis for the semantic and syntactic representations of Modern Greek verbs and nouns which we have presented in Section (5.1) and which is inspired by some aspects of the analysis of Grimshaw (1990) for derived nominals mainly in English.

With the formalization of Bresnan’s (1996) analysis for participle-adjective formation that we have proposed in this paper at hand, it is more than interesting for future research to look at relevant data from languages other than English and Modern Greek in order for the current proposal to be extended accordingly and cover the phenomenon of participle-adjective formation cross-linguistically, as well as it currently does for Modern Greek and English.

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