

Idiomatic meaning and the structure of participles

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Abstract: The aim of this paper is to explore how (non-)compositional meaning is assigned in the domain of word formation, focusing on the presence vs. absence of idiomatic meanings associated with derivational morphology. Idiomaticity is investigated in the empirical domain of Greek *-tos* and *-menos* adjectival participles. It is argued that the Marantz's (2001) and Arad's (2003) hypothesis that idiosyncratic meaning is delimited at the level of the first category assigning head due to locality conditions on the interpretation of roots is not supported by the Greek data. It is furthermore proposed that in Greek participles the presence of Voice (carrying agentivity features) delimits the domain for non-compositional meaning assignment.

Key words: idiosyncrasy, idiomaticity, roots, phases, non-compositional meaning, Greek adjectival participles.

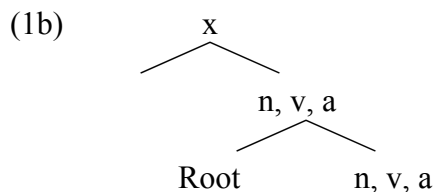
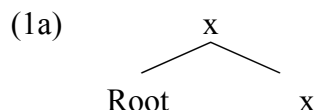
1. Introduction

Two types of word formation have been identified in the literature. One forming words which show irregularities (paradigmatic gaps, non-predictable meaning, irregular forms) and one for morphologically productive, semantically transparent and morpho-phonologically predictable forms¹.

According to lexicalist approaches the two types of word formation owe their properties to the component in which they take place: lexicon or syntax. Word formation taking place in the *lexicon* can show idiosyncratic forms and meanings because words in the Lexicon have special listed properties. On the other hand, *syntactic* word formation is fully productive, resulting in transparent forms and compositional meaning for the same reason that sentence formation is productive and compositional, i.e. because the output of syntax is not assumed to be stored.

For approaches that do away with a generative Lexicon and take all derivational morphology to occur in syntax (e.g. Distributed Morphology Halle & Marantz 1993) this two place distinction has to be reconstructed within syntax and is expressed as a difference between low vs. high attachment of derivational morphology. More specifically, it is proposed that there are two domains of word formation, one associated with idiosyncrasy in form and meaning and one leading to fully productive, transparent and compositional forms. Marantz (2001, 2007) and Arad (2003) argue that the two domains are delimited by a category defining head. Attachment of a head directly to the root, without the intervention of a category defining head, leads to 'irregular' word formation (1a), while attachment of a head above the category defining heads leads to 'regular' word formation (1b):

¹ In some of the literature on the issue, this distinction has been identified with the difference between derivational and inflectional morphology.



This is so because category defining heads are phase heads, i.e. points in the derivation where structure is transferred to Spell Out and receives an interpretation. Roots are assigned an interpretation (and are pronounced) in the context of *x*, and any derivational morphology attaching below that head is sensitive to idiosyncratic properties of the root. But once interpretation and pronunciation is fixed, it cannot be altered anymore. Therefore, any morphology attaching above *x* (all inflectional and some derivational) leads to fully transparent forms and meanings.

In this paper we look at idiomaticity in the domain of Greek adjectival *-tos* and *-menos* participles from the point of view of Marantz's and Arad's hypothesis. The two types of participles present evidence for low and high attachment, respectively. Therefore, it is predicted that the *-tos* participles will show idiomatic interpretations which *-menos* participles lack. This prediction, however, is not borne out by the data. Both types of participles can show idiosyncratic meanings, which are not correlated in a systematic way. The data moreover show that agentive Voice is the head which delimits the domain for lexical idioms. The idiosyncratic reading disappears in *-tos* participles expressing ability/ possibility or when *-menos* participles appear with agent-oriented / result adverbs, agent or instrument PPs. That is, idiomaticity disappears when XP material is added to the structure that can only be interpreted compositionally (adverbs, PPs) or in the presence of agentivity features (ability meaning, agent-oriented adverbs).

The paper is structured as follows. Section 2 presents the differences between adjectival and verbal participles which point to a structural difference between them in terms of high vs. low level of attachment. In section 3 the types and structures of Greek adjectival participles are presented. Section 4 focuses on the question of idiomaticity. Section 5 discusses the relevance of Voice for compositionality and, finally, section 6 summarises our conclusions.

2. Adjectival vs. verbal participles in the syntactic hypothesis of Marantz/Arad

It is well known that English adjectival participles have different properties from verbal passive participles:

(i) Adjectival participles are associated with idiosyncratic meanings which verbal ones lack (Wasow 1977, Marantz 2001, 2007):

- (2a) The hung jury
 (2b) *The jury was being hung

(ii) Adjectival participles are associated with idiosyncrasy in form (Wasow 1977, Embick 2004, Marantz 2001, 2007), unlike verbal ones:

- (3) The shaven man vs. John was being shaved

(iii) Adjectival participles do not interact with syntactic rules (Wasow 1977: Levin & Rappaport 1986), unlike verbal ones:

- (4) John was believed to be sick vs. *John remained believed to be sick

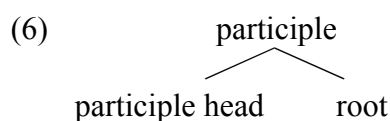
(No raising to object followed by passive for adjectival passive constructions)

(iv) Adjectival participles are associated with change in lexical category (verb to adjective; Wasow 1977; Levin & Rappaport 1986), unlike verbal ones.²

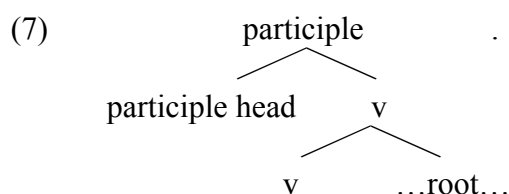
(5) A very driven worker (*the boss very drove the worker)

Marantz (2001) suggests that the different properties of adjectival and verbal participles derive from the different heights at which morphemes attach in a verbalizing structure.

The adjectival participle is formed in the *inner cycle* where the participle affix attaches to the root before a category defining head is merged:



The verbal participle is formed in the *outer cycle*, i.e. the participle affix attaches above the head that determines the syntactic category, i.e. the little v:



Merger with root implies properties sensitive to properties of the root, such as idiosyncratic meaning of root in the context of morpheme, semi-productivity (better with some roots than others), the meaning must depend on root semantics, and the “external argument” of the verb cannot be involved.

Merger above a category-determining morpheme implies insensitivity to idiosyncratic properties of the root, such as productivity, compositional meaning predicted from meaning of stem, meaning can involve argument-structure information, and the external argument of a verb can be involved³.

Marantz (2007) provides a rationale for why category defining heads delimit domains for (ir)regularity. He argues that little v, n, a’s are *phase heads* in the sense of Chomsky (2000, 2001). Once the derivation creates pieces of structure including these heads, it is shipped off to PF and LF for pronunciation/ interpretation. From that point on spell-out/ interpretation of vP’s, nP’s, aP’s cannot be altered (and further affixation cannot reach into properties of the Root).

² Note, though, that the correlation between properties (i) to (iii) and property (iv) is an accidental characteristic of English, as shown by Chichewa (Dubinsky & Simango 1996), a point stressed by Embick (2004) and Marantz (2001, 2007).

³ Cf. Arad (2003) for extensive support of this architecture on the basis of arguments from Hebrew denominal verbs.

3. Adjectival participles in Greek

We propose to further test this hypothesis on Greek participial constructions (adjectival passives) because they show robust evidence for (at least)⁴ two levels of attachment. *-tos* participles instantiate low attachment to the root (inner cycle), while *-menos* participles are structured by high attachment to the root with a verbalizing head, *v* or even a higher Voice head (outer cycle).

3.1 Types of Greek adjectival participles

It is well known that there are two types of deverbal adjectives in Greek, the *-menos* participles and the *-tos* verbal adjectives (from now on called ‘*-tos* participles’, see Nakas 1978, Setatos 1984, Lascaratou 1991, Lascaratou & Philippaki-Warburton 1984, Anastasiadi-Simeonidi 1994, Markantonatou et al. 1996, Kordoni 2002) with distinct properties. Following Anagnostopoulou (2003), Alexiadou & Anagnostopoulou (2008) and Samioti (2008, in progress) we assume that the main differences between the two types of participles are a reflex of inner vs. outer cycle attachment. Specifically:

3.1.1 *-tos* participles (root attachment / inner cycle)

a. The lack of contradictions in contexts like (8) (unlike *-menos* participles), the fact that there is no result-oriented manner modification⁵ (9), and that *-tos* participles are licit as complements of *become* (10a), *make* (10b) suggest that *-tos* participles denote a state which does not result from a prior event (see Anagnostopoulou 2003, Alexiadou & Anagnostopoulou 2008 for detailed argumentation).

- (8) Afti i varka ine fusko-**ti**/ #fusko-**meni** alla den tin exi fuskosi kanis akoma
This the boat is pump-ed but not it have pumped noone yet
This boat is of the type that can be pumped up but noone has pumped it up yet

- (9) *Ta malia ine atsala ahtenista
the hair is sloppily uncombed
‘The hair is sloppily uncombed’

- (10a) To kotopoulo egine vras-to
The chicken became boiled
‘The chicken was made boiled’

- (10b) Ekana/ eftiaksa to kotopoulo vras-to
Did-1sg/made-1sg the chicken boiled
‘I made the chicken boiled’

b. Moreover, *-tos* participles lack agentivity, as they do not tolerate agent-oriented modification, nor by-phrases (11) and instruments (12).

- (11) *Ta keftedakia ine tigan-ita apo tin Maria
The meatballs are fried by the Mary
‘The meatballs are fried by Mary’

⁴ Actually, there is evidence for three levels of attachment; see Anagnostopoulou (2003), Alexiadou & Anagnostopoulou (2008), Samioti (2008; in progress) for details. See also section 3.1.2. below.

⁵ Alexiadou & Anagnostopoulou (2008) “There are two types of manner adverbials: manner adverbs that modify the visible result such as *sloppily* (result-oriented), and manner adverbs that modify the initiator of the action such as *carefully* (agent oriented)”.

- (12) *Ta malia ine ahtenista me hrisi htena
 the hair is uncombed with golden comb
 ‘The hair is uncombed with golden comb’

3.1.2 -menos participles (root with category defining head / outer cycle)

-Menos participles denote states resulting from prior events (as shown by the contradiction in (8)). They further split into two types: *Target state participles* (Kratzer 2001; Anagnostopoulou 2003), which denote states that are in principle reversible (compatible with the adverb ‘akoma’ still (13)) and *resultant state participles* which denote states that are for ever irreversible (incompatible with the adverb ‘akomi’ still (14)).

- (13) Ta lasticha ine akoma fusko-**mena**
 The tires are still pumped up
 (14) To theorima ine (*akoma) apodedig-**meno**
 The theorem is (still) proven

a. Target state participles exclude agentivity

Target state participles lack agentivity, as they do not license agent-oriented adverbs (15), by-phrases (16) or instruments (17) (*akomi* ‘still’ is incompatible with properties related to agentivity).

- (15) To thisavrofilakio itan (*akoma) prosektika anig-**meno**
 The safe was (still) cautiously opened
 ‘The safe was still cautiously opened’
 (16) Ta lastixa ine (*akoma) fusko-**mena** apo tin Maria
 The tires are (still) inflated by the Mary
 ‘The tires are still inflated by Mary’
 (17) Ta lastixa ine (*akoma) fusko-**mena** me tin tromba
 The tires are (still) inflated with the pump
 ‘The tires are still inflated with the pump’

They do license result oriented manner modification, though:

- (18) Ta lastixa ine (akoma) kala fusko-**mena**
 The tires are still well inflated

b. Resultant state participles include agentivity

Irreversible states include agentivity, as diagnosed by the licensing of agent-oriented adverbs, by-phrases (19) and instruments (20).

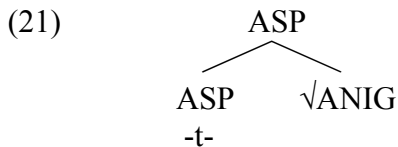
- (19) To thisavrofilakio itan prosektika anig-**meno** apo tin Maria
 The safe was cautiously opened by the Mary
 ‘The safe was cautiously opened by Mary’
 (20) Ta malia tis basilisas ine xtenis-**mena** me xrisi xtena
 The hair the queen-GEN are combed with golden comb
 ‘The hair of the queen is combed with a golden comb’

3.2 Structure of Greek adjectival participles

The above distribution suggests that *-menos* participles must contain layers that bring about properties lacking from *-tos* participles, namely the *implication of an event*, which is instantiated in the category defining head *v* (see Alexiadou & Anagnostopoulou 2008 for details).

3.2.1 *-tos* participles (root cycle)

-t- is a realization of ASP. Since *-tos* participles lack agentivity and event implications, thus they involve root attachment of Asp:

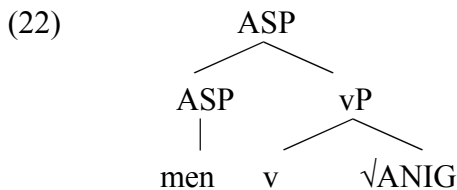


3.2.2 *-menos* participles (root merged with category defining head, *v*)

-men- is also an exponent of Asp.

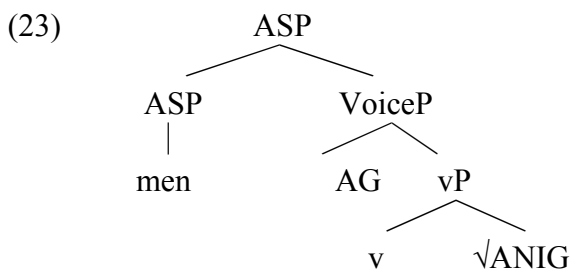
a. Target states *-menos* participles

They contain event implications (*vP*), but no agentivity. Hence, root is merged with a *v*-head (yielding an event), which is then stativized by *-men*. Result oriented manner adverbs like ‘well’ and ‘sloppily’ are licensed by *v*.



b. Resultant state *-menos* participles

They contain event implications and agentivity. Hence they may contain VoiceP in addition to *vP* (Voice licenses agent-PPs, instrument-PPs and agent-oriented adverbs).



3.3 Refining the categorization

Samioti (2008) argues that *-tos* participles can also involve outer cycle attachment, but then they express ability/ possibility (outer *-tos* corresponds to English *-able*).

a. *-tos* participles with *v*-attachment (outer cycle)

There are *-tos* participles which have the semantics of ability (24).

- (24) pisteftos “believable”

Ability –*tos* participles are big enough to license argument structure as:

They license agent-PPs:

- (25) I istoria tou ine pistefti apo olous.
the story his is believable by everyone
“His story is believable by everyone”

They license instrument-PPs:

- (26) To vouno ine orato me kalia.
the mountain is visible with binoculars
“The mountain is visible with binoculars”

They license agent-oriented adverbs:

- (27) To mathima ine efkola katanoito.
the lesson is easily understandable
“The lesson is easily understandable”

Thus they include a Voice-head, which provides evidence for outer cycle of ability –*tos*.

b. A puzzle: root attachment –tos participles which include verbal morphology (categorizing but not eventivizing).

–*tos* participles do not always involve attachment to the root (as in *ftiax-tos* ‘made’, *spas-tos* ‘broken’). They are often formed with –*tos* attaching to a verbal stem, which is further decomposed into Root + verbalizer. Examples are provided in (28) where the verbalizers are the suffix –*iz* (28a) and –*on* (28b).

- | | | | |
|-------|---------------------------|--------------------|----------------------------------|
| (28a) | kokin izo “redden” | kokin istos | “redened” |
| (28b) | vid ono “screw” | vid otos | “screwed” (literal meaning only) |

These verbalizers cannot be seen as eventivizers, as they do not license result oriented manner adverbs and they do not add event implications:

- (29) *I karekla ine kala/atsala vidoti.
the chair is well/ sloppily screwed
(30) *To kotopoulo ine kala kokinisto
the chicken is well reddened

Thus, we assume that they involve root attachment (inner cycle), i.e. the categorizing heads cannot be seen as phase heads in the relevant sense.

4. Testing the hypothesis in Greek: idiomaticity

There are –*tos* participles with root attachment which are consistent with Marantz’s hypothesis, as they show that idiosyncratic meaning can be assigned on root level (31–33).

- | | | |
|------|---------------------------------|--|
| (31) | dialeh- ta mila | ‘apples of good quality’ |
| | vs. literal meaning | dialekse ta mila ‘he chose the apples’ |
| (32) | pati- to magazi | ‘crowded shop’ |
| | vs. different idiomatic reading | tin patisa mazi tou ‘I fell in love’ |

- (33) zes-**ti** kardia ‘warm heart’
vs. same idiomatic reading zestane tin kardia mu ‘he warmed my heart’

However, *-menos* participles are incompatible with Marantz's hypothesis in two ways. First, *-menos* participles often show idiosyncratic meanings which are not predicted from the meaning of the verb (34-37), contrary to the hypothesis that when the root is merged above the category-determining morpheme *v*, meaning of the stem (Root + *v*) is inherited to the derived category (participle):

- (34) stri-**menos** jeros twisted man ‘crotchety man’
v. only lit. *i zoi ton estripse ‘life twisted him’
- (35) ftas-**menos** epistimonas reached scientist ‘accomplished scientist’
v. only lit. *i dulia eftase ton epistimona ‘work reached the scientist’
- (36) gli-**mena** malia smooth and sticky hair
v. only lit. *Eglipse ta malia tou ‘he licked his hair’
- (37) vla-**menos** stupid
v. only lit. *ton evlapse *‘he made him stupid’ ‘he hurt him’

Secondly, *-menos* participles often lack the idiomatic interpretation of the corresponding verb (38-40), once again disconfirming the hypothesis that verbal and adjectival meanings of constructs based on outer cycle attachment systematically correlate with one another.

- | | | | |
|------|----------------------------------|---|--|
| (38) | partic. only lit.
v. idiomat. | limeni zoni
lithike sta gelia | ‘untied belt’
‘convulsed with laughter’ |
| (39) | partic. only lit.
v. idiomat. | muskemena ruha
ta muskepse ke ton apelisan | ‘soaked clothes’
‘he messed it up and he got fired’ |
| (40) | partic. only lit.
v. idiomat. | fortomena ksila
fortose ke ton edire | ‘loaded wood’
‘he got angry and he beat him’ |

We conclude that v does not define a domain for meaning assignment, contra Marantz (2001).

5. What matters? Blocking idiomatcity

There are three cases in which idiosyncratic reading disappears:

In *-menos* participles with agent-oriented / result adverbs (41-43):

- | | | |
|------|--|--|
| (41) | stri- menos jeros
BUT
kala/ prosektika stri- menos | idiom. ‘crotchety man’
only lit. ‘well/carefully twisted’ |
| (42) | sviz- menes elpides
BUT
kala/ prosektika sviz- menos | idiom. ‘extinct hopes’
only lit. ‘well/carefully erased’ |

- (43) ska-**meno** prosopo idiom. ‘wrinkled face’
 BUT
 kala/ prosektika ska-**meno** only lit. ‘well/carefully dug’

In *-menos* participles with agent and instrument PPs (44-46):

- (44) stri-**menos** jeros idiom. ‘crotchety man’
 BUT
 stri-**menos** apo kapion/ me kati only lit. ‘twisted by someone / with something’
 (45) sviz-**menes** elpides idiom. ‘extinct hopes’
 BUT
 sviz-**menos** apo kapion/ me kati only lit. ‘erased by someone / with something’
 (46) ska-**meno** prosopo idiom. ‘wrinkled face’
 BUT
 ska-**meno** apo kapion/ me kati only lit. ‘dug by someone / with something’

In ability *-tos* participles, which always have a literal meaning (47-50):

- (47) katanoitos ‘understandable’
 (48) ipofertos ‘bearable’
 (49) didaktos ‘teachable’
 (50) metritos ‘measurable’

Since all these cases involve Voice, we propose that Voice places an upper boundary for idiomatic meaning assignment, in accordance with Marantz’s earlier proposal (Marantz 1997).

6. Conclusions

The Greek participle data show that idiosyncratic meaning is not fixed at the level of the first categorizing head, contra Marantz (2001) and Arad (2003). There are three ways to proceed from here.

One possibility is that non-compositionality doesn’t necessarily correlate with a particular level of attachment. Rather, the presence of elements that can only be interpreted compositionally, such as agent-oriented / result oriented adverbs, agent-PPs or instrument-PPs, forces compositionality.

Another option is to follow Marantz (1997), who argued that idiomaticity is blocked by the presence of an agentive Voice. Licensing agent-oriented adverbs, agent-PPs or instrument-PPs as well as the ability meaning in *-tos* participle signify the presence of an agentive Voice which blocks idiomaticity. Below that domain interpretation is not fixed, idiomatic readings are possible and are not necessarily inherited from one level of attachment to the next.

Finally, Borer’s (2003, 2008, 2009) proposal that idiomaticity arises from Encyclopedia searches which are stopped by the presence of functional heads is also consistent with the Greek facts if (i) categorizing heads are not seen as functional heads blocking Encyclopedia searches and (ii) adverbs (including result oriented ones), agents and instruments are taken to be licensed by functional heads. This points to the conclusion that Voice must be seen as a functional head (as originally proposed by Kratzer 1996), unlike the verbalizer *v*.

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