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Electronic version

URL: <http://journals.openedition.org/rlv/1991>

DOI: 10.4000/rlv.1991

ISSN: 1958-9239

Publisher

Presses universitaires de Vincennes

Printed version

Date of publication: 1 November 2011

Number of pages: 25-52

ISSN: 0986-6124

Electronic reference

Artemis Alexiadou, « Statives and nominalization », *Recherches linguistiques de Vincennes* [Online], 40 | 2011, Online since 01 November 2013, connection on 21 December 2020. URL : <http://journals.openedition.org/rlv/1991> ; DOI : <https://doi.org/10.4000/rlv.1991>

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STATIVES AND NOMINALIZATION¹

ABSTRACT

In this paper, I examine the morpho-syntax of stative verbs and their corresponding nominalizations. I first offer a discussion of two different classes of stative verbs in Greek: verbs that are ambiguous between a stative and an eventive reading, and verbs that are unambiguously stative. I then investigate the nominalizations of these two classes of stative verbs. On the basis of modification criteria, I show that a non-quantity structure is present in stative nominalizations that preserve the argument structure of their corresponding verbs. I then proceed to offer an articulated structure of stative verbs and stative nominalizations.

KEYWORDS

statives, (non-)quantity, nominalizations, Greek, Voice, experiencers, Davidsonian argument.

1. Many thanks to two anonymous reviewers and the editors of this issue for helpful comments and suggestions. My research has been supported by a DFG [German Research Foundation] grant to the project B1, *The Formation and Interpretation of Derived Nominals*, as part of the Collaborative Research Center 732, *Incremental Specification in Context*, at the Universität Stuttgart.

1. Introduction

With a few notable exceptions (mainly in the context of psych verbs), nominalizations of stative predicates have not really received a lot of attention in the literature. One reason for this is the fact that it is not at all clear that such nominalizations support argument structure (AS), a point that relates to the general debate concerning the presence of event structure with stative verbs which is arguably responsible for the presence of AS. In this paper, I will survey some of the issues that arise in dealing with these nominalizations. Before turning to an investigation of statives, in the next sub-sections, I will briefly introduce Grimshaw's analysis and the challenges this faces, as stative verbs and their nominalizations have to be seen in this context.

1.1 Grimshaw's tripartite distinction

As is well known, Grimshaw (1990) introduced a tripartite distinction of derived nominals: complex event, simple event and result ones. From her perspective, nouns such as *examination* in (1) are three-way ambiguous between a complex event reading that supports AS, and a simple event and a result reading that do not.

- (1)
- a. the examination of the patients took a long time.
 - b. the examination took a long time.
 - c. the examination was on the table.

Simple event nominals are like complex event nominals in that they include an event reading, but like result nominals in that they lack obligatory arguments, as they lack a complex event structure, which, for Grimshaw, is the source of AS.

For instance, an accomplishment verb like *x constructs y* is analyzed as an activity in which *x* engages in construction plus a resulting state in which existence is predicated of *y* (Grimshaw 1990: 26). This can be represented as in (2):

AS includes an aspectual dimension in that argument relations are jointly determined by the thematic properties of the predicate (*i.e.* the thematic hierarchy) and by the aspectual properties of the predicate, its event structure. The argument that participates in the first sub-event ('activity') is more prominent than the argument which participates in the second sub-event ('result'). From this

perspective, if a predicate lacks a complex event structure as the one in (2), it will also lack AS and will never take any grammatical arguments at all.

Concerning derived nouns, Grimshaw proposes that the real distinction responsible for their multiple readings is that between nouns that have an associated complex event structure (her so-called *complex event* nominals) and nouns that lack such an event structure. Complex event nominals are amenable to an event structure analysis of the type in (2) and hence are capable of licensing arguments. Simple event and results ones are not amenable to such an analysis, and as a result they are incapable of licensing arguments.

1.2 Challenges for Grimshaw

In the recent literature, this particular three-way distinction has been challenged. Specifically, Borer (2003), Alexiadou (2009), Harley (2009), and Alexiadou & Schäfer (2010a) all argue that one should distinguish between AS-nominals and R (eferential) nominals. These authors pointed out that there is no link between the presence of a complex event structure and AS in nominals (and perhaps in general). For the purposes of what follows, all nominals that lack AS qualify as R-nominals.

First of all, and crucially for the present paper, AS-nominals need not be eventive and may be stative. The first case includes nominals derived from adjectives. As noted in Borer (2003), whenever the adjective in question can occur with arguments, these are directly carried over to the nominal derived from it:

- (3)
 - a. The court is aware of the problem.
 - b. Pat is conscious of my presence.
 - c. Jill is fond of classical music.
 - d. Robin is ready to leave.
 - e. Marcia is close to her parents.
 - f. The party is satisfied with the counting results.

- (4)
 - a. The court's awareness of the problem
 - b. Pat's consciousness of my presence
 - c. Jill's fondness of classical music
 - d. Robin's readiness to leave
 - e. Marcia's closeness to her parents
 - f. The party's satisfaction with the counting results

This is also the case for nominals derived from proto-typical stative verbs. In (5), as was the case in (3) and (4), the arguments of the verb are carried over to the nominal derived from it:

- (5) a. John knows algebra.
b. John's knowledge of algebra

These nominalizations lack a complex event structure, and this is reflected in the fact that they do not form passive constructions (as first noted in Chomsky 1970 and references therein). Still, they license AS.

- (6) a. *the fact's knowledge
b. knowledge of that fact
c. the book's destruction
d. the destruction of the book

This restriction is captured by the **Affectedness constraint**, formulated by Anderson (1977):

- (7) If the head noun does not express an action which affects, *i.e.* modifies, the state of the object, the latter cannot occur in the prenominal position.

In more recent literature, this is taken to be a reflex of the event complexity of the nominal, see Doron and Rappaport Hovav (1991) and Sichel (2010) among others for discussion:

- (8) y is an affected argument of $V(\underline{x}, y)$ iff the event-structure of V contains a sub-eventuality e such that y , but not x , is an argument in e .

Destroy is such a predicate type, *i.e.* one can distinguish between a Cause and a Become part. *Know* is not such a predicate type, as one cannot distinguish between sub-eventualities.

Second, as already pointed out, simple event nominals are eventive but still lack AS. Among these are nouns such as *event*, *metamorphosis*, *journey*, *trip*, etc. as illustrated by (9), Borer's (2003) (25), and see the discussion based on Grimshaw (1990) concerning (2) above. The nominals in (9) are thus R-nominals:

- (9) a. *The constant race to the mountains
b. *The event in three hours
c. *John's deliberate trip to the mountains
d. *A race from the station by Mary
e. *The metamorphosis of the town in order to win a medal

Moreover, Alexiadou (2009), Harley (2009), Alexiadou & Schäfer (2010a), Roß-deutscher & Kamp (2010) pointed out that derived nominals may contain morpho-syntactic layers, which bring about eventivity, but still lack AS. In several cases, the presence of event structure is signaled by a verbal head, which can have a number of morphological realizations. In *e.g.* English, *-ify*, *-en*, *-ize*, *-ate* all qualify as verbalizing and eventive morphology.

The attachment of nominalizing morphology takes place outside the verbalizing head, as in (11).

However, the noun *decoration* **does not** always have AS.²

2. There is a further argument from interpretation: certain modifiers target directly the event introduced by this verbalizer head inside the nominal (Larson 1998), see Roß-deutscher & Kamp (2010), Alexiadou & Schäfer (2010a):

(i)	a.	die grobe Messung	b.	eilige Lieferung
		the rough measurement		the fast delivery

The observation here is that in these cases the adjective *fast* and/or *rough* modifies the event of measuring or delivering respectively even if the nouns themselves have a result/object interpretation. Assuming that event modification makes necessarily reference to the presence of *v*, this means that both AS and non-AS nouns, as the nominals in (i), contain *v*.

- (12) a. the decoration of the Christmas tree (AS + E-reading)
 took a long time.
 b. the decoration was expensive. (R-reading)
 c. the decor was expensive. (R-reading)

1.3 The scope of this paper

Assuming then that (a complex) event structure is not a prerequisite for the licensing of AS in nominals and perhaps in general, in this paper I will examine the properties of stative nominalizations, focusing on deverbal stative nominals in (mainly) Greek.

The following two issues will be touched upon: i) since there are several classes of stative verbs, do they all give equally good nominalizations? ii) What is the structure of stative verbs and their corresponding nominalizations?

On the basis of Greek, I show that we find productive stative nominalizations of experiencer verbs, and verbs of existence. This raises the question what is special about these two stative verb classes. These two classes of stative verbs that allow nominalizations will be shown to lack a Davidsonian argument on the basis of adverbial manner modification tests. However, they allow modification via *for x-time* adverbials. On the other hand, those stative verbs that do not produce AS nominals will be shown to share one important property, namely they cannot be modified via *for x-time*. From this perspective, they behave like copula verbs. The consequences of this distinction, however, will have to await further research.

The paper is structured as follows. In section 2, I offer a brief overview of the classification of stative verbs and discuss certain sub-classes in some more detail. In section 3, I turn to the nominalizations of stative verbs in Greek. In section 4, I discuss the syntax of stative verbs, and in section 5 the syntax of the corresponding nominalizations.

2. Classes of stative verbs³

2.1 How to define a stative verb

A note of clarification is in order here. In the literature, the term event is usually used to refer to all non-statives, but it also may be used more narrowly

3. See Martin (2006), Rothmayr (2009), Spencer & Zaretskaya (2003). In terms of event structure, Dowty (1979) argues that stative predicates are the smallest and simplest building-blocks of event structure.

to refer to events with a delimitation (see *e.g.* Parsons 1990). In this paper, I will use the term event to refer to all non-statives, regardless of termination. I will use the term eventuality for both events and states (Bach 1986). In other words, the term eventuality includes states and events, whereas the term event only refers to the eventive type of eventuality. Following Borer (2005), I will further distinguish between quantity *vs.* non-quantity eventualities, taking the latter to be homogenous predicates. From this perspective, statives are then non-quantity eventualities.

In Vendler's (1967) four-way classification of verbs (which corresponds to what is referred to as inner Aspect/Aktionsart classification), *state* is defined as an eventuality in which there is no perceptible change.⁴

(13)	a. <i>activities</i> :	Mary danced for an hour.
	b. <i>accomplishments</i> :	Mary built three houses in a year.
	c. <i>achievements</i> :	The window broke.
	d. <i>states</i> :	Mary knows the answer.

While it is generally agreed upon that all non-statives contain an event/Davidsonian argument, the presence of such an argument with stative verbs is disputed. Three main directions have been proposed. According to one view, all stative verbs lack a Davidsonian argument (Katz 2000). According to a second view, there are two classes of stative verbs, one with (14a) and one without (14b) a Davidsonian argument, *e.g.* Bach (1986), Kratzer (1995), Maienborn (2005). Bach refers to the former type as dynamic statives and to the latter as static statives. Maienborn uses the term Davidsonian states for the former group, and Kimian states for the latter group. Finally, the third view holds that all stative verbs have a Davidsonian argument, *e.g.* Parsons (1990), Mittwoch (2005), Martin (2006). In this paper, I side with the second view.

(14)	a. sit, stand, lie + LOC
	b. be drunk, be in New York, own x, love x, resemble x

What kind of criteria can be used to determine the presence of an event argument within a sub-group of stative verbs? Maienborn (2005) as well as Borer (2005) pointed out that certain modifiers distinguish between the two classes of statives; these include *manner* and *degree* modifiers and are exemplified briefly below.

4. From this perspective, processes are seen as part of the eventive part of eventualities. Note here that Grimshaw's concept of complex event nominals corresponds to Parson's use of the term event. Here both complex event nominals and event nominals are eventive eventualities in opposition to stative eventualities.

a) *manner-modification*: manner modification is out with static/Kimian-statives, cf. (15) vs. (16), which contains a dynamic/Davidsonian stative predicate:

(15) *Jo owned the house quickly. (Borer 2005: 234)

(16) Carol sat motionless at the table. (Maienborn 2005: 31a)

b) *degree-modification*: Maienborn (2005) points out that in *e.g.* German the modifier *ein bisschen* ‘a little’ is ambiguous in two ways. It can be interpreted either as a degree modifier or as modifying the temporal extension of an event. Both readings are possible with an eventive verb like *schwitzen* ‘sweat’ as in (17).

(17) *degree and eventive reading*

Carol hat gestern ein bisschen geschwitzt.

‘Carol has yesterday a little bit sweated.’

The time-span reading is only available for verbs that bear a Davidsonian argument, since *ein bisschen* specifies that the event didn’t last very long (18a). In verbs that lack such an argument, static/Kimian-statives, a time-span reading is excluded. Therefore either only the degree reading is available, as in (18b), or the modifier is completely ungrammatical, as in (18c).

(18) a. *eventive reading*

Paul hat ein bisschen im Garten gesessen.

‘Paul has a little bit in the garden sat.’

b. *only degree reading*

Carol ähnelte ein bisschen ihrer Großmutter.

‘Carol resembled a little bit her grandmother.’

c. *Nach ihrer 5. Heirat hieß Liz ein bisschen Burton.

‘After her 5th marriage was-named Liz a little bit.’

Both criteria can be used in Greek as well and give identical results: manner modification is out with static/Kimian-statives (19a), and the modifier ‘a little’ gives rise only, if at all, to the degree reading with such predicates (19b):

(19) a. *O Janis iksero Galika grigora.

the John knew French quickly

‘Johns knew French quickly.’

b. *only degree reading*

I Maria miazi ligo sti giagia tis.

the Mary-nom resembles a little to grandmother hers

‘Mary resembles her grandmother a little.’

Statives, however, form an eventuality type. This can be shown on the basis of modification by *for x-time*, which distinguishes between *quantity* vs. *non-quantity* eventualities (Borer 2005). This criterion also applies to those statives that lack a Davidsonian argument as well, see Husband (2010) for some recent discussion. Borer (2005: 233f.) points out that *for x-time* modifiers that are a well-established test for the presence of atelic predicates, are not strictly speaking predicate modifiers. This is so because unlike *in x-time* modifiers, which cannot affect the event structure of a predicate, *for x-time* modifiers are operators of sorts, which turn non-quantity predicates to quantity predicates.

As shown in (20), both activities and Kimian stative predicates are compatible with *for x-time*. Crucially, *for x-time* is excluded in the presence of quantity. In *x-time*, on the other hand, is a modifier of quantity, *i.e.* it always requires a quantity predicate (20b):

- (20) a. Kim loved Robin for three years.
 b. Kim ran for 2 hours/*in 2 hours/to the store in 2 hours.
 c. #Kim loved Robin in three months.

This criterion works for Greek as well:

- (21) a. I Maria agapuse to Jani ja tria hronia.
 Mary loved John for three years
 b. #I Maria agapise to Jani se tris mines.
 Mary loved-perf John in three months.

Borer's (2005) point is then that *for x-time* modifiers make reference to non-quantity and are equally possible with activities and statives. In this system, non-quantity predicates are homogenous, while quantity predicates are non-homogenous. From this perspective then, Kimian statives are also non-quantity, as they are homogenous.

Borer further claims that *for x-time* is an operator on outer Aspect, while *in x-time* modifies inner Aspect, *i.e.* the domain of the VP. In other words, the domain of licensing of *for x-time* is aspectually distinct from the output of VPs, where inner Aspect is encoded.

Table 1 summarizes the modification criteria to be used to classify stative predicates into two types, which are, however, both homogenous:

Table 1

	<i>manner</i>	<i>degree</i>	<i>for x-time (non-quantity)</i>
Davidsonian stative	+	+	+
Kimian stative	-	-	+

The stative reading holds as long as the perception trigger is exposed to the experiencer (Arad 1998). Stative verbs of this class qualify as unaccusatives, according to Landau (2010), *cf.* Anagnostopoulou (1999).

Note here that several verbs of this class have *subject experiencer* intransitive counterparts that are stative (Pesetsky 1995, Reinhart 2002, Landau 2010; Markantonatou 1992, Anagnostopoulou 1999 for Greek); these fall into two groups: Group I surfaces with active morphology (24a), while group II with non-active morphology (24b):

- (24) a. I Maria aidiase me ti sokolata.
 the Mary disgust-3sg with chocolate
 ‘Mary is disgusted with chocolate.’
 b. I Maria endiaferete ja ti musiki.
 the Mary-nom interest-non-active 3sg for the music
 ‘Mary is interested in music.’

What corresponds to the causer of the transitive verb surfaces in a PP, often distinct from the one found with Greek anticausatives/passives (*ja* ‘for’ (24b) *vs.* *apo* ‘from’/me ‘with’ in anticausatives/passives), but sometimes similar to that, (24a). This morphological pattern is generally found with the anticausative alternation, where two types of anticausative verbs can also be identified, one bearing active morphology, and one bearing non-active morphology (see Alexiadou, Anagnostopoulou & Schäfer 2006 for details). I take it thus that the verbs in (24) are unaccusatives⁵.

2.3 Non-ambiguous stative verbs

Again all the classes discussed here fail the manner modification test and only have (if at all) the degree reading of the modifier ‘a little’.

i) *Measure verbs* are verbs that express the degree of a certain property such as length or duration.

- (25) To vivlio kostizi 5 euro.
 ‘The book costs 5 Euros.’

5. There is an issue as to whether these verbs are unaccusative or unergative. In view of the fact that they can form an adjectival participle, I consider them unaccusative:

(i) O Janis ine enohlimenos me ti musiki
 ‘John is bothered with the music’

ii) *Verbs of existence/presence and absence:*

- (26) iparhun pori.
 exist-3pl resources
 'Resources exist.'

iii) *Verbs of modal state:* mostly these have the form copula + noun but there are a few verbs of modal state.

- (27) To sholio hriazete kalus daskalus.
 'The school needs good teachers.'

iv) *Verbs of spatial configuration (verbs which take PP complements):*

- (28) I Galia sinorevi me ti Germania.
 'France borders with Germany.'

iv) *Psych verbs*, Anagnostopoulou (1999), Markantonatou (1992): here we have two sub-groups. The first group contains subject experiencer verbs like *agapo* 'love', *miso* 'hate', *thavmazo* 'admire'.

- (29) a. o Janis agapai ti Maria.
 the-John-nom loves the-Mary-acc
 'John loves Mary.'

Several subject experiencer verbs in Greek *e.g. fear* bear non-active morphology, but license accusative Case and have causative counterparts that are object experiencer verbs (29c).

- (29) b. o Petros fovate tis kategides
 the-Peter-nom fears-non active-3sg the-storms-acc
 'Peter is afraid of storms.'
- c. I kategides fovizun ton Petro
 the-storms-nom frighten-3PL the Peter-acc
 'Storms frighten Peter.'

The second group includes *experiencer predicates with a dative* (30b)/PP (30a) *experiencer e.g. aresi* 'like', *ftei* 'bothers/matters' that qualify as unaccusatives (Anagnostopoulou 1999):

- (30) a. To krasi aresi ston Petro
 the wine-nom like-3sg to-the Peter
 ‘Peter likes the wine.’
 b. To krasi tu aresi tu Petru
 the wine-nom cl-gen like-3sg the Peter-gen
 ‘Peter likes the wine.’

3. Nominalizations of stative verbs in Greek⁶

Let us now consider the nominalizations derived from the verb classes introduced in the previous sections.

3.1 Nominalizations derived from ambiguous verbs

In the case of *obstruct verbs* only the eventive reading can survive in the nominalization. This is shown by the fact that only the agentive PP is permissible in the nominalization:

- (31) to perikikloma tu horiu (apo to strato/*apo ton tiho)
 the surrounding the village-gen (by the army/by the wall)

Object experiencer verbs also give agentive-eventive nominalizations, again manifested by the presence of the agentive PP:⁷

6. See Spencer & Zaretskaya (2003) for Russian, and Jaque (2010) for Spanish.

7. As is well known, English nominalizations can only be related to the non-causative forms of the predicates that distinguish between causative and non-causative readings (*cf.* Chomsky 1970, Grimshaw 1990, Pesetsky 1995:72, Markantonatou 1992:90f.). Note here that Grimshaw (1990) argued that causative nominalizations are blocked as the corresponding verbs lack an external argument. According to Grimshaw, the kind of nominalizations that are excluded are *non-agentive process* ones. Result nominals and agentive process nominals, on the other hand, are licit. Greek is different, as it allows causative nominalizations, see (ii). It has to be determined, however, whether (ii) has a stative in addition to an inchoative reading:

(i) a. the humiliation of the bystanders
 b. John's/*the event's humiliation of Mary
 (ii) i enohlisi tis Marias me ta nea epi hronia
 the bothering the Mary-gen with the news for years
 ‘Mary's bothering by the news’

- (32) i tapinosi tis Marias (apo to Jani)
 the humiliation the Mary-gen by John

Stative nominals can, however, be derived from the stative unaccusative experiencer verbs, as the ones in (24). Observe that aspectual modification *for-x-time* is permitted:

- (33) a. i aidia tis Marias ja ti sokolota epi tosa hronia
 the disgust the-Mary-gen for chocolate for so many years
 ‘Mary’s disgust for chocolate for so many years.’
 b. to endiaferon tu Jani ja ta fita epi dekaeties
 the interest the John-gen for the plants for decades
 ‘John’s interest in plants for decades.’

3.2. Non-ambiguous stative verbs

In the case of *measure verbs* we do find a nominal form but aspectual modification is never allowed. This suggests that the nominal form in this case is basic, in the sense that the verb is derived from the noun (see Alexiadou 2009). As shown in (25), such verbs contain an overt verbalizer that takes an entity root as its input, e.g. *kostos* ‘cost’- > *kost-iz-o* ‘cost-verbalizer-1sg’:

- (34) to kostos tu vivliu (*epimia vdomada)
 the cost the book-gen for a week
 ‘the book’s cost’

Verbs of existence/presence and absence give productive nominalizations, and, as shown in (35), aspectual *for-x-time* modification is acceptable:

- (35) i iparki poron epi tosa hronia
 the existence resources-gen for many years
 ‘the existence of resources for many years’

Verbs of modal state do not give nominalizations at all.

Verbs of spatial configuration (PP complements) seem to have a nominal form related to them, but again this form does not license aspectual modification. In turn, this suggests that the nominal form is basic here. As was the case with measure verbs, there is a transparent morphological relationship between the noun and the verb, e.g. *sinoro* ‘border’- > *sinor-ev-o* ‘border-verbalizer-1sg’.

- (36) ta sinora tis Germanis me ti Gallia (*epi tosa hronia)
 the borders of Germany with France for so many years

Finally, *transitive subject experiencer verbs* give productive nominalizations and allow for *x-time* aspectual modifiers. This is so irrespectively of the morphological form of the source verb, *i.e.* active *vs.* non-active:

- (37) i agapi tis Marias ja to Jani epi tosa hronia
 the love the-Mary-gen for John for many years
 ‘Mary’s love for John for so many years’
- (38) a. o fovos tu Jani ja tis kategides epi tosa hronia
 the fear the John-gen for storms for many years
 ‘John’s fear of storms for many years’
- b. i lipi tis Marias ja ta gegonota epi mia vdomada
 the sadness the Mary-gen for the events for one week
 ‘Mary’s sadness because of the events for one week’

Note that *object-dative experiencer* verbs do not seem to be able to nominalize productively. To the extent that a nominal form is available, it is only tenuously related to the verbal form:

- (39) O Janis eksefrase tin areskia tu.
 the John-nom expressed the satisfaction his
 ‘John expressed his satisfaction.’ (Markantonatou 1992: 90)

As a final remark, let me point out that Markantonatou (1992: 89) showed that in Greek state AS nominals the genitive always encodes the experiencer argument, irrespectively of its grammatical function.⁸

In conclusion, we find productive stative nominalizations of all unacusative stative verbs (experiencer verbs as well as verbs of existence), but also of the transitive subject experiencer verbs. While we do find nominal forms related to verbs of measurement as well as verbs of spatial configuration, these do not pass the aspectual criterion as opposed to the other three classes.

8. *Knowledge* here seems to be the exception, *gnosī tis algevras* ‘knowledge of algebra’. But importantly in Greek the counterpart of (i) does not give a nominalization, suggesting that Greek *gnorizo* is not the counterpart of *know* but rather has the meaning ‘come to know’.

(i) O Janis kseri algevra.
 ‘John knows algebra.’

3.3 The morphology of stative nominalizations in Greek

Kolliakou (1995) argued that **-m-** affixation is a productive process to build nouns out of verbs, but it is sensitive to the type of verbal predicate it attaches to. It namely requires a durative verb. Kolliakou noted that **-m-** does not combine with stative predicates (41); activities are compatible with **-m-**. Accomplishments are also compatible with **-m-** and receive a durative/atelic interpretation:

- (40) a. agapo (love-1sg)
b. pistevo (believe-1sg)
- (41) a. *agapima (loving)
b. *pistepsimo (believing)
- (42) a. perpatao walk-1sg
b. to perpat**ima** the walking
c. htizo ena spiti build-1sg a house
d. to htis**imo** enos spitiu the building of a house
e. zografizo ena kiklo draw-1sg a cricle
f. to zografis**ma** enos kiklu the drawing of a circle

However, there are several nominalization of psych stative verbs with **-m-**:

- (43) a. sevome sevas**m**-os
respect-1sg respect-ms
b. thavmazo thavmaz**m**-os
admire-1sg admiration

This forces us to seek a different explanation for the ungrammaticality of (41).

If we look at the morphological form of pure stative nominals, these seem to be bare, *i.e.* they do not contain a particular nominalization affix. (44) shows that if even the corresponding verb contains verbalizing morphology (marked with bold), the nominalization lacks such a morphology:

- (44) a. mis-o mis-os b. pist-**ev**-o pist-i
hate-1sg hate believe-1sg belief
c. agap-**a**-o agap-i
love love
d. gnor-**iz**-o gnos-i e. aidi-**az**-o aidi-a
know knowledge disgust disgust

This pattern is relatively systematic across stative verbs.

This also holds for the cases where the verb contains non-active morphology:

- (45)
a.	endiafer-om-e	endiafer-on
	am interested	interest-neut
b.	lip-ame	lip-i
	am sorry non-active	grief-fem
c.	fov-ame	fov-os
	am afraid-non-active	fear-masc

However, the picture is a bit more complicated than that. (46) shows that sometimes both bare and -m- nouns can be formed on the basis of the same verb:

- (46)
a.	aidi- az -o	aidi-a	aidi- as-m -a/-os
	disgust-1sg	disgust-fem	disgust-m-neut/ms
b.	sevome	sevas	sevas- m -os
	respect-nonactive	respect-neut	respect-ms

(46a) seems to suggest that the two nominal forms relate to the verb in different ways. The -m- noun is derived from the verb, as it contains similarly to the verb an overt verbalizer, namely -az-. This is consistent with the generalization proposed in Alexiadou (2009) that -m- surfaces outside the verbalizing morphology. On the other hand, the bare noun lacks an overt verbalizer, suggesting that it is root derived. I come back to this issue in section 4.

Crucially, however, when doublets exist, -m- and non -m- forms are not identical: -m- forms seem to be eventive, since the agentive PP is licensed:

- (47)
a.	i adia	tu Jani	ja ti sokolota
	the disgust	the John-gen	for chocolote
b.	to adiasma	tu Jani	apo tus politikus
	the disgust	the John-gen	by the politicians

The above picture suggests that different affixes select for different nominal structural configurations.

4. The syntax of stative verbs

My analysis of the syntax of stative verbs and their nominalizations relies on the following three assumptions:

- Assumption 1:** statives are eventualities
Assumption 2: a characterization of statives must be possible in terms of syntactic structure (Hale & Keyser 2002, Borer 2005)
Assumption 3: the external argument of a stative verb is a holder (Kratzer 1996, Husband 2010)

Kratzer (1996), in particular, argued that stative verbs contain only a single (structural) argument which is the holder of the state. In (48) the verb is stative and the external argument denotes, according to Kratzer, the person who is the holder of the state consisting in owning the dog. In Kratzer's work only external arguments are severed from the verb. Internal arguments are still taken to be part of the VP, see Husband (2010) for an elaboration.

(48) Mittie owns the dog.

Under the assumption that external arguments are introduced by 'light' heads, to compute the meaning of (48), we need a Voice head adding the external argument, which is different from that introducing the argument of an eventive predicate. In Kratzer's system one cannot combine the holder function with the denotation of an action predicate or the agent function with the denotation of a stative predicate. This explains for Kratzer why there is a connection between the Aktionsart of a verb and the thematic role of its external argument. Thus, subjects of stative verbs can be understood as possessors, experiencers and not as true causers.

Kratzer proposes that the external argument of stative verbs is introduced at the level of Voice_{stative}.⁹

Which stative verbs contain Voice? Subject experiencer verbs (*know*, *love*, *hate*) are the ones that can be represented on the basis of (49) above, *i.e.* they contain Voicestative. These are transitive and assign accusative. The other stative verbs all lack Voice (as they are unaccusative), see Landau (2010).

From a semantic point of view, stativity is characterized as lack of change. The question is whether this has a direct reflex in the syntax of stative verbs, pretty much as presence of change-of-state is argued to be represented in terms

9. But see Arad (1998) and Landau (2010) for arguments that subject experiencers are mental locations, and thus should receive an analysis as in (52).

of little *v* heads (see Alexiadou, Anagnostopoulou & Schäfer 2006, Ramchand 2008). In other words, what are the building blocks of stative verbs?

As mentioned, Voice introduces the holder of the state. But what is the shape of the stative VP? To answer this, I will follow Hale & Keyser (2002), who proposed that stativity is the result of an inclusion of a PP relation, namely a PP of central coincidence, which is responsible for the lack of change interpretation. The PP introduces an/the second argument (in the case of transitives) as in (50), in a manner similar to non-core transitive verbs, see Marantz (2005).¹⁰

(50) suggests that a verbalizer can be present with stative verbs, whose main function is to verbalize the root. There is some evidence for the presence of *v* in Greek: at least some stative verbs in this language, as discussed in section 3, have a morpho-syntax similar to that of eventive verbs, *i.e.* they contain some verbalizer, *e.g.* *-az-*, see Alexiadou (2009) and references therein, see also (46a) above.¹¹

A PP is generally assumed to be present in the representation of verbs of existence. Thus (52a) is the structure corresponding to (52b), see Alexiadou

10. For Hale & Keyser, categories that are inherently stative in this sense are: i) the heads that define the external projection of A; ii) certain prepositions (*e.g.* *in*) and iii) the copula. Measure verbs are like copulas. (See also section 6.) Note that they cannot passivize and the measure phrase does not qualify as a referential argument.

(i) a. *One ton is weighed by that building.
b. *What didn't John say that the fish weigh < what >?

11. This suggests that *v* in Greek does not always introduce event implications. Voice_{stative} is the projection that introduces the external argument of a stative predicate, in case these have one, and does not come in different flavors.

& Schäfer (2010b), for a recent discussion and references.

- (52) a. [_v [_{pp} *theme in place*]]
 b. *iparhun pori.*
 exist-3pl resources
 ‘Resources exist.’

A version of (52) is also involved in the case of unaccusative statives, *i.e.* those stative verbs that lack Voice, *e.g.* (53b).

- (53) a. *intransitive stative verb*
 b. *I sokolata enohli ti Maria.*
 ‘The chocolate bothers Mary (*ugly).’

A note is in order here on experiencer verbs that bear non-active morphology. We should distinguish between two groups. The first group comprises verbs that assign accusative, as in (54); since they are transitive, we can assume that they include Voice_{stative}. As to the locus of the morphology, two options are available to us: i) root-encoded, *i.e.* certain roots carry a diacritic that at Spell-out they require the presence of non-active morphology (see Embick 2000 for an explicit such proposal) or ii) Voice-encoded, which still preserves the availability of licensing accusative. In other words, Voice does surface with non-active morphology, but it still maintains the capacity to license accusative on the internal argument.

- (54) o Petros fovate tis kategides
 Peter-nom fears-nonactive the storms

(54) is traditionally classified as a deponent verb. The counterpart of (54) in *e.g.* German is an inherently reflexive predicate:

- (55) Er fürchtet sich vor dem Sturm.
 He fears reflexive from the storm
 ‘He fears the storm.’

- (56) *Er fürchtet mich vor dem Sturm.
 ‘He fears me from the storm’

One could argue here that non-active morphology in (54) surfaces on the basis of a more general mechanism that is also involved in inherent and naturally reflexives. From this perspective, such predicates are thus comparable to middles, see especially Kemmer (1993), Kaufmann (2001), Alexiadou & Doron (2010). These also bear non-active morphology:

- (56) O Janis plithike.
 John washed-non-active-3sg
 'John washed himself.'

The second group includes verbs that are intransitive (*i.e.* unaccusative). I assume here that these contain an expletive Voicestative, Schäfer (2008):

- (57) O Janis endiaferete ja ti musiki.
 the-John-nom interest-non-active for music
 'John is interested in music.'

5. The syntax of stative nominalizations

Recall that, building on Borer (2005), the licensing of *for x-time* PPs is seen as evidence that event structure is present in stative nominalizations.

The explicit claim here is that the event type (state) results from the combination of *v* and a PP (and in the case of transitive verbs a Voicestative). The *for x-time* adverbials modify/are licensed in *Outer Aspect*. -m- is a nominalizer that embeds AspectP, as in (58).

- (58)
-
- ```

graph TD
 nP --> n["n
-m-
Ø"]
 nP --> AspectP["AspectP (for x-time)"]
 AspectP --> Aspect
 AspectP --> VoiceP
 VoiceP --> Voice["Voice
stative"]
 VoiceP --> vP
 vP --> v
 vP --> PP
 v --> v["v"]
 v --> sqrt["√respect"]
 PP --> triangle["△"]
 PP --> phrase["for his parents"]

```

Recall also that state AS nominals appear to have the experiencer argument encoded by the genitive. I argued above that the experiencer argument is introduced in Voicestative in the case of transitive statives.

- (59) a. o sevasmos tu Jani ja tus gonis tu  
           the respect the John for the parents his  
           ‘John’s respect for his parents’  
       b. I agapi tis Marias ja to Jani  
           the love the Mary-gen for John  
           ‘Mary’s love for John’

As we see in (59), in Greek, but also in other languages, only one genitive is allowed within the DP. When a second argument is realized, this surfaces as a PP, as is the case in (59). In (59) then, the central coincidence preposition is overtly realized. As there is only one structural Case in the Greek DP (Alexiadou 2001 for details), then the highest argument is realized as genitive, which is the unmarked Case in the DP, following Marantz (1991).

It has been argued for change-of-state verbs that their nominalizations are passive (of sorts), Grimshaw (1990), Alexiadou (2001), and this explains why only one DP can surface bearing structural genitive Case. State AS nominalizations cannot be passive, as there are no psych stative passives in general in Greek, see the discussion in Landau (2010).

If passivization were involved in (59), it would have to be a kind of a pseudo-passive, since the theme is an argument of the PP. This option is generally not available in Greek.

There is, however, an issue concerning the form of state nominals. As already mentioned, while the corresponding verbs have verbalizing morphology, this is absent in the nominals, see also (60). The question then is why the *v* morphology disappears (sometimes).

- (60) pist-**ev**-o pist-i ; agap-**a**-o agap-i  
       believe-1sg belief love love

If the presence of morphology relates to the presence of *v*, then the absence of morphology should signal the absence of *v*. In fact that would mean that such nominalizations are nominalizations of pure roots or that the nominal form is basic, *i.e.* non-verb derived. If this is correct, then we need to understand where the arguments of the nominalization come from (*cf.* Roy 2010). That the theme argument is introduced via a PP is clear. This could be included in the lower structure that gets nominalized. But what about the experiencer argument? One would need to argue that the experiencer is not introduced by Voice, but it is rather a possessor within the DP, probably introduced in nP.

A second option here would be to suggest that actually these nominalizations are a kind of antipassive (AP) formation. The morphological pattern of AP is one in which the second argument is expressed as an oblique, while the first argument surfaces in the unmarked Case, here the genitive. On some analyses, antipassive is derived from the transitive verb through an affixation process; however, sometimes, but not always, it involves truncation of a transitivity morpheme of the transitive verb. The AP affix can be zero with some verb stems (see especially work within Relational Grammar; Fortescue 1984). From this perspective, one could argue that the process of deriving a nominalization via AP ‘causes the verbalizing affix to disappear’. Clearly, further research is necessary in order to determine which of the two options is the most viable one.

In the case of verbs of existence (and other unaccusative verbs), the single argument surfaces with genitive. These nominalizations are argued to have a structural representation as in (61):

Turning now to the question of nominal layers, in a structure like the one in (61), the nP is responsible for the assignment of inflectional class, as all nouns in Greek belong to one inflection class. But are other higher nominal functional layers present?

As far as I can tell, stative nominalizations do not pluralize (another property that they share with activities); hence NumberP should be excluded.

- (62) \*I agapes tu Jani      ja ti Maria  
          the loves the John-gen for the Mary

If statives are non-quantities, this is expected. They behave similar to nominalizations derived from atelic/activity verbs, which also do not pluralize:



- (63) \*The repeated observations of the stock prices induced their further decline.
- (64) a. die Beobachtung von Vögeln  
           the observe. UNG of birds  
           ‘ the observation of the birds’  
       b. \*die Beobachtungen von Vögeln  
           the observe.UNG.PL of birds

Alexiadou, Iordăchioaia & Soare (2010) argued that the reason why these nominalizations do not pluralize is their inner aspect inherited from the verb. The quantity pattern realizes plural, the non-quantity one does not, thus confirming previous observations in the literature, according to which bounded entities/eventualities can be pluralized, while unbounded ones cannot (see also Borer 2005).

## 6. Conclusions

In this paper, I demonstrated that in Greek, productive stative nominalizations can be found for experiencer verbs, and verbs of existence. This raises the question what is special about these two classes.

I showed that all stative verbs that form AS nominals lack a Davidsonian argument (manner modification test). The nominals qualify as AS nominals on the basis of the aspectual criterion, *i.e.* modification via *for x-time*. The stative nominals that cannot be classified as AS nominals share one important property, namely they cannot be modified via *for x-time*. Note here that this holds also for their verbal counterparts, see *e.g.* (65).

- (65) \**i Galia sinorevi me ti Germania ja hronia*  
       France borders with Germany for years

There are several statives that behave like those in (65). Next to spatial stative verbs, we find measure verbs but also copula constructions involving individual level predicates, *e.g.* \**Mary is fat for 2 hours*. This behavior supports the idea that measure and spatial stative verbs are similar to the copula, in that they lack a temporal dimension. In turn, this suggests that the presence of a temporal dimension is a pre-condition for nominalization and licensing of AS for reasons that have to be clarified in future work.

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**RÉSUMÉ**

Dans cet article, j'examine les propriétés morpho-syntaxiques des verbes statifs et des nominalisations correspondantes. Je distingue, tout d'abord, deux classes de verbes statifs en grec: (i) les verbes ambigus entre une interprétation stative et une interprétation événementielle, et (ii) les verbes qui se prêtent, sans ambiguïté, à une interprétation uniquement stative. J'entreprends ensuite un examen des nominalisations formées à partir de ces deux classes de verbes. En prenant comme critère le type de modification qu'elles admettent, je montre que les nominalisations de statifs reposent sur une structure interne dépourvue du nœud exprimant la Quantité, responsable de l'héritage de la structure argumentale des verbes correspondants. Pour finir, je propose une structure articulée pour rendre compte à la fois des propriétés des verbes statifs et de celles des nominalisations statives.

**MOTS-CLÉS**

statifs, (non-)quantité, nominalisations, grec, voix, expérimentés, argument Davidsonien.