Nominalization, event, aspect and argument structure: a syntactic approach[*]

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Abstract: In this paper we argue that for nominalizations the distinction between process nouns, i.e. complex event nominals, and result/object nouns made by, among others, Grimshaw (1990) and Alexiadou (2001), is too strict. We propose instead a dichotomy that is based on agentivity. We claim that both process nouns and result nouns have a +agentive and a − agentive value, associated with a difference in argument structure. We argue that in the two values both types of nouns are eventive and that the difference between process and result nouns is simply an aspectual difference. Besides the two eventive types, with a difference in argument structure, we distinguish a non-eventive type, object nouns, without argument structure.

1.   Introduction

Adopting the Lexicalist Hypothesis, Grimshaw (1990) argues that whereas process / complex event nouns necessarily have argument structure because of their eventive nature, result nouns are not eventive and have no argument structure at all. Following Picallo (1991), Alexiadou (2001) shows, on the contrary, that result nouns may take arguments, but just like Grimshaw she assumes that there is a crucial difference between process nouns and result nouns. Alexiadou derives both process nouns and result nouns in Syntax, but claims that the difference between the two types is that whereas process nouns are dominated by the functional projections *v*P and AspP, result nouns are not dominated by these functional projections. She argues that, due to the absence of these verbal functional projections, arguments of result nouns do not have to be projected obligatorily, but can be projected optionally.

In this paper we analyze the role of event and aspect in the expression of arguments of deverbal nominalizations, in a cross-linguistic perspective. We claim that *v*P and AspP can be present both in process nouns and in result nouns and that consequently process nouns and result nouns behave similarly w.r.t. the expression of arguments. Both for process nouns and for result nouns we distinguish a +agentive and a −agentive

eventive reading, with a difference in argument structure. Besides these two eventive readings, we distinguish a non-eventive reading, in which the nominalization is an object / entity noun and in which *v*P and AspP are absent, just as in Grimshaw's result nouns. In this paper we show, however, that result nouns, being the result of an event, can also have arguments, viz. in the +agentive and the −agentive eventive readings that we distinguish.

The paper is organized as follows. In section 2, we show that there are some problems with Grimshaw's association between event structure and argument structure. In section 3, we present Grimshaw's and Alexiadou's views on the relation between event structure and argument structure. In section 4, we show that the distinction between process nouns and result nouns is less clear-cut than has been claimed in the literature. In section 5, we show that besides pure process nouns in Grimshaw's sense there are process nouns that have properties of result nouns and that besides pure result nouns in Grimshaw's sense there are result nouns that have properties of process nouns. In section 6, we argue that both process nouns and result nouns are eventive and can have the feature +Agentive or −Agentive on *v*P within DP. Besides agentive and non-agentive nominalizations, we distinguish a third type, the object noun, in which *v*P is absent and which is thus not eventive. In section 7, we differentiate the three types on the basis of their verbal functional projections and their argument structure. Finally, section 8 contains the results of this paper and some concluding remarks.

2. Some problems for the relation event – argument structure

As discussed in the literature, nouns behave differently in the selection of argument structure: object / entity nouns do not select arguments, but may select (semantic) participants that may be expressed in different forms, as in the English examples (1) and (2):

(1) John's book (object noun)
(2) The book of linguistics (object noun)

Another type of nouns, deverbal nouns, is ambiguous between, at least, an event and a result reading, as exemplified by the following English and Portuguese examples:

(3) a. The translation of the book took ten years. (event)
    b. John's translation has been published recently. (result)
(4) a. A construção do edifício pela empresa demorou dois anos. (event)
       'The construction of the building by the company took two years.'

        b.   A construção destoa na paisagem. (result)
            'The building does not fit in with the landscape.'

In a lexicalist view of morphology, Grimshaw (1990) claims that the distinction between an event reading and a result reading of nominalizations is associated with a difference in argument structure: whereas process nouns (i.e. complex event nouns) take internal arguments obligatorily, result nouns are like object / entity nouns and do not select arguments.

In this paper, we discuss Grimshaw's distinction between process nouns and result nouns in terms of argument structure. This distinction raises several problems:

a.   result nouns may also select arguments, as was shown by Picallo (1991) for Catalan:

    (5)   La discussió de les dades va durar tot el dia. (event)
           'The discussion of the data lasted the whole day.'
    (6)   La discussió de les dades es va publicar a la revista. (result)
           'The discussion of the data was published in the journal.'

Picallo also claims that unaccusative nominals are ambiguous and can take an internal argument even in the result reading:

    (7)   La desaparició d'en Joan (event)
           'The disappearance of John'
    (8)   La desaparició d'en Joan (result)
           'The disappearance of John'

b.   event nouns do not necessarily exhibit internal arguments, contrarily to what was assumed by Grimshaw, as exemplified by the following examples from French (9) and English (10), by some process of "deletion" of the internal argument explained by contextual factors (Zubizarreta 1987):

    (9)   L'arrivée eut lieu à minuit. (event)
           'The arrival took place at midnight.'
    (10)   The execution was filmed by the TV-stations. (event)

Furthermore, there are event nouns that do not select any argument (*war, trip, catastrophe, race, event*): they are event nouns because they are associated with time and participants, but they are what Grimshaw (1990) calls "simple event nouns", without argument structure and without an event structure:

    (11)   The race took place at 6:00 p.m.

Race is a simple event noun and as such it can occupy the subject position of a sentence with *take place* as the main verb.
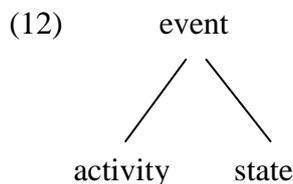
3.   Relation event structure – argument structure: some classical views

We see thus that the relation between the event reading of a nominal and the selection of an argument structure by nominals is not so strong as it is assumed since Grimshaw (1990). Before developing this issue, let us briefly review some views on the relation between event structure and argument structure as far as verbs are concerned.

Grimshaw's view on event structure is as follows:

> Each verb has associated with it an event structure, which when combined with elements in the clause, provides an event structure for the entire sentence. The event structure represents the aspectual analysis of the clause, and determines such things as which adjuncts are admissible. (Grimshaw 1990: 26).

The event structure breaks down events into aspectual subparts: for instance, an "accomplishment", using Vendler-Dowty terminology, denotes a complex event which consists of an activity and a resulting state, as described in (12):

(12)   event

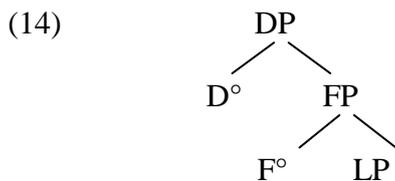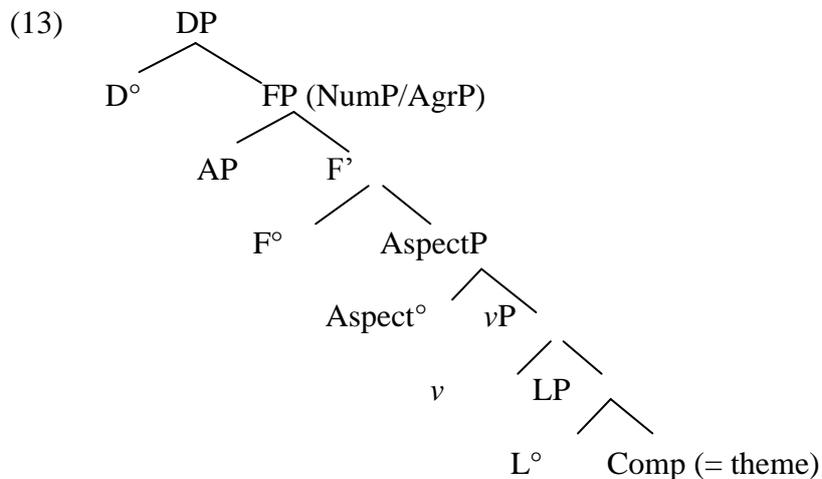   activity   state

Exemplifying: "an accomplishment 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*" (1990: 26). For Grimshaw, event structure and argument structure are considered lexical primitives, listed both in the Lexicon and related to each other. There is no argument structure without event structure.

In the last twenty years the aspectual dimension as an important lexical information with consequences for Syntax has been emphasized in different ways by several authors (see in particular, Jackendoff 1983, Zubizarreta 1987, Pustejovsky 1991, Van Hout 1991, Borer 1998, Levin 1999).[1,2]

Recently, Alexiadou (2001), working in the framework of the Minimalist Program and accepting the model of Distributed Morphology, assumes that the level of word formation is Syntax, not the Lexicon, as in

Grimshaw (1990), and, as a consequence, the relation between event structure and argument structure is reconsidered.[3]

The author represents process nouns and result nouns as category-neutral roots that in both cases can take arguments. In her approach, the different readings of the nominals result from a difference in the functional projections dominating the category-neutral root. Whereas the Lexical Root is dominated by the verbal functional categories vP and AspP and the nominal projections NumP and DP in the case of event nouns, as in (13), in the result reading the Lexical Root is dominated by nominal functional projections alone, as in (14):

(13)

```
                    DP
                   /  \
                 D°    FP (NumP/AgrP)
                      /  \
                    AP    F'
                         /  \
                       F°    AspectP
                            /  \
                      Aspect°   vP
                               /  \
                              v    LP
                                  /  \
                                L°    Comp (= theme)
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(14)

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              DP
             /  \
           D°    FP
                /  \
              F°    LP
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The functional head Asp denotes (im)perfectivity and v is the locus of, among other informations, eventivity and agentivity.

We see that in this approach the event information is a syntactic property, not lexical, as in Grimshaw's; moreover, since, in Alexiadou's view, result nouns may have argument structure, there is a dissociation between argument structure and event information. In order to capture the idea that the event structure also plays a crucial role in the licensing of argument structure in her framework, Alexiadou accepts Levin's (1999) proposal according to which each verb meaning has two components: one component that is provided by its event structure and one component provided by the core meaning, the part of the meaning that is idiosyncratic

to a specific verb and that the author calls the constant. In Alexiadou's approach, constants are integrated in the event templates created by Syntax to yield the verb meanings (Alexiadou 2001: 66). Accepting the idea of syntactic word formation, Alexiadou proposes then that it is the constant of a Lexical Root that licenses an internal argument and concludes that "presence of arguments is guaranteed independently of the eventive character of the outcome of word-formation." (Alexiadou 2001: 67) However, there is still a relation between the presence of event and the projection of arguments, because Alexiadou relates the obligatoriness of complements with process nominals to the presence of an eventive functional head, and the optionality of complements with result nouns to the absence of an eventive functional head.

We will come back to this afterwards because we will accept much of the theoretic model of Alexiadou.

4. Some other problems for the distinction process vs. result nouns

Although, in Alexiadou's approach, result nouns have argument structure, there is still the same dichotomy between event nouns and result nouns as in Grimshaw's approach.

However, the distinction between event and result nouns seems to be less clear-cut than assumed by these authors and a development of this distinction seems to be justified.

a. One of the diagnostics Grimshaw uses for the result interpretation is pluralization: only result nouns can pluralize. However, event nouns can also pluralize:

(15) Die Besteigungen der beiden Gipfel dauerten 6 Wochen. (Bierwisch 1989 for German, *apud* Alexiadou 2001: 72)
'The climbings of the two tops took 6 weeks.'

(16) Tijdens de martelingen van de politieke gevangenen door de zwarte brigades moesten alle journalisten het gebouw uit. (Van Hout 1991: 75 for Dutch)
'During the tortures of the political prisoners by the black brigades all the reporters had to leave the building.'

(17) Os jornalistas estavam a assistir a várias destruições de pontes, quando chegaram as tropas.
'The journalists were watching several destructions of bridges, when the troops arrived.' (Brito & Oliveira 1997: 61 for Portuguese)

b. Also the arguments concerning the form of the determination of the event nominal are not so strong as Grimshaw proposes. Under

certain contextual conditions, the nominal may be preceded by an indefinite determiner:[4]

> (18) Os jornalistas estavam a assistir a uma destruição da ponte, quando a bomba caiu.
> 'The journalists were watching a / one destruction of the bridge, when the bomb fell.' (Brito & Oliveira 1997: 60)

The combination with a demonstrative with a contrastive effect is also possible:

> (19) Os jornalistas estavam a assistir a essa destruição da ponte, quando a bomba caiu.
> 'The journalists were watching that destruction of the bridge, when the bomb fell.' (Brito & Oliveira 1997: 61)

c. Alexiadou states that in Romance two genitives are only allowed with result nouns and that with an event noun the agent has to be expressed in a *by*-phrase, as in the French example (20):

> (20) La destruction de la ville par les soldats eut lieu en 1750. (event)
> 'The destruction of the city by the soldiers occurred in 1750.'

In Alexiadou's view, the second genitive with the result noun in the French example (21) is always possessive (the example is from Alexiadou 2001: 14).[5]

> (21) La présentation de livres de ce journaliste est toujours raffinée. (result)
> 'This journalist's book presentation is always refined.'

However, as Van Hout (1991: 76) observes for Dutch, certain nominalizations can combine with a genitive phrase even when they have an event interpretation:

> (22) Ik heb alle uitvoeringen van Youri Egorov van het Schumann-programma bijgewoond. (event)
> 'I have attended all of Youri Egorov's performances of the Schumann program.' (event)

And the same happens in Portuguese with nouns like *tradução* (translation):

> (23) A tradução da *Odisseia* de Frederico Lourenço demorou dois anos. (event)

'Frederico Lourenço's translation of the Odyssey took two years.'

(24) A tradução da *Odisseia* de Frederico Lourenço é magnífica. (result)
'Frederico Lourenço's translation of the Odyssey is very good.'

In Grimshaw's analysis, result nouns and object nouns are analyzed in the same way: they have no argument structure and no specific theta roles to discharge; they optionally take semantic participants with which they have rather loose relations. However, we saw already that result nouns can (optionally) be combined with a complement, contrary to object nouns. Furthermore, Brito & Oliveira (1997) show, for Portuguese, that a result noun may be combined with a *by*-phrase expressing the agent (25-26), differently from concrete nouns (27), contrary to what Grimshaw claims:

(25) A análise do texto pelo aluno enriqueceu o conhecimento dos colegas. (result)
'The analysis of the text by the students enlarged the knowledge of the colleagues.'

(26) A construção do campo de jogos pelas autoridades trouxe benefícios para a comunidade. (result)
'The building of the playground by the authorities benefited the community.'

(27) *A construção do campo de jogos pelas autoridades é de boa qualidade. (concrete object)
the building of the playground by the authorities is of good quality

What these examples confirm is that result nouns may select arguments, and, in certain circumstances, may even be combined with a *by*-phrase; on the contrary, concrete / entity nouns do not have argument structure. This is justified by the proposal that the result noun still has an event structure, as the scheme (12) already suggested and as Brito & Oliveira (1997) already proposed for Portuguese.[6]

In this section we have shown that there are problems with a strict dichotomy process vs. result nouns based on the presence vs. absence of event structure. In the next section we propose another distinction between nominalizations.

5.   Two types of eventive nominalizations

In the previous sections we showed that the distinction between process and result nouns seems to be less clear-cut than has been claimed in the

literature; in particular, we saw that the properties generally attributed to process and result nominals are not always correct, as summarized in (28):

(28)

- process nominals do not obligatorily take internal arguments
- process nominals can pluralize and can combine with an indefinite determiner or a (contrastive) demonstrative
- some process nominals can combine with an *of*-phrase instead of a *by*-phrase
- result nouns can take internal arguments
- result nouns can, in certain circumstances, combine with a *by*-phrase.

The mixed behaviour of process nouns was already shown by Van Hout (1991). Van Hout argues for Dutch that the semantic change from a noun denoting an event into a noun denoting an object does not happen in one step, and that there is an intermediary form. This was illustrated in (22), repeated here as (29):

> (29) Ik heb alle uitvoeringen (van Joeri Egorov) (van het Schumann programma) bijgewoond.
> 'I have attended all (of Youri Egorov's) performances (of the Schumann program).'

According to Van Hout, the nominalized form in (29) denotes a process, in spite of the fact that it can be pluralized, the agent is introduced by *of*, and the realization of the theme is not obligatory.

    Another mixed case is the one where result nouns take internal arguments. That result nouns can take internal arguments, just like process nouns, was shown by Picallo (1991), see (6). In section 3, we showed already how Alexiadou (2001) accounts for this fact. Following Levin (1999), Alexiadou assumes that Lexical Roots are constants, which means that the presence of arguments is guaranteed independently of the eventive character of the outcome of word-formation. When constants enter into a relation with event related projections, the presence of arguments becomes obligatory, i.e. they become structure participants in Levin's terms. Since with result nouns there are no *v*P and AspP, the projection of the arguments of the constants is not required.

    The possible combination of result nouns with a *by*-phrase (as shown by Brito & Oliveira 1997, see 25-26) suggests, however, that result nouns can still be eventive in some way. This is not surprising, since result nouns denote something that is the effect of an event. In the strict dichotomy that Grimshaw and Alexiadou make, the eventive character of result nouns is not transparent. In Grimshaw's analysis, result nouns do not have event

structure and in Alexiadou's analysis the Lexical Root is not dominated by *v*P and AspP in the case of result nouns.

In the next section we will argue that *v* can still be present in the case of result nouns, as it is in the case of process nouns that form an intermediary step between process nouns and result nouns in Grimshaw's and Alexiadou's dichotomy (see 28), but we will propose that *v* can be deficient in various respects.

6.   Properties of *v*

In Alexiadou's (2001) analysis of nominalizations, process nouns are dominated by VoiceP and AspP, whereas result nouns are not. VoiceP (*v*P) dominates little *v*, which contains features expressing its passive character, and AspectP expresses aspect, viz. (im)perfectivity. Following, among others, Kratzer (1994a, b) and Chomsky (1995), Alexiadou (2001: 19) takes the following properties to be associated with *v* :

(30)

(i)   *v* is the locus of agentivity.
(ii)   *v* contains features related to eventivity.
(iii)   *v* bears Case features for the object.
(iv)   *v* introduces an external argument

Properties (iii) and (iv) are the transitivity property of *v* (Burzio's generalization), they distinguish between active verbs (Case and external argument) on the one hand, and passive verbs and nominalizations (no Case and no external argument) on the other, whereas properties (i) and (ii) create the semantic content of little *v*. The two sets of properties may be dissociated from each other. Verbal passives have an eventive interpretation and imply the presence of an agent, but lack the transitivity property. Nominalizations also lack the transitivity property.

Collins (1997) proposes that in the case of unaccusative verbs *v* is present, but is somehow deficient: it does not check accusative case and it does not assign an external theta-role. If properties (iii) and (iv) are present, Alexiadou calls *v* a transitive *v*, if properties (iii) and (iv) are absent, i.e. if *v* is deficient in Collins' terms, she calls *v* an intransitive *v*. According to Alexiadou (2001: 137), gerunds in English involve a transitive *v*, whereas process nominals across languages, *-er* nominals, and mixed nominalizations in English (*John's destroying of the city*) involve an intransitive *v*, as we summarize in table 1:

Transitive *v*	Intransitive *v*
• active/transitive sentences • gerunds in English	• verbal passives • -*er* nominals • *destruction* type nominals • English mixed nominalizations

table 1: transitivity of *v*

In Alexiadou's view (2001: 137), *v* can also be deficient with respect to the agentivity feature. Whereas *v* is agentive in the case of e.g. English gerunds, *v* is deficient with respect to this feature in the case of English mixed nominalizations and *destruction* type nominals across languages.

Working in a more structured model, containing VoiceP, *v*P and CauseP, Alexiadou, Anagnostopoulou & Schäfer (2009) claim that whereas in verbal passives *by*-phrases are licensed by VoiceP, in English nominalizations VoiceP is absent and *by*-phrases are licensed by encyclopaedic knowledge about the nominal. The *by*-phrase assigns the thematic role of Actor (Fox & Grodzinsky 1998), if this is compatible with the root semantics. In these circumstances, not only nominalizations, but also nouns without argument structure may be compatible with a *by*-phrase (as in *the book by Chomsky*). Only *by*-phrases can be interpreted as actors. Constituents introduced by other prepositions, such as *of*, can only be interpreted as non-actors (e.g., internal arguments or experiencers).

Ramchand (2008) also claims that the presence of the initiator, i.e. the agent or the cause of a process, depends on the semantics of the predicate. In Ramchand's framework, the InitP is part of a decomposite *v*P associated to the verbal meaning. In this paper we assume, just like Ramchand, that agentivity is a property of a predicate expressed by little *v*, but it should be noted that our view is also compatible with Alexiadou, Anagnostopoulou & Schäfer's (2009) contention that agentivity is a property of a predicate expressed by *by*.

Building on Alexiadou (2001), we claim thus that in the case of nominalizations, *v* is deficient with regard to transitivity (properties iii and iv), and can be deficient w.r.t. agentivity (property i), as we will argue below. Little *v* cannot be deficient w.r.t. eventivity: if there is no event, there is no *v*. We propose that this is the case if the nominalization is interpreted as an object / entity noun, as in (27).

In Grimshaw's view, the presence or absence of complements (internal arguments) is related to event structure. If there is no event, there are no arguments and if there is an event, there have to be arguments. This is why, in Grimshaw's view, result nouns cannot take complements and why process nouns have to take complements. In Alexiadou's view, process nouns obligatorily take complements and result nouns can take complements, because they are licensed by the Lexical Root as a constant. The complements are optional, however, because there are no event related projections which require their presence. We follow Alexiadou and Levin in assuming that Lexical Roots are constants that license complements even in

result readings. We have shown that process nouns can also optionally take complements, as in (29). Furthermore, result nouns can also obligatorily take a complement, as in (25-26). The obligatoriness or optionality of complements in these cases cannot be the result of the presence or absence of *v,* as in Alexiadou's approach. We relate it to the deficiency or non-deficiency of *v* w.r.t. the agentivity feature.

In the next section we will show how the properties of functional heads, including *v,* or the presence or absence of functional projections dominating the Lexical Root can account for the expression of arguments of nominalizations.

7.   Developing Alexiadou's proposal

As was mentioned above, Alexiadou's proposal about nominalizations is made within a framework compatible with Distributed Morphology (first developed in Halle & Marantz 1993, and Marantz 1997, 2001).

In Distributed Morphology, there is no Lexicon prior to Syntax: vocabulary items are inserted into syntactic structures after syntactic operations have taken place; the syntactic structures just contain bundles of features, but no phonologically realized items. Roots are unspecified for the syntactic category. Exemplifying, the Lexical Root *destruct* is permitted in a verbal and in a nominal environment. Its interpretation as V or as N depends on its syntactic context, in particular, the dominating functional categories. For example: AspP, NumP, DetP, but also *v*P (or other verbal projections).

In Alexiadou's view, process nouns are dominated by AspP and *v*P, whereas result nouns are not.

In this paper, we reject the strict dichotomy between process and result nouns and propose that nominalizations have rather to be distinguished on the basis of eventive +agentive and –agentive values and a non eventive value, which, following Alexiadou (2001), we take to be expressed by the presence / absence and nature of AspP and *v*P. As a result of these values, the nominalizations behave as more or less verbal. We characterize this below in the form of a sort of scale:

(a)   In the "most verbal" value of the nominalization, the Lexical Root takes two arguments (an obligatory thematic *of*-phrase and an optional *by*-phrase: *v* is agentive, and eventive, and AspP is present. NumP can be singular or plural:[7]

*   The unspecified Lexical Root is dominated by at least *v*P, AspP, NumP and DP.
*   *v* contains an event feature
*   *v* is agentive ➔ *by*-phrase
*   *v* licenses an internal argument

- *v* does not assign accusative Case
- *v* does not introduce an external argument
- AspP contains an (im)perfectivity feature (as in, e.g. 3a, 5 or 20) or the feature "Result" (as in 25-26)
- NumP contains the feature "Singular" or "Plural" (as in 15-17)
- the nominal functional projections may contain definite or indefinite determiners[8]

In the spirit of Alexiadou (2001: 50-51) we assume that if AspP simply contains an (im)perfectivity feature (but not a result feature), we are dealing with a complex event nominal in the sense of Grimshaw, as in (20) or (16), with a perfectivity and an imperfectivity reading, respectively. We assume that, if Asp contains the feature "Result", we are dealing with the result of an event, as in (25-26).[9,10] As (16) shows, pluralization is possible even in the most "verbal" value. All types of determiners are allowed. We repeat some of the relevant examples for convenience, without renumbering and without glosses:

(20)   La destruction de la ville par les soldats eut lieu en 1750. (event)
(16)   Tijdens de martelingen van de politieke gevangenen door de zwarte brigades moesten alle journalisten het gebouw uit. (event)
(25)   A análise do texto pelo aluno enriqueceu o conhecimento dos colegas. (result)
(26)   A construção do campo de jogos pelas autoridades trouxe benefícios para a comunidade. (result)

In Alexiadou's approach, the obligatoriness of the complement results from the presence of *v*P. In our approach, it results from the agentivity of *v*, which means that in our view the complement is required both in the non-result and in the result reading of the value (a) type of nominalizations. It can only be omitted if it is strongly implied by the context. Notice, however, that, in nominalizations as well as in verbal passives, the agent does not necessarily have to be expressed.

(b)   The second, less "verbal" value is as in (a), but the agent-like participant is expressed by a genitive (its presence is, just as in value (a), optional); *v* is deficient with regard to the feature "Agentive", as in (22-23):

- The unspecified Lexical Root is dominated by at least *v*P, AspP, NumP and DP.
- *v* contains an event feature

- *v* is not agentive → agent-like participants in the event are expressed by a genitive (as in 22-23)
- *v* licenses an internal argument, but *v* being not agentive, the internal argument is optional (as in 3b, 9-10, or 29)
- AspP contains an (im)perfectivity feature or the feature "Result" (as in 6, 8 or 21)

As a constant, the Lexical Root takes an internal argument. Alexiadou relates its optionality to the absence of *v*P. In our approach, *v*P is still present in this reading, which explains the possibility of expression of an agent-like participant by a genitive. We relate the optionality of the internal complement in the process reading in (29) to the absence of the agentivity feature on *v*:

(29) Ik heb alle uitvoeringen (van Joeri Egorov) (van het Schumann programma) bijgewoond.

Just like in value (a) Asp can also contain the feature "Result", indicating that we are dealing with the result of an event, the difference being that *v* is not agentive in value (b). The agentivity feature on *v* being absent, the internal complement is again optional:

(6) La discussió (de les dades) es va publicar a la revista. (result)

Since unaccusatives do not license an agent, they only have the value (b). They can have both a process and a result reading, as exemplified in the examples (7-8). In both cases the complement is optional, as exemplified in (9):[11]

(7) La desaparició d'en Joan (event)
(8) La desaparició d'en Joan (result)
(9) L'arrivée eut lieu à minuit. (event)

(c) The third value of the nominalizations is reflected by object / entity nouns as *this beautiful building*, cf. (4b) and (27):

(4) b. A construção destoa na paisagem (concrete object)
'The building does not fit in with the landscape'
(27) *A construção do campo de jogos pelas autoridades é de boa qualidade. (concrete object)

- The unspecified Lexical Root is dominated by at least NumP and DP.
- There is no AspP and no *v*P, which describes adequately the absence of event and aspect readings.

Although the Lexical Root BUILD, as a constant, licenses an internal argument, in the object reading the argument is not projected. We relate this to the absence of event. There is no *v*P, no AspP, just as with nouns like *book*, as in (1-2):

(1)   John's book (object noun)
(2)   The book of linguistics (object noun)

In nouns denoting a simple event, as in (11), the eventive meaning is part of the meaning of the Lexical Root itself, but, as in (1) and (2), no *v*P nor AsP is projected:

(11)   The race took place at 6:00 p.m.

8.   Conclusion

In this paper we have argued, against, e.g., Grimshaw (1990) and Alexiadou (2001), that the difference between process nouns and result nouns is simply an aspectual one and not an eventive one and that, as a consequence, the two types may behave similarly w.r.t. the projection of arguments, plurality and the choice of determiners. We have shown that although there are result nouns that are similar to object / entity nouns in not having event or argument structure, other result nouns resemble process nouns in having two types of eventive readings, a +agentive and a −agentive reading, associated with a difference in the projection of arguments.

The values that we have distinguished are presented in table 2:

	Asp [- result]	*Asp [+ result]*
vP [+ agentive]	*Process nouns with a by-phrase*	*Result nouns that admit a by-phrase*
vP [- agentive]	*Process nouns that admit two of-phrases* *Unaccusative process nouns*	*Result nouns with of-phrases* *Unaccusative result nouns*
No vP, no AspP	*Object / entity nouns*	

table 2: values of deverbal nominalizations

If different values of nominalizations can be distinguished on the basis of agentivity, we expect them to be associated with syntactic or morphological differences. First, in this paper we have seen that the choice of a preposition can express the distinction. Agents are licensed in the form of *by*-phrases by the agentivity feature on *v*. If *v* is deficient w.r.t. the agentivity feature, there can be instead an agent-like participant in the event in the form of an *of*-phrase. Second, it seems that the agentivity feature influences the obligatoriness of the internal complement. Third, we have

seen that the distinction is associated with the choice of a verbal root. Since unaccusatives are non-agentive, they cannot have the "most verbal" type of value. Fourth, it would also be possible that the distinction is associated with a different choice of the suffix. We leave this for future research.

[1] Van Hout (1991) relates argument structure with event structure in the Lexicon but for this author only the event structure is a primitive; in fact, for her, it is the event structure associated to each verb that gives a clue as to how many and which arguments are to be expected in order to be fully identified (1991: 72). She states:

> A *State* needs a participant which occurs in a certain state of affairs: this may be a *theme* or an *experiencer*. But it must not be an agent, because agents are active and only participate in actions and a state is by definition not active. A *Process* needs an agent participant, which expresses the acting character of the process. A *Transition* needs an agent participant, which is the participant who brings about the transition between two subevents. A complex event, in order to have all subevents identified, triggers the set of all the participants which each subevent separately needs. (Van Hout: 1991: 72)

[2] In the framework developed by Borer (1998) arguments are directly projected in the specifier positions of various aspectual layers, EventAspP, ProcessAspP and the interpretations of the arguments as Source of the result and Source of the process give, respectively, the interpretations of theme and cause / agent. For this author arguments are obligatory with event nouns because event nominals contain aspectual projections.

[3] Picallo (1991) had already suggested for Catalan that the level where word formation takes place could be related to the type of nominalization, proposing that there are lexical nominalizations (in her framework those with a result meaning) and syntactic nominalizations (those with an event meaning). Developing this distinction, Alexiadou (2001) assumes that *all* types of word formation take place in Syntax.

[4] One of the reviewers observes that according to Picallo (1999: 377-378) other Romance languages, such as Catalan and Spanish, disallow the combination of weak determiners with eventive nominals.

[5] (21) has a generic reading, but even with a specific reading a genitive is used in the result reading:

> (i)   La présentation du livre de ce journaliste est bien intéressante. (result)
>   'This journalist's book presentation is very interesting.'

[6] Starting from an accomplishment verb, Van Hout (1991: 77) remarks that the process of nominalization "highlights the state node of the original e-structure, thereby turning it into an event nominal", as described in (i):

(i)   TRANSITION   →   transition
              $\wedge$ $\wedge$
         process state   process STATE

Although we do not totally agree with van Hout, because a nominal like *destruction* may refer either to the process (of destruction) or to the state (of destruction), we think that the author understands quite well that the notion of result / state noun is sometimes confounded with a concrete noun.

[7] The question of pluralization of events has been a matter of debate, specially after Krifka (1989), where the quantization is related to telicity of events (roughly bounded / unbounded in time) and to the mass / count distinction in nouns. MacDonalds (2006: chap. 4.2) studies the matter in a syntactic perspective. Cunha (2007), for Portuguese, treats the matter in a semantic perspective, showing that a situation may be quantizied when it is space and temporally bounded and it is repeatable. Iordăchioaia & Soare (2009) also relate pluralization of complex event nominals to telicity. They argue that Romanian infinitival complex event nominals can pluralize because of a telic inner aspect, whereas the Romanian supine and the Spanish nominal infinitive do not pluralize because of unbounded outer aspect or by atelic inner aspect, respectively.

In this text the question of quantization of nominalizations is not the central issue, but we show that, although both singular and plural are in principle possible in the most verbal value described in (a), as witnessed by the examples (20) and (16), the plural is more natural in the less "verbal", i.e., non-agentive, value (b), presented below (see 29). We can then establish a correlation between agentivity and quantization, that, as far as we know, was never noticed in the literature: in fact, when the agentivity feature and the *by*-phrase is present, there is, in principle, one event, although it can be repeated. When there is no agentivity feature and the *of*-phrase is present, there can be, in principle, a pluralization of events.

Roodenburg (2006) shows that Romance seems to be more permissive w.r.t. pluralization of complex event nominals than Germanic. An example such as (16) shows, however, that even pluralization of value (a), i.e. +agentive, nominalizations is possible in Germanic.

[8] As in the examples (18-19) when the agent is expressed:
> (18')   Os jornalistas estavam a assistir a uma destruição da ponte pelos soldados, quando a bomba caiu.
> 'The journalists were watching a / one destruction of the bridge by the soldiers, when the bomb fell.'
> (19')   Os jornalistas estavam a assistir a essa destruição da ponte pelos soldados, quando a bomba caiu.
> 'The journalists were watching that destruction of the bridge by the soldiers, when the bomb fell.'

[9] We follow here Embick (2000) who assumes that within result nominals there is an aspectual head specified [RESULT]. Alternatively, it is possible to assume that *v* dominates the primitive *become* (Embick 2004).

[10] In Alexiadou's model, (Viewpoint) AspP is merged on top of *v*P and seems thus not to be intrinsically related to the meaning of the predicate. It can express telicity/–telicity and perfectivity/imperfectivity. In Ramchand's (2008) model, however, which we adopt in Sleeman & Brito (2010), ResultP is part of a split *v*P, which is associated to the (telic) meaning of the predicate. In this model, ResultP represents inner aspect. Contra Ramchand, however, we assume that predicates can be ambiguous, and that ResultP can be present in a telic interpretation, but absent in an atelic interpretation (the examples are from Alexiadou 2001: 52):
> (i)   the destruction of the city in five minutes
> (ii)   the destruction of the city for five minutes

[11] According to one of the reviewers, however, the internal argument of unaccusative nominals is always required or, if it is omitted, has to be strongly implied by the context:
> (i)   La llegada *(de Felipe) tuvo lugar el 11 de septiembre.
> 'Felipe's arrival took place on September 11.'

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