# "A seleção deste tema para escrever um artigo interessante" ('The selection of this subject to write an interesting paper') — a study on non-deverbal complex event nominals

*"A seleção deste tema para para escrever um artigo interessante"*
*— um estudo sobre nominais de evento complexo não deverbais*

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**Abstract:** The aim of this paper is to propose a compositional and detailed analysis of the internal structure of nominal forms with eventive meaning in Portuguese, following Medeiros (2024). Of particular interest for this study are nominals that, by morphological criteria, are not deverbal, and yet pass the tests that identify the so-called complex event nominals (Grimshaw, 1990; Borer, 2013). Examples include nouns such as '*seleção*' ('selection'), which derives the verb '*selecionar*' ('to select'), and '*captura*' ('capture'), which derives the verb '*capturar*' ('to capture'). We will propose here that such nominal forms lack an internal verbal (or adjectival) layer, and that the nominalizer itself (*little n*; Marantz, 1999) may be interpreted as introducing the event reading, depending on the elements syntactically combined with it (Marantz, 2013; Medeiros, 2024).

**Keywords:** Nominalizations. Allosemy. Event Structure. Arguments.

**Resumo:** O objetivo deste artigo é propor uma análise composicional e detalhada da estrutura interna de formas nominais com significado eventivo em português, retomando ideias de Medeiros (2024). De particular interesse para este trabalho são os nominais que, por critérios morfológicos, não são deverbais, e, no entanto, passam nos testes que identificam os chamados nominais de evento complexo (Grimshaw, 1990; Borer, 2013). Exemplos são nomes como 'seleção' (que deriva o verbo 'selecionar') e 'captura' (que deriva o verbo 'capturar'). Proporemos aqui que tais formas nominais não possuem camada verbal (nem adjetival) interna, e que o próprio nominalizador (*little n*; Marantz, 1999) poderá ser lido como introdutor da leitura de evento, dependendo dos elementos combinados sintaticamente com ele (Marantz, 2013; Medeiros, 2024).

**Palavras-chave:** Nominalizações. Alossemia. Estrutura de eventos. Argumentos.

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## 1 INTRODUCTION

In this paper, we analyze a type of nominal form that is often overlooked in studies of nominalization and can pose problems for particular approaches to nominals related to verbs (*e.g.*, Borer, 2013). Let us take a look at the examples below, which have evident eventive readings, but are not derived from verbs – on the contrary, they derive them:

(1)    a.    A     seleção    da     equipe em duas    horas pelo
            the.FEM selection of-the.FEM team   in   TWO.FEM hours by-the.MASC
            técnico.
            coach.MASC
            "The selection of the team in two hours by the coach".

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b.  A        solução dos            problemas em poucos       minutos
    the.FEM solution of-the.MASC.PL problems in  few.MASC.PL minutes
    pela         analista.
    by-the.FEM analyst
    "The solution of the problems in a few minutes by the analyst".
c.  A        inspeção  do           prédio    em dois dias pelos
    the.FEM inspection of-the.MASC building in  two  days by-the.MASC
    engenheiros.
    engineers
    "The inspection of the building in two days by the engineers".
d.  A        captura do            sequestrador em dois dias pela        polícia
    the.FEM capture of-the.MASC kidnapper    in  two days by-the.FEM police
    civil.
    civil
    "The kidnapper's capture in two days by the civil police".

All the examples above contain nominal forms that morphologically derive verbs: '*seleção*' ('selection') derives the verb '*selecionar*' ('to select'); '*inspeção*' ('inspection') derives the verb '*inspecionar*' ('to inspect'); '*solução*' ('solution') derives '*solucionar*' ('to solve'); '*captura*' ('capture') derives '*capturar*' ('to capture'). In '*seleção*' (as well as in '*solução*' and '*inspeção*'), an allomorph of the nominal morpheme '*-ção*', '*-cion-*', occurs in the verb, as can be seen in the template (2-a) below. Almost the same can be said about the verb '*capturar*', which contains the root '*ca(p)t-*' and the nominal morpheme '*-ura*':

(2)   a.   sele(t)-cion-a-r
           root-NMLZ-TH-INFINITIVE
           'to select'
      b.   capt-ur-a-r
           root-NMLZ-TH-INFINITIVE
           'to capture'

The root '*sele(t)-*' can be found in words such as '*seleto*' ('selected', 'chosen'), '*seletivo*' ('selective') and '*seletor*' ('selector'); the exponent '*-cion-*' of the nominal morpheme is encountered in various nominals — in fact, it is, possibly, the default nominal exponent for the nominal morphemes in the verbal environment in Brazilian Portuguese. Again, almost the same can be said about '*capturar*' ('to capture'): the root '*ca(p)t-*' occurs in the noun/adjective '*cativo*' (captive) and '*captar*' ('to capture'), and '*-ura*' occurs in various nominal forms, such as '*brancura*' ('whiteness'), '*quentura*' ('hotness') *etc*.

The critical aspect of the examples above is that, although they have no verbal stem (see section 3 below for a discussion), they behave as complex event nominals, if we adopt the terminology and the tests proposed mainly by Grimshaw (1990) and Borer (2013) to identify them. This particularly contradicts Borer's proposals on the structural nature of complex event nominals, which are assumed to be all derived from verb phrases (or from adjective phrases).

However, if such nominals in (1) are not derived from verb phrases (or adjective

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phrases), what is their morphosyntactic structure, and how do they project their arguments and obtain their event readings? This paper proposes a tentative answer to this question, adopting a framework developed by Medeiros (2018) for verb phrase structures and by Medeiros for deverbal nominals, which encompasses the various possible readings of nominalizations. We will adopt the notion of allosemy, proposed by Marantz (2013) and developed in multiple works, such as Wood (2015, 2024) and Wood and Marantz (2017), among others. Ultimately, this paper argues for a version of Marantz's (1997) and Chomsky's (1970) proposals on English-derived nominals, but applied only to a subset of the roots shared by verbs and nouns in Brazilian Portuguese.

To address this issue, we propose — within the framework of Distributed Morphology (Halle; Marantz, 1993; Marantz, 1997, 2013) — that the nominalizer morpheme *little n*, like *little v*, can be responsible for introducing an event variable in the semantic computation of the nominal's final meaning. This special interpretation of little n can be understood as an alloseme (*cf.* Marantz, 2013) of n in specific contexts, which include particular roots and the presence or absence of arguments. What really distinguishes little *n* from *little v* is that the latter can be embedded in the domain of T, but never the former.

Many syntax-based accounts of Brazilian Portuguese nominals are available in the literature (*e.g.* Resende and Basso 2022; Souza and Armelin 2022; Bassani, 2018; Pederneira and Lemle, 2015; Scher 2007; among many others). Most of these studies, however, focus on nominals derived from verbs. Even works such as Resende and Basso (2022), which do investigate eventive underived nouns, neither examine the type of nominal form addressed here nor propose the same solution developed in this paper (based on allosemy) for underived nouns such as '*terremoto*' ('earthquake') or '*furacão*' ('tornado').

The paper is organized as follows. Section 2 discusses the problems with Grimshaw's (1990) and Borer's (2013) criteria for distinguishing complex event nominals from result nominals. It also outlines Medeiros's (2024) proposals for handling verb-derived nominals and their interpretations, which may include both eventive and resultative readings. Section 3 develops a formal analysis of non-deverbal nominals, assuming they result from the direct combination of roots with nominalizers and arguments. This syntactic structure supports a specific interpretation of nominalizers as event introducers. The final section briefly summarizes the paper's main points.

## 2   ON VERB-DERIVED NOMINALS AND THEIR INTERPRETATIONS

The literature on nominal forms divides them into three classes proposed by Grimshaw (1990): complex event nominals, simple event nominals, and result nominals. Following Grimshaw (1990) and Borer (2013), complex event nominals

   a) have an obligatory complement;

   b) cannot be pluralized;

   c) denote events that can be modified by prepositional phrases such as *for x time* or *in x time*;

d) can be modified by goal-oriented adjuncts, such as *to do x*; and

e) can be modified by agent-oriented prepositional phrases such as *by x*.

On the other hand, result nominals

a) do not necessarily have complements;

b) accept plurals and adjectives, such as *frequent*, with plurals;

c) cannot be modified by the kinds of PP adjuncts mentioned above, which are allowed in complex event nominals; and

d) some of them are interpreted as objects that are typically results.

For the class of simple event nominals, Borer and other authors (*e.g.*, Alexiadou, 2001; Wood, 2024; among others) have proposed that the result nominal category absorbs it. Then, the criteria for identifying result nominals are the same as those for identifying simple event nominals.

As we can see, the classes are mutually exclusive: a nominal cannot be both a result and a complex event nominal at the same time. For Grimshaw, this difference lies in the lexicon; for Borer (and much of Distributed Morphology research), in syntax.

Although many scholars (*e.g.*, Borer 2002, 2013; Alexiadou, 2001; Roy; Soare, 2013; Wood, 2024; among others) accept these criteria, they pose numerous problems when applied to data. For example, it is not true that nominals cannot belong to both classes at the same time. The examples below show it.

(3)  a.  A **certificação** do produto, por 12 anos, em apenas dois
the.FEM certification of-the.MASC product by 12 years in just two
dias, já está assinada na sua mesa.
days already be.3SG.PRES.IND signed on.FEM your.FEM table
"The certification of the product for 12 years in just two days is already signed on your desk".

b.  A **concentração** dos manifestantes, em apenas meia
the.FEM gathering of-the.MASC.PL protesters in just half.FEM
hora, para reivindicar uma reforma tributária, conta com
hour to demand a.FEM reform tax count.3SG.PRES.IND with
milhares de pessoas e ocupa grande parte da
thousands of people and occupy.3SG.PRES.IND large part of-the.FEM
Avenida Presidente Vargas.
avenue President Vargas
"The gathering of protesters in just half an hour to demand a tax reform counts thousands of people and occupies a large part of Presidente Vargas Avenue".

c.  Aquele **deslizamento** de terra, em apenas alguns minutos, agora
that.MASC landslide, in just few.MASC minutes, now
ocupa todo o vale, impedindo a
cover.3SG.PRES.IND all.MASC the.MASC valley, block.GER the.FEM

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        passagem dos              veículos.
        passage   of-the.MASC.PL vehicles
        "That landslide, in just a few minutes, now covers the entire valley, blocking the passage of vehicles".

d.    As         **construções**  do          prefeito, em poucos meses,  para
    the.FEM.PL constructions of-the.MASC mayor   in  few     months to
    garantir   as          próximas eleições, apresentam        inúmeros
    ensure.INF the.FEM.PL next      elections present.3PL.PRES.IND numerous
    problemas estruturais   e    podem          cair       a qualquer
    problems   structural.PL and can.3PL.PRES.IND collapse.INF at any
    momento.
    moment
    "The mayor's constructions in just a few months to win the upcoming elections present numerous structural problems and could collapse at any moment".

Examples (3) above are interesting once they contradict the idea that the two types of nominals are intrinsically different. The example (3-a) takes an aspectual PP that should be licensed only in complex event nominals (see, *e.g.*, Borer, 2003; Grimshaw, 1990; Roy; Soare, 2013), takes a complement, takes some time for its process to be concluded but, at the same time, denotes a particular document (an object that is a kind of result of the certifying event) that is already signed and is on a desk. The same can be said about (3-b), which also presents a goal-oriented adjunct. In (3-c), the landslide event takes only a few minutes to happen (or to be concluded), and the result of the event, the landslide material, also referred to by the nominal, occupies the entire valley. In (3-d), the noun '*construções*' is in the plural, has no complement, and refers to buildings that are about to fall, but, at the same time, is modified by PPs supposed to be licensed only in complex event nominals. Possible synonyms for the entity readings of these nominals, the words '*documento*' ('document'), '*multidão*' ('crowd'), '*dejeitos*' ('mine tailings'), and '*prédios*' ('buildings') would not be allowed in the same contexts[1], even though they seem to be coerced into event readings in particular syntactic environments, such as (4):

(4)    O        prédio  finalmente acabou          depois de tantos   atrasos
     the.MASC building finally      end.3SG.PST.IND after   of so-many delays
     no            planejamento.
     in-the.MASC planning
     "The building was finally completed after so many delays to the schedule".

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[1]The substitution of the DP "a certificação do produto" ('certification of the product') by the DP "o documento" ('the document') makes the sentence ungrammatical:

(i)    *O        documento por 12 anos em só  alguns dias já      está           assinado sobre
     the.MASC document   by  12 years in  just a-few  days already be.3SG.PRS.IND signed   on
     a        sua  mesa.
     the.FEM your table
     "The document for 12 years in just a few days is already signed on your desk".

To address the diverse and simultaneous readings of verb-derived nominals, I will discuss ideas presented in previous works of mine (*cf.* Medeiros, 2018, 2024) that outline a theory of the argument/event structure of verbs and verb-derived nominals. I also assume, perhaps contrary to a significant body of literature (*e.g.*, Alexiadou, 2001; Roy; Soare, 2013; among others), that the nominals in (3) are derived from vPs, even in their result readings.

The proposals in Medeiros (2024) rely on a slightly different notion of allossemy, which follows the statements in (i) and (ii):

(i) In verb phrases, some variables can be freely quantified with an existential quantifier at the *vP* level, depending on what is intended to be said and the syntactic (non-cyclic) context above the *vP*.

(ii) When T (or *Voice*) is attached above *v*P, DPs must saturate all the entity variables, and T quantifies the higher event variable. This means that *v*P must denote a set of events in such a context.

These constraints guarantee that verb-derived nominals need not take complements, even if the base verb semantically asks for a direct or indirect object. In cases where the nominal has an eventive meaning but does not merge with a complement, an alloseme of *v* that existentially quantifies the variable that the DP complement would otherwise saturate is triggered. This same alloseme cannot be chosen when a T takes the *vP*: in this case, a DP must saturate the compatible variable introduced by *v* or any other head in the *vP* phase.

In fact, what is crucial is the semantic definition of the head *v* in the structure. So, for example, in cases where some element of the verb, such as the root or a prefix, specifies another subevent for a complement (*cf.* Medeiros, 2018), as in the noun '*construção*' ('construction'), *v* will have the following definitions, being the first two ones free alternatives (in case the complement is absent; *cf.* Medeiros, 2024), but the third one fully determined by the syntactic context (in case the complement is there). Here, the prefix '*con-*', inside the *vP* phase and in the same environment as the root $\sqrt{stru(c)}$-, introduces an inchoative subevent of coming-into-being (*cf.* Medeiros, 2024). The two free allosemes of *v* in the absence of a complement entail the result and simple event nominal readings of Grimshaw (1990); the last one, the complex event reading:
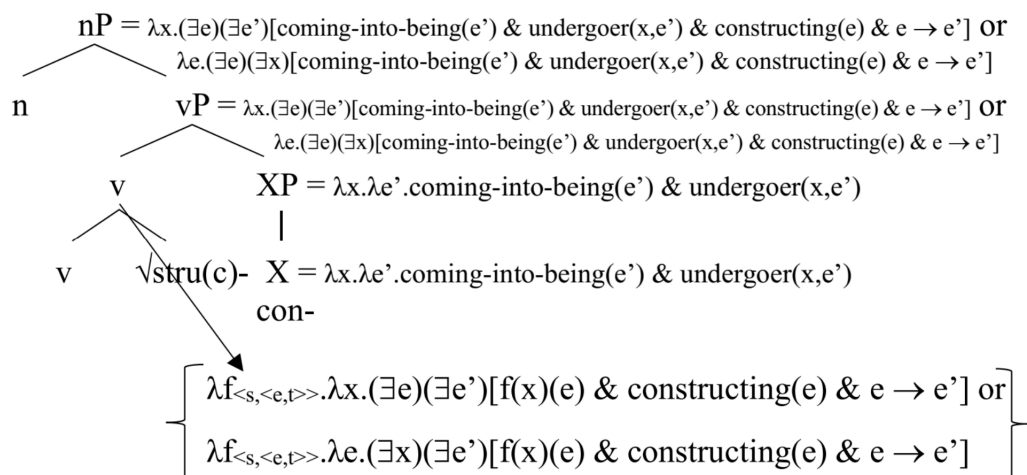
(5)  a.  $v \leftrightarrow \lambda f_{<s,<e,t>>}.\lambda x.(\exists e).(\exists e')[f(x)(e) \wedge constructing(e) \wedge e \rightarrow e']$
     b.  $v \leftrightarrow \lambda f_{<s,<e,t>>}.\lambda e.(\exists x).(\exists e')[f(x)(e) \wedge constructing(e) \wedge e \rightarrow e']$
     c.  $v \leftrightarrow \lambda f_{<s,t>}.\lambda e.(\exists e')[f(e) \wedge constructing(e) \wedge e \rightarrow e']$

The first one, (5-a), contributes to the final denotation of a set of created entities; the second one, (5-b), produces a set of constructing events with an implicit, unspecified created entity. The symbol "→" indicates that *e* causes or culminates in *e'*, *i.e.*, the event of constructing (continually) causes the event of coming-into-being of something[2]. The structure below presents the two alternatives of *v* (plus the root) for the noun '*construção*'.

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[2] I am adopting an extensional view of creation verbs (in particular, the verb '*construir*'). However, as far as I can tell, adopting an intensional view of these verbs would not affect the paper's goals or the theoretical framework developed here. I am therefore agnostic on this point.

The *little n* contributes nothing to the final denotation.

(6)

nP = λx.(∃e)(∃e')[coming-into-being(e') & undergoer(x,e') & constructing(e) & e → e'] or
      λe.(∃e)(∃x)[coming-into-being(e') & undergoer(x,e') & constructing(e) & e → e']

n      vP = λx.(∃e)(∃e')[coming-into-being(e') & undergoer(x,e') & constructing(e) & e → e'] or
           λe.(∃e)(∃x)[coming-into-being(e') & undergoer(x,e') & constructing(e) & e → e']

v     XP = λx.λe'.coming-into-being(e') & undergoer(x,e')
            |

v    √stru(c)-  X = λx.λe'.coming-into-being(e') & undergoer(x,e')
        con-

$$\left[\begin{array}{l} \lambda f_{<s,<e,t>>}.\lambda x.(\exists e)(\exists e')[f(x)(e) \ \& \ constructing(e) \ \& \ e \to e'] \text{ or} \\ \lambda f_{<s,<e,t>>}.\lambda e.(\exists x)(\exists e')[f(x)(e) \ \& \ constructing(e) \ \& \ e \to e'] \end{array}\right]$$

Since the *nP* includes events inside it, these can be modified somehow, which explains the hybrid behavior we see in (3-d): suppose that in (3-d) the alloseme of *v* is (5-a); then, the *nP* will be interpreted as a set of created entities, a determiner above *nP* will quantify over the entity variable *x*, the predicate '*apresentam inúmeros...*' ('present numerous...') will take this *DP* as an argument, and the *PP* modifiers will have access to the events inside the *nP*, once these events are there semantically and syntactically. The fact that the entity variable is kept unsaturated and unquantified at the *nP* level explains why such a nominal also refers to a created entity.

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Let us now look at the noun 'certificação' ('certification'). It is not related to, or derived from, a creation verb, but, as we saw above in (3-a), it can refer to a set of result entities (a sort of document), and, at the same time, a state and an event are available to the typical complex event nominal kind of modification (*cf.* Grimshaw, 1990). Assuming that the root √*sert-* describes properties of states (*cf.* Medeiros, 2024) and that it modifies an *XP*, which introduces a target state in this case (*cf.* Medeiros, 2018), the structure below (*cf.* (9) represents the hierarchy of morphemes and the semantic composition of this nominal. However, the entity reading is obtained in a manner different from that we explored above for the noun '*construção*'. We will see how to deal with it in the discussion to follow.

The allosemes of *v* in cases like the noun '*certificação*' are the ones in (7). None of them has as its extension a set of entities, as we find in (5-a) for the noun '*construção*', a noun derived from a verb of creation; both, in fact, refer to sets of events. The difference between the allosemes below is that one is triggered when no complement is merged inside the *vP* (in the *XP* structure), while the other occurs when the complement is there. It is also important to note that the expressions below do not define the kind of event or activity that causes or culminates in the certified state of the (implicit or realized) complement of the nominal. That is why no function assigns encyclopedic properties to this event, contrary to what we saw in '*certificação*' (the 'constructing(e)' part of the expressions in (5)) — the verb's encyclopedic properties specify just the "certified" target
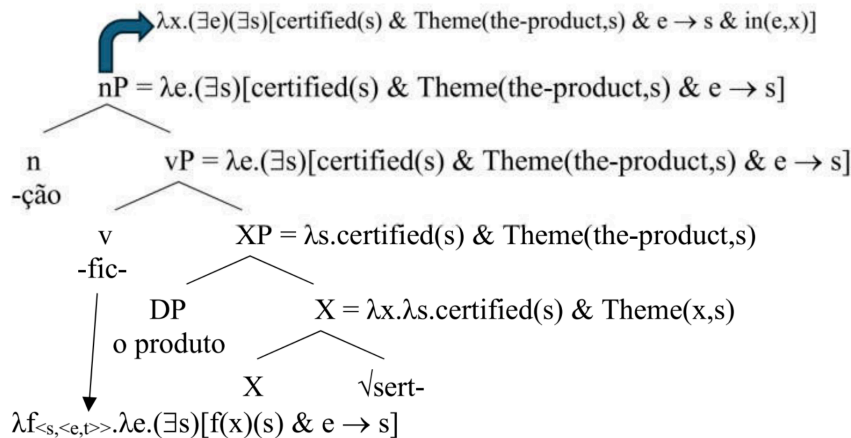
state.

(7)  a.  $v \leftrightarrow \lambda f_{<s,<e,t>>}.\lambda e.(\exists s)[f(x)(s) \wedge e \rightarrow s]$
     b.  $v \leftrightarrow \lambda f_{<s,<e,t>>}.\lambda e.(\exists x)(\exists s)[f(x)(s) \wedge e \rightarrow s]$

But how could we obtain the entity reading we encounter in (3-a)? The idea here, again following Medeiros (2024), is that another level of interpretation is applied above the *nP*. This level is a sort of metonymic extension of the basic event meaning. No extra syntactic structure is involved, just a mere reinterpretation of the *nP*. We assume, without any further comments, that such reinterpretation is allowed just because nouns can refer to entities, but not verbs. So, although the *little n* does not contribute any special interpretation (see (8)), it permits such a metonymic reassessment of the meaning — a *little v*, for example, could not allow such an extension of meaning. The rule this reinterpretation follows is the one below (*cf.* Medeiros, 2024, p. 28), which is general and applies to, maybe, most nominals:

(8)  If $[\![nP]\!] = \lambda e.g(e)$,
     Then $[\![nP]\!] \rightarrow \lambda x.\exists e[g(e) \wedge in(e,x)]$ can apply if no other result reading is available.

Applying (8) to the noun '*certificação*' (certification) to create an entity reading, we have the following final semantic expression. Note that in such an expression, the events and states keep on being available for adverbial modification.

(9)



The rule in (8) associates a set of entities with an event in such a way that these entities contain, metaphorically, the event denoted by the derived nominal. This rule can also be applied to event nominals that are not derived from verbs, as we can see in cases like (10) below.
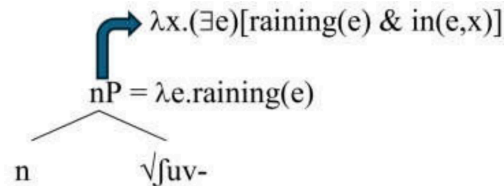
(10)  Aquela   chuva por duas horas caiu            pesada e   arrasou
      that.FEM rain  for two  hours fall.3SG.PST.IND hard   and devastate.3SG.PST.IND

a          cidade.
the.FEM city
"That rain for two hours came down hard and devastated the city."

Here, the word '*chuva*' denotes the event of raining, which lasted two hours, but it also refers to the corresponding large amount of water falling from the sky. That is, the word refers to both an event (that lasted two hours) and an entity (the heavy water that felt). In Medeiros (2024, p. 35), we present the following structure, again applying the rule (8):

(11)

$$\lambda x.(\exists e)[\text{raining}(e) \,\&\, \text{in}(e,x)]$$

$$nP = \lambda e.\text{raining}(e)$$

n          √ʃuv-

Many other kinds of nominals are explored in Medeiros (2024), using basically the same strategies: a certain degree of freedom in quantifying the variables at the verbal level (which correspond to different allosemes of *v*) and the application of the rule (8) in some situations, mainly when the result entity is not one of the arguments of the embedded verbal structure.

However, there are cases where the entity reading cannot be achieved from any of the strategies above. In some of these cases, at least, it seems that there are different underlying structures in event nominals and result nominals. An example can be seen below. The noun '*abertura*' ('opening') has the event meaning in (12-a) and a result meaning in (12-b).

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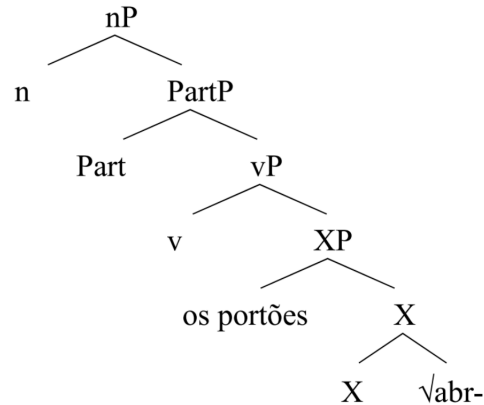(12)     a.     A          abertura dos          portões em dois minutos por três   horas
                the.FEM opening of-the.MASC.PL gates   in  two minutes for three hours
                causou               confusão.
                cause.3SG.PST.IND confusion
                "The opening of the gates in two minutes for three hours caused confusion."
         b.     Tem               uma     abertura no          fundo da
                have.3SG.PRES.IND an.FEM  opening in-the.MASC back    of-the.FEM
                caverna.
                cave
                "There is an opening in the back of the cave."
         c.     *Tem              uma     abertura em dois minutos no          fundo
                have.3SG.PRES.IND an.FEM  opening in   two minutes in-the.MASC back
                da          caverna.
                of-the.FEM cave
                "*There is an opening in two minutes in the back of the cave."
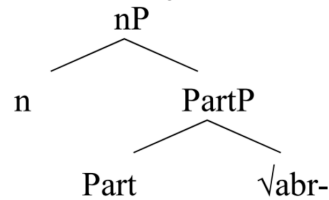
Adopting the conventional approach in this case, I propose that although in (12-a) a full

*vP* is present inside the *nP* — with a structure containing a participial node between the *vP* and the *nP*, in (12-b) there is no *vP* layer, but only the participial node (phonologically realized as '-*t*-') directly selecting the root[3]. The resulting structure is then nominalized by the nominal head, whose phonological exponent is -*ura*. The participial node accounts for the root allomorphy (*cf.* Embick, 2010) in both cases. The syntactic structures are shown in (13):

(13)     a.     Event reading of the nominal '*abertura*':

```
                    nP
                   /  \
                  n    PartP
                      /   \
                   Part    vP
                          /  \
                         v    XP
                             /  \
                       os portões  X
                                  /  \
                                 X   √abr-
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         b.     Result reading of the noun '*abertura*':

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                    nP
                   /  \
                  n    PartP
                      /   \
                   Part    √abr-
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So far, we have dealt with verb-derived nominals, briefly presenting the ideas in Medeiros (2024). As we saw in the last paragraphs, the tests typically used to distinguish the two kinds of nominals in the literature fail in various situations because the two readings are not always separate. This means that many nominals that were assumed to lack verbal structure (*cf.* Borer, 2013; among others) host verb phrases and yield hybrid readings. It does not, however, mean that the picture is simple. There are different ways to achieve one reading or another. These ways involve non-saturation of argument positions, allosemy of morphemes, and even structural differences. Another important point to highlight is that result (entity) readings manifest themselves in various ways

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[3]For (13-a) to be derived from a verb, a participial node must be projected above *vP* in order to account for the root allomorphy. Under Embick's (2010) framework, if no inflectional (participial, in this case) node were present above *vP*, the root would surface as √*abr*-, yielding a nominal form such as '*abriura*', which is unattested. Thus, even if one adopts the view that the participial node makes no semantic contribution whatsoever in this case, there is no avoiding the postulation of such a node in the structure of '*abertura*' — if we follow Embick's theoretical framework. In fact, the nominal morpheme '-*ura*' (that is, the Vocabulary Insertion rule associated with this exponent) frequently targets structures containing adjectival material, as in '*brancura*' ('whiteness'), '*finura*' ('thinness'), and '*largura*' ('width'), or participial material, as in '*escritura*' ('the act or result of writing'), '*postura*' ('posture' or 'positioning'), and '*envergadura*' ('span' or 'wingspan').

and are heterogeneous in nature. In some cases, the result is a created entity that is a verbal argument, and the creation process is simultaneously denoted by the nominal form; in others, the result arises from a semantic operation applied to the *nP*, converting its extension from a set of events into a set of entities; and in yet other cases, the result reading follows, as usually assumed in the literature, from structural differences and does not involve any simultaneous event reading at all.

In the next section, we will investigate nominals not systematically addressed in Medeiros (2024): nouns that seem not to be derived from verbs, but present a complex event reading in Grimshaw's terms — *i.e.,* they have arguments and accept the typical complex event modifiers. To explain this behavior, we propose that little n can also introduce event variables in certain syntactic contexts, thereby allowing a complex structure to host arguments.

## 3   On non-verb-derived event nominals

In this section, we analyze the nominals below, which select arguments and express complex event meanings, but are themselves the morphological bases for verbs, rather than being derived from them. We repeat the examples in (1) and add two more for illustration. The following analysis is based on several nominal forms discussed in Melo (2023) and draws on some of the insights developed there, particularly the idea that morphology, not semantics, should guide our analysis of nominal forms.

(14)   a.   A          seleção     da             equipe em duas        horas pelo
             the.FEM selection of-the.FEM team    in   two.FEM hours by-the.MASC
             técnico.
             coach.MASC
             "The selection of the team in two hours by the coach".

       b.   A          solução     dos            problemas em poucos          minutos
             the.FEM solution of-the.MASC.PL problems   in   few.MASC.PL minutes
             pela             analista.
             by-the.FEM analyst
             "The solution of the problems in a few minutes by the analyst".

       c.   A          inspeção      do            prédio      em dois           dias
             the.FEM   inspection  of-the.MASC building  in   two.MASC    days
             pelos            engenheiros.
             by-the.MASC.PL engineers
             "The inspection of the Building in two days by the engineers".

       d.   A          captura do            sequestrador em dois        dias pela
             the.FEM capture of-the.MASC kidnapper     in   two.MASC days by-the.FEM
             polícia civil.
             police  civil
             "The kidnapper's capture in two days by the civil police".

       e.   A          menção ao             artigo pelo             próprio     autor para
             the.FEM mention of-the.MASC article by-the.MASC own.MASC author to
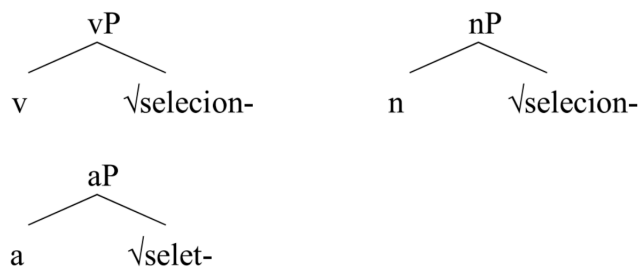             valorizar seu trabalho.
             value       his work

"The mention of the article by the author himself to highlight his work".

f.    A        tortura dos          prisioneiros por duas      horas
the.FEM torture of-the.MASC.PL prisoners  for  two.FEM hours
escandalizou a        opinião pública.
shocked     the.FEM opinion public
"The torture of the prisoners for two hours shocked public opinion".

Verbs like '*selecionar*' ('select'), '*solucionar*' ('solve'), '*inspecionar*' ('inspect'), '*capturar*' ('capture'), '*mencionar*' ('mention'), '*torturar*' ('torture'), among many others, show clear evidence that they are derived from the nominal forms found in the examples in (14). As mentioned above, the nominal morphemes '*-cion*' and '*-ura*' are inside the verbs, as if these verbs passed through a nominal phase before they became verbs.

The reader might now question whether the expressions '*-cion*' and '*-ura*' are truly nominal morphemes in the examples above. Why should we not, for instance, assume that in pairs such as '*seleção–selecionar*' ('selection–select'), a root like '*selecion-*' represents an allomorph that obligatorily appears in the contexts of *little n* and *little v*, while another allomorph, '*selet-*', surfaces in the context of the adjectivizing morpheme *little a*, as in '*seletivo*' ('selective')? In other words, why not consider '*-cion*' merely a phonological extension of the root, as can be seen in (15) below?

(15)

         vP                       nP
       /   \                     /   \
v      √selecion-        n      √selecion-

         aP
       /   \
a      √selet-

However, roots that incorporate a phonological extension that is strikingly homonymous with morphemes found elsewhere in the language — and that appear with the same syntactic category those morphemes would project — represent a kind of coincidence that is difficult to sustain and believe. Note, further, that in what traditional grammars call regressive derivation, the theme vowel and the gender of the supposedly derived nominal are unpredictable (Basilio, 2024 [1980]). If the nominals in (14) were the product of a sort of regressive derivation (or the mere sharing of roots by the two classes of words, like what we see in (15)), without a real nominal morpheme there, the gender should be unpredictable as well, but that is not what the data show us — the gender of the nominal is always the same associated to the gender of the corresponding nominal morpheme in other contexts.

Furthermore, the phonological changes undergone by these root extensions are identical to those affecting the corresponding morphemes themselves. Consider, again, the pair '*seleção–selecionar*': the supposed extension /sion/ at the end of the nominal (*i.e.*,

without any further morphological derivation) undergoes the same kind of phonological transformations as the morpheme '*-cion*' does — namely, from /sion/ to [sãw̃] (or [sõj̃s] in the plural) — at the end of a word. The adjective '*transformacional*' ('transformational'), for instance, is derived from the nominal '*transformação*' ('transformation'), which is derived from the verb '*transformar*' ('transform'). Here, the sequence of segments /sion/ is uncontroversially the exponence of a nominal morpheme, which has an allomorph when it ends a word: '*-ção*' ([sãw̃]). This shows that all the modifications applied to the nominal morpheme '*-cion*' are also applied to /sion/ in nouns such as '*seleção*' or '*inspeção*', suggesting that the sequence /sion/ here is in fact the realization of the same nominal morpheme, '*-cion*'.

Moreover, the associated verbs (*e.g.*, '*selecionar*') consistently exhibit the default theme vowel '-a'. If these verbs were truly root-derived, it would be plausible to expect that at least some of their roots would select a different theme vowel, such as '*-e*' or '*-i*'. However, this is not the case. In fact, verbs derived from nouns typically — if not invariably — take the default theme vowel, '*-a*' (*cf.* Basilio, 2024 [1980])[4].

Finally, a verb such as '*captar*' ('to capture, to apprehend') shares the root with the noun '*captura*' and the verb '*capturar*', and their meanings are closely related. The most salient difference is that '*captar*' typically does not take direct objects referring to animate entities, and cannot be synonymous with 'arrest'. If the nouns '*captura*' and '*capturar*' share an allomorphic variant of the root with the phonological extension /uɾa/, it remains unclear why another allomorph of the same root would appear in an equally transitive verb with a similar meaning, namely '*captar*'. The only way to account for this, without assuming a denominal derivation of the verb '*capturar*', would be to suppose that '*captar*' and '*capturar*' have distinct roots – an assumption that seems to us far from straightforward.

If the reasoning above is correct, the examples in (14) pose a serious challenge to approaches such as Borer's (*e.g.*, Borer 2003, 2013; among others). According to Borer, all the nominal forms in those contexts — which, based on Grimshaw's and Borer's tests, qualify as complex event nominals — should be derived from verb phrases. However, the evidence presented here indicates that, although the nominal forms in (14) should indeed be classified as complex event nominals, they do not appear to be derived from verb phrases (or verbs) at all[5].

If there is no verb phrase inside these nominal forms, how can we deal with the fact that they project argument positions and refer to (complex) events? Here, we will return to a body of literature dating back to Chomsky (1970) and Marantz (1997) and assume that nominals can project argument positions without requiring a more deeply embedded verbal structure. But how can we implement these ideas in light of all the preceding discussion in Section 2?

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[4] Unless the verbalizer is realized by an exponent that cooccurs with a specific theme vowel, such as '*-iz-*', which selects '-a', or '*-ec-*', which selects '-e'.

[5] In the case of Borer (2005, 2013), the nominalizer '*-ção*' (or '*-cion*') in nouns such as '*seleção*' or '*solução*' would be a functor that does not project any event/argument structure. So, if '*seleção*', for instance, is derived by merging the functor '*-cion*' with a root, it would not project any positions for DP arguments or events.

Let us suppose that the morpheme n is a morpheme whose typical extension is the one below, which associates a root with a function of entities into truth-values. As in Medeiros (2024, p. 16), the operation *encyclopedic filling* will fill R in the mathematical expression below with the encyclopedic content of the root that is merged with the nominalizer morpheme.

(16)        $n \leftrightarrow \lambda x_e.Rx$

Thus, if *n* is merged with the root $\sqrt{\text{kaet}}$, for instance, the following will be obtained:

(17)

$$nP = \lambda x_e.cat(x)$$

$$n \qquad \sqrt{\text{kæt}}$$
$$\lambda x_e.R(x)$$

However, it is not always the case that nouns denote entities:

(18)        a.    The rain lasted two hours.
             b.    The race began at 5 pm.
             c.    The fight happened on Baker Street and lasted just three minutes.

Such simple event nominals (*cf.* Grimshaw, 1990) are often treated as special kinds of entities that exhibit certain properties not shared by all entities. In other words, part of the literature assumes that such events constitute a subclass of entities. As shown above, nouns like 'rain', 'race', and 'fight' can combine with verbs such as 'last', 'begin', and 'happen', which typically cannot predicate of entities like 'cat', 'dog', 'paper', or 'table'. To account for this, one could assume that these nouns do not denote functions from entities to truth values, but instead functions from events to truth values, which are selected by event-taking verbs like happen or last.

We will assume that nouns like the ones in (18) have an event variable, the same as we encounter as one of the arguments of verbs in (neo-)Davidsonian approaches to verb phrase argument structure (*cf.* Parsons, 1990), and that this event variable is another type in the model, not a subtype of entities. This assumption has significant consequences for our approach to nominal forms that are somehow associated with verbs (or not).

Once nouns like 'rain' or 'race' denote events, let us assume that in the environment of such roots, the nominalizer *n* will take the definition given below, where there is an event variable of type s (eventualities or situations)[6]:

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[6] One of the reviewers asks whether positing an eventive *little n* in this proposal entails a look-ahead condition. As I understand the question, it does not. The interpretation (allosemy) of *little n* is determined locally, within the *n*-phase itself. Once this phase is closed, its contents are transferred to the interfaces, and only at that point is the interpretation of morphemes such as *little n* fixed, on the basis of the material contained within that phase.

(19)     $n \leftrightarrow \lambda e_s.R(e)$

Thus, we have an event alloseme of the nominalizer that depends on the type of root with which it merges. If the root belongs to a class of roots that refers to events or states, the nominalizer, in order to be compatible with the root semantics, will be interpreted as a set of events of a particular kind. The structure for the noun 'rain' can be seen below:

(20)



In most cases, however, nouns refer to entities, and the default interpretation of *n* will be, therefore, the one in (16), which introduces sets of entities. This means that, typically, nouns denote entities rather than events; however, they can also denote events, depending on the nature of the root involved — and some other grammatical elements in the first phase (*cf.* Marantz, 2013)[7].

Since nominalizers are allowed to introduce event variables the same way as verbalizers do, we now have the means to deal with nouns that have complex event readings. Let us suppose that roots like '*sele(c)(t)*', '*inspe(c)(t)*', '*solu(t)*', among others, refer to events or states, even though they occur in other classes of words, such as adjectives — '*seletivo*' ('selective'), nouns — '*inspetor*' ('inspector'), and verbs — '*resolver*' ('to solve'). Let us also assume that whenever a DP is merged with the *nP* as its complement, some variation of the alloseme is triggered. Below we repeat example (1-c) in order to apply the proposal above:

<span style="color:gray">FLP 27(2)</span>

(21)     A         inspeção  do              prédio  em dois      dias pelos
         the.FEM inspection of-the.MASC.PL building in  two.MASC days by-the.MASC.PL
         engenheiros.
         engineers
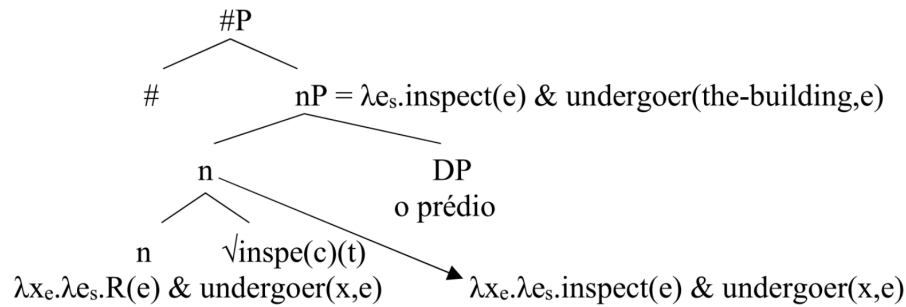         "The inspection of the Building in two days by the engineers".

If the interpretation of the items composing the structure is partially dependent on the syntactic structure in which they occur, considering some listed variation in meaning the items can be subjected to, let us suppose that in the presence of a complement, a nominalizer can assume the following interpretation:

(22)     $n \leftrightarrow \lambda x_e.\lambda e_s.R(e) \wedge \theta(x, e)$

---

[7]In our system, *little n*, when it takes a *vP* as its complement, has as its extension the identity function $\lambda f_{<\alpha,\beta>}.f(x_\alpha)$. This extension is another alloseme of *n*, and is licensed in cases like those addressed in Section 2.

The alloseme in (22) asks for a complement to saturate the entity variable $x$. The function $\theta(x, e)$ is a neo-davisonian function (*cf.* Parsons, 1990) that introduces an aspectual (or thematic) relation between the entity that will be the complement of the noun and the event introduced in this stage of the derivation. The specific relation, or role, will typically be the undergoer (or patient) role, but it might vary depending on the root in the n environment. Thus, for example (21), we have the following structure and semantic calculus:
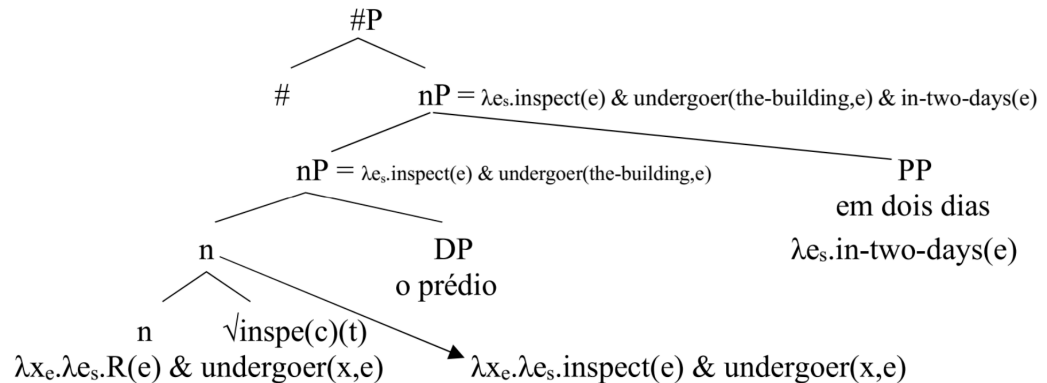
(23)



Assuming such a semantic (and syntactic) derivation, we can explain the sort of modification that this nominal expression is allowed to undergo. Once the *nP* is a function of events in truth-values, the adverbial structures that modify events are allowed to combine with the nominal structure as an adjunct, and Predicate Modification applies in this case, preserving the event variable:

FLP 27(2)

(24)



One question regarding this approach that could be raised at this point relates to the uniform treatment we are adopting for complex event nominals and simple event nominals. If all events, complex or simple, are functions of events in truth-values, then certain adverbial expressions that are permitted (supposedly) only with complex nominals (the ones that serve as criteria for distinguishing the two types of nominals) should occur with simple event nominals as well. But does that happen? In fact, yes. Note that (at least some of) these nouns can be modified by (some) adverbial expressions that are used to identify complex event nominals. The Brazilian Portuguese examples below show it:

(25)  a.  Uma    chuva  forte    por  duas      horas  é                uma
          a.FEM  rain    strong  for  two.FEM  hours  be.3SG.PRES.IND  one.FEM
          das            coisas  mais  terríveis    que  tem.
          of-the.FEM.PL  things  more  terrible.PL  that  have.3SG.PRES.IND
          "A heavy rain lasting two hours is one of the most terrible things there is."

      b.  Aquela    luta    por  apenas  dois       minutos  foi              uma
          that.FEM  fight  for  only    two.MASC  minutes  be.3SG.PST.IND  a.FEM
          bela          porcaria.
          lovely.FEM  garbage
          "That fight that lasted only two minutes was a real piece of crap."

      c.  Nossa     batalha  por  dois       anos, a  fim  de  obter     os
          our.FEM  battle    for  two.MASC  years  to  end  of  obtain.INF  the.MASC.PL
          recursos    necessários,              foi              árdua.
          resources  necessary.MASC.PL,  be.3SG.PST.IND  arduous
          "Our two-year battle to obtain the necessary resources was arduous."

If it is not possible to apply all the tests typically used to identify complex event nominals to some of these nouns, this may be because the nature of the event (or some other aspects of the noun itself) is sometimes incompatible with the expression used in the test. For instance, we cannot use an agentive by-phrase adjunct with nouns like '*chuva*' ('rain'), since such nouns do not denote activities. The same holds for goal-oriented adjuncts in this case. If agentive by-phrases are not permitted with nouns such as '*luta*' ('fight') or '*batalha*' ('battle'), this may be because these nouns already select by-phrases to denote the goals associated with the events they express.

Then, so far, we have three allosemes for *n*: the one in (16), which creates sets of entities; the one in (19), which creates sets of events; and the one in (22), which projects functions of entities into functions of events in truth-values. The first one is triggered when the root denotes encyclopedic properties of an entity; the second, when the root refers to encyclopedic properties of events; and the third, when the syntax combines entities with roots that refer to properties of events (or, in other terms, when the noun has a complement).
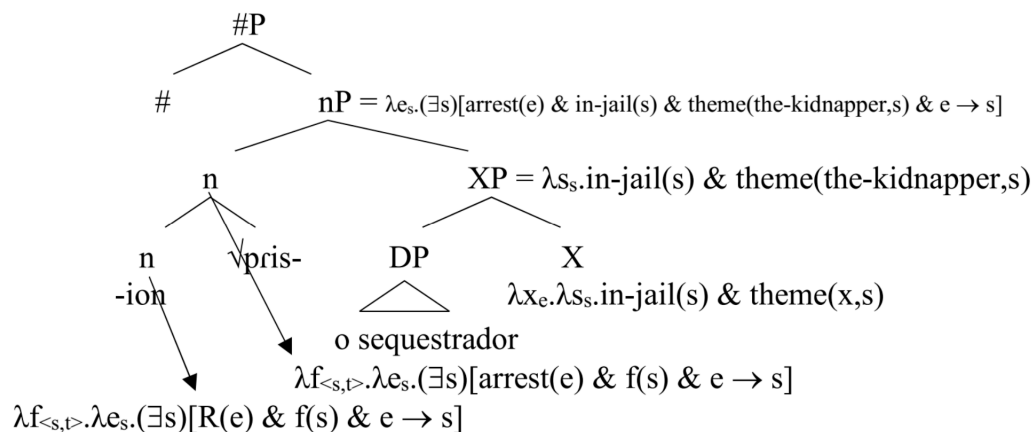
FLP 27(2)

The word '*inspeção*' denotes just one eventuality. However, some nouns can refer to more than one sub-eventuality. Let us look at the example below, with the noun '*prisão*' ('imprisonment'). Here, the noun does not seem to be derived from the verb '*prender*' ('to arrest'), although they share the same root. And, in fact, morphologically, the noun '*prisão*' lies in the base of the verb '*aprisionar*' ('to imprison')[8].

(26)  A          prisão        do            sequestrador  em  duas      semanas  por
      the.FEM  imprisonment  of-the.MASC  kidnapper    in  two.FEM  weeks    for
      apenas  dois       meses    enfureceu  a        opinião  pública.
      only    two.MASC  months  enraged    the.FEM  opinion  public
      "The kidnapper's imprisonment in two weeks for only two months enraged public opinion."

___

[8]Though, in this case, it seems that the noun '*prisão*' does not refer to an event of arresting someone, but to the place where someone is imprisoned, the jail itself, or some semantic extension of it.

In this example, the event of imprisonment took two weeks to happen, and the kidnapper's consequent (target) state of being imprisoned lasted just two months. This means that the noun '*prisão*' refers to two articulated sub-eventualities: a dynamic one — the imprisonment event proper — and a stative one — the target state of the imprisoning event (the state of being in jail or arrested, in this case). Assuming Medeiros' (2018) framework, we must suppose that there is a morpheme, which we will call *X*, that introduces a state variable (also of the type *s*), which is caused by the event present in the structure of the noun. The semantic calculus and tree below detail these ideas:

(27)



$$\text{nP} = \lambda e_s.(\exists s)[\text{arrest}(e) \ \& \ \text{in-jail}(s) \ \& \ \text{theme(the-kidnapper,s)} \ \& \ e \rightarrow s]$$

$$\text{XP} = \lambda s_s.\text{in-jail}(s) \ \& \ \text{theme(the-kidnapper,s)}$$

$$\text{X} : \lambda x_e.\lambda s_s.\text{in-jail}(s) \ \& \ \text{theme}(x,s)$$

o sequestrador
$$\lambda f_{<s,t>}.\lambda e_s.(\exists s)[\text{arrest}(e) \ \& \ f(s) \ \& \ e \rightarrow s]$$

$$\lambda f_{<s,t>}.\lambda e_s.(\exists s)[R(e) \ \& \ f(s) \ \& \ e \rightarrow s]$$

Thus, when there is an *X* in the structure of the nominal, another alloseme of the nominalizer morpheme can be triggered, depending on the semantics of the *X*:

(28)    $\lambda f_{<s,t>}.\lambda e_s.(\exists e')[R(e) \wedge f(e') \wedge e \rightarrow e']$

The structure above explains the modification possibilities we find in (26): since there is an *XP* which introduces a state (a $\lambda s_s$), it can be modified by the PP '*por apenas dois meses*' ('for only two months'); and once the *nP* introduces an event (a $\lambda e_s$), it can be modified by the PP '*em duas semanas*'[9].

It is important to note that nouns like '*inspeção*' ('inspection') do not imply a target state modifiable by a PP, as we saw in (27). That is why we do not have an *X* introducing a complement and a state reached by this complement as the event culminates.

---

[9] However, if that is the case, the expected order should be the one we see in (i), not the one we find in (26). How can we handle this? In fact, both orders — the one in (i) and the one in (26) — are grammatical. We believe the order in (26) is obtained through a movement of the PP by a reason which lies outside the scope of this paper.

(i)    A    prisão    do    sequestrador por apenas dois meses    em duas semanas
       the.FEM imprisonment of-the.MASC kidnapper   for only    two months in two weeks
       enfureceu a   opinião pública.
       enraged    the opinion public
       "The kidnapper's imprisonment for only two months in two weeks enraged public opinion".

Now we have four allosemes for *n*: the ones in (17), (19), (22), and (28). Each one of them is mobilized in a different syntactic context.

However, as we saw above with the *v* morpheme, sometimes we cannot guarantee that each alloseme will have a one-to-one relation with a different syntactic context and vice versa. For example, the word '*seleção*' is commonly used to refer to the Brazilian soccer team, a very specialized meaning. In this case, there is no implication of an event here, as can be seen in the examples below:
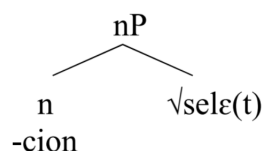
(29)  \*A        seleção (brasileira)    em dois meses  pelo        Ancelotti
the.FEM selection (brazilian.FEM) in  two months by-the.MASC Ancelotti
perdeu              para o        Japão.
lose.3SG.PST.IND to    the.MASC Japan
"The (Brazilian) selection in two months by Ancelotti lost to Japan."
Intended: "The Brazilian soccer team, which was selected by Ancelotti in two months, lost to Japan".

Although the speaker is aware that the team was selected from the best Brazilian soccer players (by Ancelotti), when the word '*seleção*' is used with reference to the Brazilian soccer team, the selection event cannot be part of the word's meaning under any circumstances.

However, the word '*seleção*' also refers to events without an (explicit, at least) internal argument. For instance, in (30), the fact that the noun '*seleção*' is in the plural indicates that '*seleções*' here is what Grimshaw, among others, calls a simple event nominal. Thus, following the reasoning so far, the noun *seleção* here is a root merged with a nominalizer, but a nominalizer that introduces an event variable (*cf.* (19)), not an entity one (*cf.* (16)). Unless we assume different feature compositions of *n* (and then different *n*'s, not different contextually defined readings of *n*), the structures of '*seleção*' referring to the team and '*seleção*' referring to the event are the same, as seen in (31) below.

(30)  As        últimas   seleções feitas                    pelos         jurados
the.FEM last.FEM.PL selections make.PAST.PRT.FEM.PL by-the.MASC.PL jurors
do            programa causaram           estranheza no          público.
of-the.MASC program  cause.3PL.PST.IND strangeness in-the.MASC public
"The last selections made by the show's jurors puzzled the audience."

(31)

                nP
              /    \
           n        √selɛ(t)
         -cion

The alloseme of *n* corresponding to the eventive reading of *seleção* is (32), in which an existential quantifier binds the variable for the nominal complement. This alloseme is freely chosen from the syntactic context, depending only on the constraints (i) and (ii)
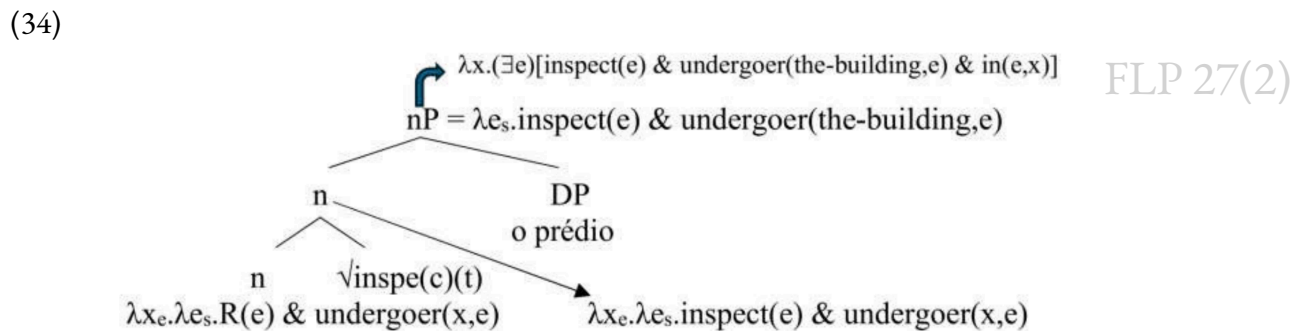
below and on what the speaker intends to say.

(32)     $n \leftrightarrow \lambda e_s.(\exists x)[R(e) \wedge \theta(x,e)]$

The previous discussion shows that non-verb-derived forms have most of the properties of verb-derived nominals. In fact, even the operation in (8) can be applied to some of the examples in (14) at least. The sentence below shows a case in which the word *inspeção* ('inspection') is interpreted as both a complex event and an entity — a report resulting from inspecting the building.

(33)     Aquela      inspeção      do           prédio      pelos            agentes
         that.FEM    inspection    of-the.MASC   building    by-the.MASC.PL   agents
         sanitários          do            setor   já      está               na
         sanitary.MASC.PL   of-the.MASC    sector   already  be.3SG.PRES.IND    in-the.FEM
         sua          mesa para ser      assinada.
         your.FEM  desk  to    be.INF  sign.PST.PRT.FEM
         "That inspection of the building by the health department agents is already on your desk to be signed."

The corresponding syntactic structure of the noun phrase *inspeção do prédio* has already been presented in (23). We repeat it below, applying the rule (8) to the complex *nP*:

(34)



$\lambda x.(\exists e)[\text{inspect}(e)\ \&\ \text{undergoer(the-building},e)\ \&\ \text{in}(e,x)]$

$nP = \lambda e_s.\text{inspect}(e)\ \&\ \text{undergoer(the-building},e)$

n          DP
           o prédio

n      $\sqrt{\text{inspe(c)(t)}}$
$\lambda x_e.\lambda e_s.R(e)\ \&\ \text{undergoer}(x,e)$      $\lambda x_e.\lambda e_s.\text{inspect}(e)\ \&\ \text{undergoer}(x,e)$

This section, then, shows that: (i) complex event nominals are not necessarily derived from verb phrases (*contra* Borer, 2013; among others); (ii) non-verb-derived nominal forms may share all the same readings (and properties) as verb-derived nominals.

However, two important issues concerning non-verb-derived nominals still remain to be addressed in this section. One relates to the notions of phases and root allomorphy; the other relates to the derivation of verbs from these complex event nominals.

Up to this point, we have focused on cases in which the available verbs containing the same roots provide clear morphological evidence of denominal derivation. This is the case of '*seleção*' ('selection') and '*selecionar*' ('select'). Such a strategy was followed to avoid any controversy regarding the direction of derivation in such instances, thereby demonstrating that there are complex event nominals that are not derived from verb phrases. However, if we adopt the phase-based frameworks proposed by Embick

(2010) and Marantz (2013), the set of non-verb-derived nominals with complex event readings must be broader. Following Embick (2010), we should conclude that the nominalizations in the examples below do not contain embedded verb phrases as well:

(35)    a.    A         injeção de água pela        bomba em alguns        minutos.
              the.FEM injection of water by-the.FEM pump  in  few.MASC.PL minutes
              "The injection of water by the pump in a few minutes".
        b.    A         eleição do            prefeito pelos            eleitores cariocas.
              the.FEM election of-the.MASC mayor   by-the.MASC.PL voters    carioca.PL
              "The election of the mayor by the voters of Rio de Janeiro".
        c.    A         recepção dos            convidados pelos            anfitriões
              the.FEM reception of-the.MASC.PL guests        by-the.MASC.PL hosts
              foi              fria.
              be.3SG.PST.INF cold.FEM
              "The reception of the guests by the hosts was cold".

The final consonant of the roots '*injetar*' ('inject'), '*receber*' ('receive'), '*eleger*' ('elect') is deleted or changed for another, and within Embick's (2010) framework, these modifications are permitted only in the following configurations: (i) the nominal form is derived from a *vP*, but a non-cyclic head intervenes between the *vP* and *little n*, thereby influencing the morphological realization of the root; or (ii) the first cyclic head that merges with the root is the nominalizer itself.

      The problem with the first alternative lies in identifying the functional category that takes the *vP* as its complement within the nominalization. Could it be an aspectual head, as many authors propose? If so, we would expect a more regular morphological reflex of this node. Yet, most nominal forms lack any overt morpheme corresponding to it. Furthermore, it is unclear what aspectual meaning these nominal forms express — perfective, imperfective, telic, atelic...? It seems that all these interpretations are available for the same nominal, depending on the larger context it occurs. The examples below show it:

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(36)    a.    A         injeção   de água pela        bomba em alguns        minutos.
              the.FEM injection of water by-the.FEM pump  in  few.MASC.PL minutes
              "The injection of water by the pump in a few minutes".
        b.    A         injeção   de água pela        bomba por alguns        minutos.
              the.FEM injection of water by-the.FEM pump  for few.MASC.PL minutes
              "The injection of water by the pump for a few minutes".
        c.    A         injeção   de  água   pela        bomba está
              the.FEM injection of  water by-the.FEM pump  be.3SG.PRES.IND
              concluída.
              complete.PST.PRT.FEM
              "The injection of water by the pump is completed".
        d.    A         injeção   de  água   pela        bomba está              em
              the.FEM injection of  water by-the.FEM pump  be.3SG.PRES.IND in
              andamento.
              walk.GER

"The injection of water by the pump is in progress".

In light of all this, and to remain consistent with the framework adopted here, we conclude that these nominals, in which the root undergoes allomorphy, are root-derived. However, unlike what we observe in nominals such as '*seleção*', the nominal does not derive the verb; rather, both the verb and the noun are independent formations directly derived from the same root.
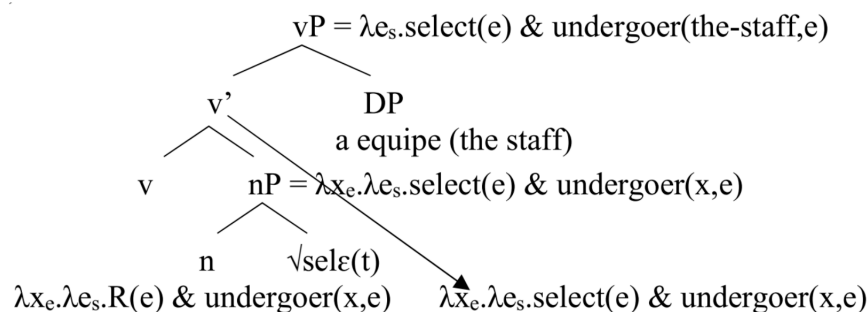
If these nouns already convey an eventive meaning and serve as the bases for the corresponding verbs, how are the syntactic structure and semantic composition of such derived verbal forms determined? That is, how do we derive the morphosyntactic structure and meaning of the verb '*selecionar*' ('to select') from the noun '*seleção*' ('selection')?

First of all, to convert structures such as (23) or (27) into verb phrases, we cannot simply attach a *v* head to an *nP*. If we did so, we would expect that the complement — being originally the complement of a noun — should appear (at least superficially) as a prepositional phrase, which is clearly not the case. This follows from the fact that the complement would be internal to the nominal phase (*cf.* Marantz, 2013; Embick, 2010), and therefore sent to the phonological interface before the attachment of the higher verbal head, which triggers another phase in the derivation. How, then, can we account for the fact that the complement is semantically the complement of the base noun, yet syntactically the complement of the derived verb?

One possible solution is to assume that *v* merges directly above an *nP* that does not itself contain a complement saturating its semantic requirements. This *nP* may be a simple merger of a root with a nominal categorizer (as in (23)), or a more complex structure involving an unsaturated *X* (as in (27)), with the categorizer selecting one of the allosemes in (22) or (28), depending on the elements involved. Assuming that *v* introduces an event function, and that the event introduced by *v* can be identified with that introduced by *n* (*cf.* Medeiros 2018; Levinson, 2014), the need to saturate argument positions is transferred to the *vP* layer. Consequently, in order to satisfy the argument requirement, the *vP* must project a complement position — a verbal complement (see (ii) above). The representation below, for the *vP* '*selecionar a equipe*' ('to select the staff'), illustrates this idea more clearly.

(37)

$$vP = \lambda e_s.select(e) \ \& \ undergoer(the\text{-}staff,e)$$

v'

DP
a equipe (the staff)

v          $nP = \lambda x_e.\lambda e_s.select(e) \ \& \ undergoer(x,e)$

n          $\sqrt{sele\epsilon(t)}$
$\lambda x_e.\lambda e_s.R(e) \ \& \ undergoer(x,e)$          $\lambda x_e.\lambda e_s.select(e) \ \& \ undergoer(x,e)$

The question that must be answered now is why only alosemes like (22) or (28) are

licensed inside the denominal verb. Why not something like (32), for instance?

In order to maintain the idea that nominals can get rid of their complements, but not verbs, we propose the following constraints on the alloseme distribution of eventive nominalizers:

(i) In eventive noun phrases, some variables can be freely bound with an existential quantifier at the $nP$ level if the $nP$ is immediately taken by a number nucleus (#), a non-cyclic head.

(ii) In other contexts, DPs must saturate all the entity variables of or inherited from $nPs$.

These constraints ensure that if a noun selects a complement, that complement must also appear when the noun derives a verb, since verbs are not allowed to dispense with their arguments. Of course, there is a deeper question that the solution proposed above cannot address — namely, why is the pressure for nouns to have their argument positions saturated weaker than the corresponding pressure on verbs? We do not yet know how to respond to this challenge, which, to our knowledge, has no definitive answer in the literature. We believe, however, that further research within the framework developed here and in Medeiros (2024) may offer a path toward resolving this conundrum.

## 4  Final remarks

This paper investigated nominalizations in Brazilian Portuguese and proposed a radically compositional and subatomic approach that derives the multiple interpretations these nominal forms have. To achieve this goal, we decomposed nominal internal morphological structures into syntactic structures and adopted a modified version of the notion of allosemy (Marantz, 2013) to account for their different readings. Apart from the descriptive contributions the paper makes, two other essential conclusions must be highlighted here. The first one is that Grimshaw's (1990) black and white distinction between complex event nominals and result nominals is problematic, since there are many cases in which both readings co-occur. The second one is that Brazilian Portuguese provides counterexamples to Borer's (in various works) proposal that complex event nominals are exclusively derived from verb phrases. Some of these problematic cases are analyzed in Section 3 of this paper.

## 5  Acknowledgments

## 6  AI Usage Declaration

The author declares that artificial intelligence was used solely to improve aspects of English writing in certain parts of the text. The AI tools used were Grammarly and ChatGPT 5.

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