

A syntactic account of affix rivalry in Spanish nominalisations*

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1. Affix rivalry in nominalisations.¹

One of the main problems that a syntactic approach for word formation encounters is the fact that apparently equivalent affixes compete to derive words of a certain class, in such a way that, seemingly, different bases require different affixes. For example, in the case of event nominalisations (Grimshaw 1990, Alexiadou 2001, Harley to appear) in Spanish, there are three productive affixes (1); the affix (1c) is identical to the past participle, in masculine and feminine form.

- (1) a. *-ción*: *construc-ción* ‘building’, *fun-ción*, ‘function / session’...
- b. *-miento*: *sanea-miento*, ‘sanitarisation’, *estrangula-miento*, ‘strangling’...
- c. *-do / -da*: *sella-do*, ‘sealing’, *llega-da*, ‘arrival’...

Crucially the referential properties of the nominalisations constructed with these different affixes are identical in important respects: they all can produce the same type of event nominalisations. This is what has been known as affix rivalry, to the extent that we have different affixes that give identical results.

There are a number of different approaches to the phenomenon of affix rivalry. In a Lexicalist framework (Halle 1973, Scalise 1984), affix rivalry is accounted for as one of the possible idiosyncrasies of the base: each stem contains particular information about the affix that is required to act as a nominaliser. Distributed Morphology, a framework where word formation is syntactic in nature but the spell out of syntactic features is subject to different operations in the phonological branch of the grammar, uses a similar procedure: even if the syntactic representation of the event nouns in (1) is identical, each morphophonological matrix of features that can spell out the base contains information about the vocabulary item that needs to be used to spell out the nominaliser head (cfr., to illustrate this strategy, Alexiadou 2004 on Spanish gender inflection). Other approaches have tried

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to relate rivalry to psycholinguistic notions such as the complexity of parsing some sequences of affixes (Hay & Plag 2004) or a general mechanism of analogy that primes an affix because it frequently co-occurs with another one.

In this article we will pursue a syntactic approach not only to word formation, but also to affix rivalry, and we will show evidence that the choice between the three productive nominaliser suffixes presented in (1) is not idiosyncratic or motivated by general principles of parsing, but is due to the syntactic and (structural) semantic properties of the base. This approach makes clear predictions with respect to the properties of the event nominalisations constructed with different affixes (2).

- (2) a. Structural properties of the verb, and their semantic reflects, determine the distribution of an affix.
- b. Thus, if a verb allows more than one construction, we expect this verb to have more than one event nominalisation with specific syntactic-semantic properties.
- c. The event nominalisations will have different syntactic and semantic properties depending on the affix used.

An independent question is what are the structural properties that determine the distribution of a set of affixes. We will argue that in the case of Spanish event nominalisations the relevant properties have to do with the argument structure –specifically, the nature of the internal argument- of the verb, but, as far as we can see, this is not a logical consequence of the approach. In fact, Martin (this volume) convincingly argues that the relevant criterion in French for a similar rivalry is the aspectual structure.¹

2. Nominalisers and internal arguments.

In this section we will show that the distribution of the three affixes can be captured by paying attention of an independently solidly motivated difference between two classes of internal arguments. Therefore, let us make our assumptions about internal arguments explicit before proceeding to the account.

Different researchers (Verkuyl 1972, Krifka 1986, Tenny 1987, Ramchand 2008) have noticed that a class of direct objects –so-called incremental themes- measure the different aspectual phases of the event, while others don't. We will follow Ramchand's (2008) terminology in this exposition.

The first class is theme path objects. They are internal arguments that co-describe the event and whose referential properties –mass / count distinction,

plurality...- have an influence on the telicity or atelicity of the predicate. These objects behave semantically like paths: their extension can be represented as a series of points which are mapped into the aspectual structure of the verb. In (3a), *sopa*, ‘soup’, being a mass noun, can be categorised as an unbounded path, in such a way that, when the points of this path are mapped into the aspectual structure of the verb *comer*, ‘to eat’, the verb will be atelic. In contrast, the count noun *pastel*, ‘cake’, in (3b) is a bounded path with a finite series of points; when the final point of the path is met, the event culminates, and, therefore, the predicate *comer* is telic when this object is selected.²

- (3) a. *Juan comió sopa {durante/*en} media hora.*
 Juan ate.3sg.past soup {for / in} half an hour.
 b. *Juan comió un pastel {*durante / en} media hora.*
 Juan ate.3sg.past a cake {for / in} half an hour.

Thus, we conclude that *comer* selects a rheme path object as its internal argument. Notice at this point that the nominalisation of this verb is derived using the affix *-do /-da*: *comida*.

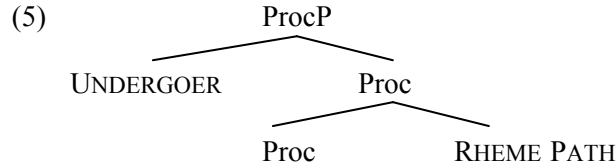
The second relevant class of internal arguments are undergoers. An undergoer is defined as the entity that experiences a process, but which does not delimit the extension of that process; therefore, they do not co-describe the event and by the same logic they do not intervene in the aspectual properties of the predicate. An example of a verb that selects an undergoer is the verb *desplazar*, ‘to move’. It does not matter for the aspectual properties of this verb whether the internal argument is a mass noun (4a) or a count noun (4b): in both cases, the arguments are compatible with an atelic reading of the predicate.

- (4) a. *Juan desplazó arena durante cinco minutos.*
 Juan moved.3sg.past sand for five minutes.
 b. *Juan desplazó una silla durante cinco minutos.*
 Juan moved.3sg.past a chair for five minutes.

It is interesting to notice that the nominalisation from this verb is done with the affix *-miento*: *desplazamiento*

The distinction between these two classes of internal arguments is well-known, but Ramchand (2008) goes one step further proposing that each class occupies a different position inside the verbal structure. Rheme Paths, and semantic paths in general –independently of whether they are materialised as nouns, adjectives or prepositions- are merged as complements of Proc, the

designated head to host process meanings. Undergoers are specifiers of this same category (5).



In section 2.1. we provide evidence that *-miento* requires the verb to have an undergoer and *-do / -da* requires the verb to have a rheme path. One consequence of this characterisation is that a verb that has both an undergoer and a rheme path will be compatible, under different readings, with both affixes, and this will be shown in section 2.2.

2.1. The distribution of *-miento* vs. the past participle *-do / -da*.

A first straightforward piece of evidence comes from the class of verbs of change of state. Changes of state can be associated to scales that measure the change, and, to the extent that scales are ordered series of points that can be bounded or unbounded, scales are paths. Then, depending on whether this path is projected as an internal argument or as part of the meaning of the verbal base we expect a different behaviour of these bases with respect to nominalisations, if our characterisation of this rivalry is correct. The prediction is, as we will see, borne out.

Let us consider first some change of state verbs in which the change is measured with respect to a property of the internal argument, and therefore, select incremental themes. The data in (6), (7) and (8) illustrate that these verbs are nominalised with the affix *-do / -da*, never *-miento*.

- (6) a. *Juan peló fruta {durante / *en} cinco minutos.*
 Juan peeled.3sg fruit {for / in} five minutes.
 b. *Juan peló una manzana {*durante / en} cinco minutos.*
 Juan peeled an apple {for / in} five minutes.
 c. *pela-do* (not **pela-miento*).
- (7) a. *Juan bronceó oro {durante / *en} cinco minutos.*
 Juan bronced.3sg gold {for / in} five minutes.
 b. *Juan bronceó un reloj {*durante / en} cinco minutos.*
 Juan bronced.3sg a watch {for / in} five minutes.
 c. *broncea-do* (not **broncea-miento*).
- (8) a. *Juan bordó tela {durante / *en} una hora.*
 Juan sewed.3sg fabric {for / in} one hour.
 b. *Juan bordó una camisa {*durante / en} una hora.*

Juan sewed.3sg a shirt {for / in} one hour.
c. *borda-do* (not **borda-miento*).

Other verbs belonging to this class are *barnizar*, 'to barnish', *esquilar*, 'to cut the hair', *pintar*, 'to paint', *sembrar*, 'to seed', whose nominalisations are, as expected, *barniza-do*, *esquila-do*, *pinta-do* and *sembrado*.

When the change of state verb does not select an rheme path object, the nominalisation requires *-miento* and it is ungrammatical with *-do*. This is the case with verbs such as *destripar*, 'to slaughter', whose nominalisation is *destripamiento*, *ocultar*, 'to hide', which makes *ocultamiento*, or *recibir*, 'to receive', which makes *recibimiento*. The *durante / en* phrase test shows that the referential nature of the object does not influence the verb's aspectual properties.

- (9) a. *Juan destripara {poesía / un poema} en cinco minutos.*
Juan slaughters {poetry / a poem} in five minutes.
b. *Juan ocultó oro / a un fugitivo durante un mes.*
Juan hide.3sg.past gold / acc a fugitive for one month
c. *Juan recibió {oro / un premio} {*durante / en} cinco minutos.*
Juan received.3sg {gold / a prize} {for / in} five minutes.

Other verbs belonging to this class are *procesar*, 'to process', *someter*, 'to subjugate' or *silenciar*, 'to silence'. Their nominalisations are *procesa-miento*, *someti-miento* and *silencia-miento* (never **procesa-do*, **someti-do*, **silencia-do*).

The well-known class of degree achievement verbs is famous because the scale that is used to evaluate a change of state is expressed by the verbal base, sometimes in the form of an adjective present in its morphological structure. Therefore, the internal argument will be projected as an undergoer and not as a path, for the path is already expressed by the verbal base. Therefore, our prediction is that all degree achievement verbs will reject nominalisations with *-do / -da* and will use *-miento*. This prediction is borne out, as shown in the series of (10).

- (10) a. *enfriar*, 'to cool', *calentar*, 'to heat', *empobrecer*, 'to impoverish', *alargar*, 'to lengthen', *endurecer*, 'to harden', *ensanchar*, 'to widen', *engrosar*, 'to fatten'...
b. *enfria-miento*, *calenta-miento*, *empobreci-miento*, *alarga-miento*, *endureci-miento*, *ensancha-miento*, *engrosa-miento*.³

We have yet another further prediction in the general class of change of state verbs. Undergoers are defined as entities that experience a process, and

the concept of experiencer is tightly associated to psychological verbs. Therefore, we expect all psychological verbs to reject nominalisations with *-do / -da*, for their lexical meaning makes them select undergoers and not rheme path objects. The prediction, again, is confirmed; all the verbs in (11) make nominalisations with *-miento* and *-do* nominalisations are sharply ungrammatical.

- (11) a. *sentir*, ‘feel’, *pensar*, ‘to think’, *descubrir*, ‘to discover’, *reconocer*, ‘to recognise’, *entender*, ‘to understand’, *presentir*, ‘to present’, *aburrir*, ‘to get bored’, *convencer*, ‘to convince’, *enamorar*, ‘to fall in love’, *relajar*, ‘to relax’.
 b. *senti-miento*, *pensa-miento*, *descubri-miento*, *reconoci-miento*, *entendi-miento*, *presenti-miento*, *aburri-miento*, *convenci-miento*, *enamora-miento*, *relaja-miento*.

Let us consider now the general class of verbs of motion. Two are the subclasses which are relevant to test our proposal: verbs of inherent direction, whose semantics force them to introduce a path, and verbs of induced movement, which denote that movement was caused on an object. In this second case, the object that suffers the change of position is an undergoer, and the path, if any, is expressed in the form of a prepositional phrase. Induced movement verbs are shown to nominalise with *-miento* in (12).

- (12) a. *desplazar*, ‘to displace’, *mover*, ‘to move’, *asentar*, ‘to settle’, *deslizar*, ‘to make something slide’, *lanzar*, ‘to throw’, *posicionar*, ‘to position’, *acercar* ‘to approach’.
 b. *desplaza-miento*, *movi-miento*, *asenta-miento*, *desliza-miento*, *lanza-miento*, *posiciona-miento*, *acerca-miento*.

The fact that their internal argument is an undergoer can be independently tested by the fact that the aspectual properties of the predicate do not depend on the mass / count nature of that object.

- (13) a. *Juan lanzó {harina / una silla} en un minuto.*
 Juan threw.3sg {flour / a chair} in a minute.
 b. *Juan acercó {agua / una sardina} al fuego en un segundo.*
 Juan approached.3sg {water / a sardine} to the fire in a second.

Forms such as **lanza-do* or **acerca-do*, where the nominalisation uses the affix *-do / -da*, are felt as ungrammatical and are unattested in corpora.

This contrasts with the verbs of inherent direction, whose nominalisation is constructed with *-do / -da*.

- (14) a. *llegar*, ‘arrive’, *ir*, ‘go’, *venir*, ‘come’, *caer*, ‘fall’, *entrar*, ‘come in’, *salir*, ‘come out’...
b. *llega-da*, *i-da*, *veni-da*, *cai-da*, *entra-da*, *sali-da*.

Forms such as **llega-miento*, **i-miento* or **entra-miento* are ungrammatical: the verbs require the affix *-do / -da* for their nominalisations. The meaning of these verbs is defined with respect to the properties of the path (e.g., *fall* implies a path oriented downwards in the vertical axis), and, therefore, they need to have a path in their argument structure.

Let us explore another prediction of the proposal. Path objects necessarily require the existence of an action which can be tracked, so we predict that verbs which denote a static relationship between entities will select an undergoer. Consequently, we expect these verbs to reject nominalisations with *-do / -da* and use *-miento*. This prediction is, once more, confirmed. A verb such as *mantener*, ‘to hold’, which defines a static relationship between the direct object and a location, requires *-miento* (*manteni-miento*, not **manteni-do*). (15) shows that the internal argument is an undergoer.

- (15) *Mantuvo {arroz/un lápiz} en la mano {durante / *en} un minuto.*
He kept.3sg {rice / a pencil} in his hand {for / in} one minutes

Other similar verbs are *acompañar*, ‘to go with’, *enfrentar*, ‘to oppose’, *acatar*, ‘to accept’ and *solapar*, ‘to overlap’, whose nominalisations are, as expected, *acompaña-miento*, *enfrenta-miento*, *acata-miento* and *solapa-miento*.

We conclude, therefore, that both *-do / -da* and *-miento* are sensitive to the argument structure of the verb they nominalise, because their distribution can be accounted for by the type of internal argument selected by the verb.

2.2. Explaining some minimal pairs.

As we have shown in the previous section, *-miento* nominalisations require an undergoer and past participle nominalisations in *-do* and *-da* require a path. This opens the door to a situation where a verb that has both components may have two nominalisations, one with each affix, depending on which one of the two components is taken as more salient. This prediction is borne out. Consider the verb *crecer*, ‘to grow’. This verb contains both a path, in the form of a scale, and an undergoer that suffers the change of state process.

- (16) a. *creci-miento*, ‘growth’.
 b. *creci-da*, ‘overflowing’.

The nominalisation with *-miento* is related to the verb *crecer* as a change of state where, for example, a child gets incrementally older or taller; in this sense, this is a normal change of state verb associated to a scale. In contrast, *crecida* derives from a very specific use of the verb where it is used to describe an inherently directional verb. *Crecida* specifically denotes an event in which a river, as a result of the heavy rains, has overflowed. This second reading implies a change of location of the river, which moves in the vertical axis, crossing the spatial boundary marked by its banks. Therefore, the two nominalisations fall under the general patterns described in the previous section.

Let us consider another example, the case of the verb *recoger(se)*, ‘to put something back together’ (17).

- (17) a. *recogi-miento*, ‘calming down’
 b. *recogida*, ‘collecting’

The existence of these two nominalisations is motivated by two possible senses of the verb *recoger(se)*. In the first sense, illustrated in (18a), the verb is an activity verb that takes an incremental theme, the set of things that are put together. The equivalent nominalisation is (17b), as seen in (18b). In the second sense, close to English ‘to put oneself back together’, the verb denotes a psychological state (18c), and the equivalent nominalisation is (17a).

- (18) a. *Juan recogió las firmas.*
 Juan collected.3sg the signatures.
 b. *La recogida de firmas (por parte de Juan).*
 The collect-ing of signatures (by Juan).
 c. *Juan se recogió tras el incidente.*
 Juan himself put-back-together.3sg after the incident.
 d. *El recogimiento de Juan tras el incidente.*
 The collect-ing of Juan after the incident.

Notice, incidentally, that the fact that the same base, under closely related meanings, requires two different affixes challenges a view where affixes are idiosyncratically selected by verbal bases: such approach would be force, to our mind, to propose that each nominalisation correspond to a different verbal base, ignoring the close semantic relationship between them.

Let us consider a final example, the case of the verb *alzar(se)*, ‘raise’.

- (19) a. *alzamiento*, ‘upraising’
 b. *alzado*, ‘raising’

As in the previous case, the reason for this alternation is due to the lexical ambiguity of the verb *alzar(se)*. The verb can be understood as an inherent direction verb that describes a movement in the vertical axis, as in (20a), and that kind of event requires the nominalisation in (20b), with the past participle. However, the verb also allows a meaning in which it is described that someone opposes a particular situation, such as, for example, when the army sublevates against the government (20c). In this second sense, the verb denotes a static relationship between two entities, the army and the statu quo, and therefore requires the nominalisation with *-miento* (20d).

- (20) a. *El soldado alzó la bandera.*
 The soldier raised.3sg the flag.
 b. *El alza-do de la bandera.*
 The rais-ing of the flag.
 c. *El ejército se alzó.*
 The army SE raised.sg, ‘The army sublevated’.
 d. *El alza-miento del ejército.*
 The rais-ing of-the army, ‘The upraising of the army’.

The explanation that we have proposed for the distribution of *-miento* and the past participle in Spanish event nominalisations fares well in accounting for these alternations. It is not clear, to our mind, how an alternative explanation in terms of analogy or parsing could capture these patterns.

3. The properties of *-ción* event nominalisations.

The behaviour of *-ción* contrasts with the one displayed by the two affixes we just presented in the sense that it is not sensitive to the argument structure of the verb. This property patterns, as we will suggest, with other special characteristics of this affix and the nominalisations that it builds.

The affix *-ción* can nominalise a verb that selects an undergoer, such as *elegir*, ‘to choose’, whose nominalisation is *elec-ción*. (21) shows that the referential properties of the internal argument do not change the aspect of this verb.

- (21) *Juan eligió {oro / un coche} {*durante / en} un segundo.*
 Juan chose.3sg. {gold / a car} {for / in} a second

However, the same affix can be used with verbs that select a rheme path object, such as *construir*, ‘to build’ (nom. *construc-ción*), whose internal argument is shown to be an incremental theme in (22).

- (22) a. *Juan construyó una casa {*durante / en} un segundo*
 Juan built.3sg a house {for / in} a second
 b. *Juan construyó poesía {durante / *en} una hora*
 Juan built.3sg poetry {for / in} an hour

This is not the only especial property of this affix. For example, as the reader may have already noticed, *-ción*, unlike *-miento* or the past participle affix, does not require the verb to appear with a theme vowel, which is a property of all verbs in Spanish. There are some minimal pairs in Spanish in which the same verb has two nominalisations, one with *-miento* and another one with *-ción*; the former always requires the theme vowel, while the latter does not.

- (23) a. From *mantener*, ‘to maintain’
manuten-ción, manten-i-miento
 Verb-ción verb-theme vowel-miento
 b. From *recibir*, ‘to receive’
recepc-ción, recib-i-miento
 verb-ción verb-theme vowel-miento

Other verbs, such as *elegir*, ‘to choose’ (nom. *elec-ción*), *optar*, ‘to aspire’ (nom. *op-ción*) or *intervenir*, ‘to intervene’ (nom. *interven-ción*), illustrate that *-ción* does not need the theme vowel to be present.

In fact, *-ción*, as opposed to the past participle and *-miento*, does not require a verbal base; it also admits smaller units which Distributed Morphology has identified as roots (Marantz 1997). (24) shows that some of the bases with which *-ción* combines cannot be used as verbs.

- (24) a. *fun-ción*, ‘function’, *rela-ción*, ‘relation’, *reac-ción*, ‘reaction’.
 b. **fun-ar, *rel-ar, *reac-ar / *reag-ir*

There are no equivalent cases with the participle or with *-miento*: all their formations are constructed on top of verbs with their theme vowels.

These properties may also be related to the fact that some of the nominalisations that use *-ción* cannot be characterised as event or result nouns, but are rather nouns denoting general properties, states, qualities or

even physical entities. This is never the case with nominalisations that use either *-miento* or *-do / -da*. Other relevant examples are shown in (25).

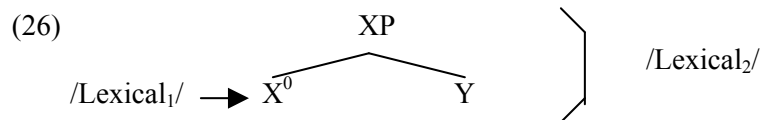
- (25) *colora-ción*, ‘colour’, *posi-ción*, ‘position’, *direc-ción*, ‘address’,
tradi-ción, ‘tradition’

A noun such as *na-ción*, ‘nation’, may be related to the verb *nac-er*, ‘to be born’, but as a noun it is not its event nominalisation. We have not attested comparable cases with *-miento* or the participle *-do / -da*, and, to the best of my knowledge, such cases have not been reported in the literature about Spanish.

Thus, we have shown that the productive Spanish nominaliser affixes can be classified in two groups, depending on whether they are sensitive to the argument structure of the verb: *-ción*, by far the most productive of them, is not sensitive, while the distribution of *-miento* and *-do / -da* can be explained by the nature of the internal argument of the verb.

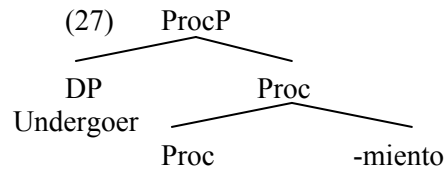
4. A syntactic account.

In this section we will make a proposal with respect to the syntactic account of these empirical generalisations. Our proposal follows the version of Minimalism argued for in Gärtner (2002), in which the syntactic derivation is related with set theory: each node represents a set consisting of the items that it dominates, if any. In this proposal, lexical insertion can only be restricted to terminal nodes as a stipulation, because both terminal and maximal nodes are representations of the same entity: sets. Therefore, in our proposal we will crucially phrasal spell out, that is, the insertion of lexical material under non-terminal nodes (cfr. Caha 2007, Neeleman and Széndroi 2007, Ramchand 2008). A lexical item, thus, can lexicalise a terminal node (*Lexical₁* in 26) or a maximal node (*Lexical₂* in 26), in which case it lexicalises the constituents contained under that node.



4.1. The syntactic behaviour of *-miento*.

The affix *-miento* requires the presence of a verbal base, that is, it cannot take roots as its base. It is also sensitive to the presence of an undergoer. For this set of reasons, I propose that the position of the affix is the one in (27), where I do not represent yet the features of the affix.



If the affix *–miento* is introduced first in one of the argument positions of the verb, then we explain that it requires verbs as its morphological base. If the verbal projection that introduces the affix is ProcP, then we explain that affix is associated to bases that contains an undergoer, for this kind of argument is introduced as the specifier of this syntactic category.

Notice that the affix is occupying in our configuration the complement position of Proc, and, in the framework that we assume in this article, this is the position of the rheme path argument. Therefore, we predict that *–miento* not only requires an undergoer, but is incompatible with a rheme path argument, for it is occupying the position that such an element requires. This prediction is borne out.

We have seen that incremental theme objects are not out from other kinds of nominalisations. Let us show now that nothing is, in principle, wrong with having locative paths inside nominalisations. The following pair illustrates that the *–do / –da* nominalisation is compatible with all the arguments: agent, rheme and the optional path.

- (28) a. *Las autoridades alumbraron la calle hasta el tercer bloque.*
 The authorities illuminated the street to the third block.
 b. *El alumbrado de la calle hasta el tercer bloque por las autoridades.*
 The illumination of the street up to the third block by the authorities.

The pair in (29) shows that the same situation is true with *–ción* nominalisations: agent, undergoer and path are allowed in the nominalisation of (29b).

- (29) a. *Las autoridades repatriaron a los inmigrantes a Kenia.*
 The authorities repatriated.3pl ACC the immigrants to Kenia.
 b. *La repatriación a Kenia de los inmigrantes por las autoridades.*
 The repatriation to Kenia of the immigrants by the authorities.

However, this is not true of a *-miento* nominalisation. A verb such as *seguir*, ‘to follow’, allows a path when it is a verb, but the same constituent is ungrammatical in the nominalisation (30b).

- (30) a. *Siguieron a-l sospechoso a la casa.*
 Followed.3pl. ACC-the suspect to the house.
 b. *El segui-miento del sospechoso (*a la casa).*
 The follow-ing of the suspect (to the house).

The same contrasts take place if the locative path is expressed by a DP. The semantic interpretation of *el río*, ‘the river’, in (31) is that it is the entity that defines the path that the subject is following: its meaning is ‘to follow the path defined by the river’s banks’.

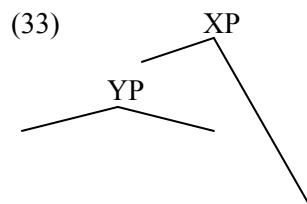
- (31) *Seguir el río.*
 To follow the river

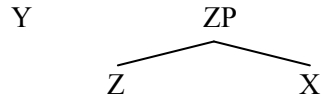
The verb *seguir* is also interesting because its argument structure includes both a path and an undergoer, and, therefore, some speakers have both a *-miento* and a past participle nominalisation from it. As shown in (32a), the *-miento* nominalisation is ungrammatical with this DP path, but the past participle nominalisation (32b) allows it.

- (32) a. **El segui-miento del río*
 The following of-the river.
 b. *La segui-da del río*
 The following of-the river.

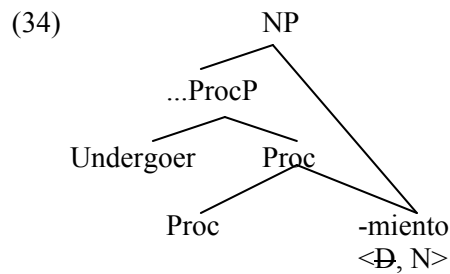
The incompatibility of *-miento* nominalisations with paths supports the proposed syntactic configuration in (27).

The natural question at this point is how *-miento* can nominalise the structure from this position. Our technical implementation of this process follows Gärtner (2002) in his proposal that syntactic movement can be viewed as remerge of a constituent from a lower projection to the highest node of the configuration. From here it follows that the constituent that ‘moves’ through remerge is able to project its label to the whole configuration (cfr. also Chomsky 2004 and Starke 2004).





In (33), X is a member which belongs to more than one set: the set XP and the set ZP. This is possible in a system which views syntactic trees as representations of sets of units, such as the one developed in detail in Gärtner (2002: 145-171). X in (33) would correspond to *-miento* in (27), after remerge which brings as a consequence that it nominalises the structure. The crucial question at this point is what makes it need to remerge. We propose that the set of features lexicalised by *-miento* include a full DP with an additional N feature. In the representation in (27), before remerge, the D feature of *-miento* is already licensed by its being in an argument position, but the N feature cannot be licensed in this context. This is what triggers remerge of *-miento*: the affix needs to remerge in order to project this N feature, with the result that the whole construction is not headed by an NP.



Once that *-miento* remerges, the structure is nominalised and the projection of its N feature blocks insertion of the projections that normally dominate a verb, such as Aspect and Tense.⁴

4.2. Position of *-ción*.

The properties of the affix *-ción* are those that we expect from a nominalisation process where the nominal features are introduced independently from the verbal structure: it is not sensitive to argument structure, it can combine with roots and it is compatible with all the arguments of the verb, because, not being introduced by the verbal structure, it does not occupy any of the argument positions. These properties are explained if *-ción* is the lexical spell out of an NP layer which subordinates the verbal structure, as represented in (35).



4.3. The syntactic behaviour of past participle nominalisations.

Potential problems for a syntactic representation may come from the behaviour of *-do / -da*, because this affix is sensitive to the argument structure of the verb –it requires rheme path objects- but does not cancel any part of the argument structure of the verb. In this section, we will show that this apparent contradiction is solved by the fact that the nominaliser *-do / -da* is identical to the past participle. We will show that this affix is, actually, the participle and the nominal features are introduced by N-embedding. Sensitivity to the argument structure of the verb comes from the fact that the participle requires a functional projection that needs a rheme path object to be licensed.

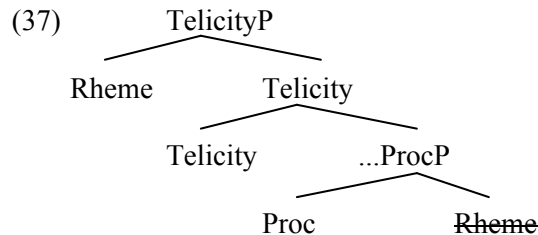
Let us show first that this affix is the past participle suffix and not just one which happens to be homophonous with it. The evidence comes from irregular participles: in those verbs that allow participial nominalisations, if the past participle is irregular, the nominalisation uses the same irregular participial affix than the verb (36).

- (36) a. *escribir*, ‘to write’, *he escri-to*, ‘I have written’. Nominalisation: *escri-to*.
 b. *decir*, ‘to say’, *he di-cho*, ‘I have said’. Nominalisation: *di-cho*.

As the same affix is used when the participle is verbal and when it is a nominalisation, it follows that the participial morpheme cannot be responsible for the nominalisation: it is necessary to analyse this morpheme as part of the verbal structure, not as the nominalising layer. In other words, *-do / -da* cannot be analysed as *-miento*. From here it follows that the nominal features are not introduced in the representation as part of the verbal projection, but, just like in the case of *-ción*, they are inserted as part of an independent NP projection that dominates the verbal structure. This explains why past participle nominalisation do not cancel any part of the argument structure of the verb, but does not explain why the affix requires the presence of a rheme path objects. We argue that the answer to this second questions depends on the nature of rheme paths.

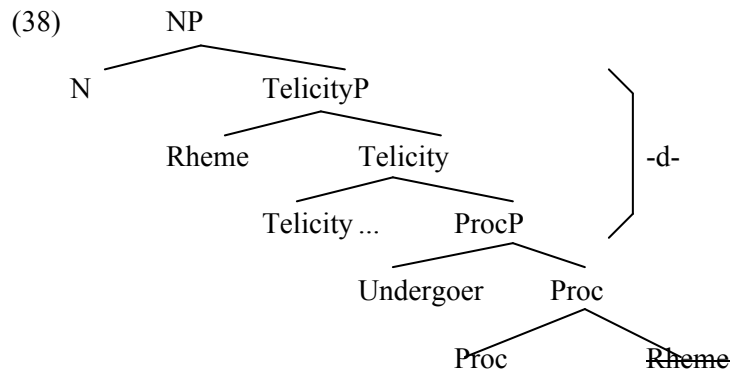
Rheme paths have a special status on the functional structure of the verb. As we have seen, they influence the external aspect of the verbal predicate, in the sense that their referential properties determine whether the event is telic or atelic. This implies that they interact with the functional projection that determines this aspect of a verbal predicate. Following Borer (1994, 2005) and other authors, I adopt the proposal that there is a specific external

aspect projection that defines the (a)telicity of the event by attracting the rheme object; unlike Borer, however, I propose that this projection is present both with telic and atelic events and in both cases it attracts the rheme: none of them can be considered unmarked.



We propose that the past participle morpheme in Spanish lexicalises (at least) this telicity phrase. If this is the case, the configuration explains that object rhemes are necessary in nominalisations that use *-do* / *-da*: the participial morpheme does not come from inside the argument structure of the verb, but it is associated with a projection that interacts with path objects. Therefore, we expect this class of nominalisations to require a path object and, also, to require the presence of the verbal structure that introduces this path object.

The nominal layer is merged on top of the verbal structure of (37).



Now the question is what spells out the nominal layer. I would like to suggest that this layer is spelled out by the nominal desinence (*-o* or *-a*) which appears in the participle in these nominalisation. Although this desinence also appears in past participles in other cases, such as passive constructions, to have desinences that contain gender information is a property of nouns in Spanish, and, thus, it is plausibly associated either to the NP layer itself or to some other property that it introduces.

Therefore, the apparent contradiction in the properties of *-do / -da* nominalisations is resolved: the nominal features are introduced independently of the verbal structure, but the participial morphology indirectly requires the presence of a path object.

5. The role of morphological blocking.

The behaviour of *-ción* raises some additional questions about our account. If *-ción* does not care about the argument structure of the verb, one first question is why it is not the case that all verbs have a nominalisation in *-ción*. That is, what happens with the words in (39)?

- (39) a. *desliza-ción* (vs. *desliza-miento*)
slide-ción, ‘sliding’
b. *sangra-ción* (vs. *sangra-do*)
bleed-ción, ‘bleeding’

Notice that we have avoided assigning stars to the *-ción* forms in (46). The reason will be clear in a moment. There is also a second related question: why cannot the suffixes *-ción* and *-do / -da* take over a nominalisation in *-ción*, when the base fits their requisites? What happens with the forms in (40)?

- (40) a. *preocupa-miento* (vs. *preocupa-ción*).
worry-miento, ‘worrying’
b. *destrui-do* (vs. *destruc-ción*)
destroy-ed, ‘destruction’.

Our proposal is that these words are not attested and they are not always accepted by speaker because of morphological blocking: once that we have already a nominalisation in *-miento*, *-ción* or the past participle, the speaker refrains from constructing another word with a different affix, unless there is an independent motivation. The independent motivation, then, can be used to test our proposal.

The first prediction is that speakers may have doubts with respect to whether a certain word exists and, then, they may try to make a new word. The result could be one in which eventually two forms are attested, one with *-ción* and another one either with the participle or *-miento*. This is, for example, what happens with the verb *cicatrizar*, ‘to scarify’, which has two nominalisations attested in the Real Academia dictionary, *cicatrizamiento* and *cicatrización*.

Also, a word like *preocupamiento* is attested in informal texts. Google registered 132 hits of this word (14-05-2008), and *destruido* as an event noun is also attested in the same kind of text (*El malestar de los menores extranjeros empuja a hechos como el destruido de Arzetales*, ‘The uneasiness of the underaged foreigners causes events such as the destruction of Arzetales’).

The second clear prediction is that, actually, both words will also appear if in some domain of reality they develop different meanings. In fact, the word *deslización* appears 84 times in google, always in texts about physics, science where it has a specialised meaning that has to do with the ability of a certain substance to help objects to slide. The word *sangración* is also attested (47 hits) with the particular meaning of the spontaneous bleeding believed to be, in some religions, a sign of the sanctity of a person.

6. Concluding remarks.

In this article we have argued that what could seem as a case of idiosyncratic distribution of affixes is actually a pattern which can be explained based on syntactic and semantic properties of the base.

An interesting consequence of this approach is that, in the course of this discussion, we have identified two different ways to introduce the nominal features in a nominalisation:

(41) a. N- feature “recycling”

Nominal features in one of the argument positions of the verbal domain remerge on top of the verbal structure (cfr. *-miento*).

b. N-feature embedding

Nominal features come from a nominal head under which the (verbal) structure embeds (cfr. *-ción* and the past participle nouns).

These two processes imply different empirical properties: remerge requires a configuration where one of the argument positions is occupied, so we expect that one of the arguments of the verbal predicate gets lost in the nominalisation. We also expect that this type of nominalisation is dependent on the existence of verbal structure, and a specific type of it.

As for the subordination strategy, the main property is that it can co-occur with all the arguments of the predicate, because the nominal features are not introduced in an argument position. This does not imply that it will always co-occur with all the arguments: this may depend on the different heights where the subordination can take place (Alexiadou to appear, Harley to appear). Depending on whether the affix lexicalises part of the verbal structure or not, we can differentiate between two different kinds of affixes associated to the subordination strategy. If the affix just lexicalises the

nominal features, we expect it to be able to combine with any kind of verbal predicate –maybe, also, non verbal structures, like roots-, as was the case with *-ción*. As far as we know, another good candidate for this kind of affix would be *-ing* nominalisations in English.

However, if the affix lexicalises part of the verbal projections in addition to the nominal features, we expect that it will be dependent on the presence of a specific type of verbal structure –at least to the extent that the projections that it lexicalises depend on the category that we call ‘verb’-. This was the case of the affix *-do* and its feminine counterpart *-da*. Infinitival nominalisations in Spanish, which are dependent on the type of predicate (Fábregas and Varela 2006), are, in our opinion, a good candidate for this kind of affix.

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¹ The data that we use as the empirical base for this article are taken from two sources: more than 2.600 nominalisations taken from LexEsp, an annotated corpus from the *Universitat Politècnica de Catalunya* and the nominalisations contained on two electronic dictionaries of contemporary Spanish (*Diccionario de la Real Academia* and *María Moliner*).

² During this article we will illustrate the (a)telicity of an even using as a test compatibility with *durante* (for) or *en* (in) phrases as a test to diagnose (a)telicity. Other tests that diagnose (a)telicity, such as compatibility or not with phase verbs such as *stop* (*John stopped eating soup* vs. **John stopped eating a cake*) give the same results as the other test in Spanish: there is a contrast between *Juan dejó de comer sopa* and **Juan dejó de comer un pastel*, which is ungrammatical unless it is interpreted as a frequentative event (*to eat a cake every day*). Due to space limitations, we will not present these others tests, but it is worth mentioning that their result is identical as the *durante* / *en* phrase test.

³ It is perhaps worth mentioning that the behaviour of degree achievement verbs with respect to event nominalisations casts doubt on an account of affix rivalry that states that the choice of the affix depends or is primed by its frequent co-occurrence with another affix, which may even select it idiosyncratically. Notice that many of the degree achievement verbs contain the verbal affix *-ece-*; it could be claimed, thus, that *-miento* is chosen in this class because the presence of *-ece-* primes or selects *-miento*. This position is, however, untenable because some degree achievement verbs, such as *calentar*, ‘to heat’, do not contain the affix *-ece-* and, still, require *-miento* as a nominaliser. Also, non degree achievement verbs such as

par-ece-r, ‘to resemble’, constructed from *par*, ‘pair’, contain *-ece-*, but the nominalisation cannot use *-miento*.

⁴ A fair question at this point is why the nominalisations in *-miento* do not denote paths if the affix is merged in the position reserved for paths. Compare this situation with the ‘agentive’ suffix *-dor / -er*, which shares its properties with *-miento*. As shown in Booij and Lieber (2004), this suffix does not always produce nominalisations that denote agents. The nominalisations in *-er* denote many kinds of semantic notions apart from agent (e.g., *six packer*, *third grader*, *Londiner*...). I suggest that a general property of affixes, as opposed to stems, is that their denotation is not determined by their position, maybe due to a defective conceptual semantics. However, this requires further research.

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