Multiple genitives and the Distinctness Condition: the case of the Spanish DP

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ABSTRACT. This paper evaluates the explanatory power of one the principles of optimal computation proposed in Minimalism, the Distinctness Condition (DC, Richards 2010), through a study of genitive marking of arguments and modifiers inside the Spanish DP. We argue that, as proposed by Richards, the DC –which bans two identically labelled constituents from being linearised in the same cycle– provides an elegant account of the marking of arguments inside a complex event noun. However, we show that other cases of multiple genitive-marked constituents inside the DP seem to be prima facie counterexamples to the DC: in Spanish, two genitive constituents are possible, and with a particular semantic class of nouns –representation nouns– three instances of a genitive can be found. We argue that these cases are not counterexamples to the DC because the empirical properties that they display show that each one of the genitives belongs to a different spell out domain. In doing so, this article provides evidence for the phasehood of nP and in favour of the Multiple Spell Out theory of Uriagereka (1999).

Keywords. DP, nP, genitive marking, distinctness condition, spell out domain, phase

1. Conditions of optimal computation: the Distinctness Condition

Minimalism has set at the core of its research program the task of determining which parts, if any, of the functioning of syntax are inherent properties of the language capacity and which parts of it are determined by interface conditions or by general computational eficency considerations imposed across modules of the human mind. The general agenda is to try to find explanations based on these two aspects in order to explain why the syntax of natural languages is the way it is; only in the absence of such explanations can we say that something is a purely linguistic property (and thus properly part of Universal Grammar).

Several principles have been proposed to follow from general efficient computation considerations, while other already established principles previously thought to be part of Universal Grammar have recently been explained as consequences of efficient computation. A significant example of the second case are the notions of closeness and minimal search ('Relativized Minimality', Rizzi 1990), whereby a feature-checking operation by a probe has to involve the closest goal when there are several possible candidates is one such principle, to the extent that it minimizes the working load of CS. Superiority effects such as those in (1), where the pronouns are not discourse-bound, can arguable be explained by efficient computation considerations attending to a closeness principle that attracts to C the hierarchically closest interrogative:

(1)   a. Who did what?
        b. *What did who do?

An already widely accepted principle newly proposed in Minimalism which has been argued to follow from efficient computation is the No Tampering Condition (Chomsky 2005), which prevents any merge operation to alter the internal structure of the sets merged –for instance, preventing head movement from happening in the

syntax–. If any merge operation involves putting together two previously existent objects which keep their previous internal structure after merge, calculating the output of this operation is simplified, and therefore the computation becomes less demanding.

Another example of a principle deriving from efficient computation which has recently been proposed is Grohmann's (2003) Condition on Domain Exclusivity: all things being equal, constituents cannot move within the same domain, because that would give rise to the same element having two or more copies which are not sharply differentiated by the features associated to each position. A constituent might undergo movement only if the landing site has a different contextual index from the one of the take-off position, which implies that movement must be to a different domain. On the assumption that any clause has three domains, the theta-domain, the agreement-domain and the discourse information-domain, a constituent can move from one domain to the one following it, but not within each one of these domains. It is impossible to topicalize a *wh*-phrase (2), as it would be movement inside the discourse information-domain and the there would be two copies in sites which are barely differentiated by their feature endowment. Similarly, the same argument cannot have copies both in the patient and agent position –even if, as it is generally accepted now, these sites are related to different heads (Kratzer 1996)– (3) because inside the theta-domain the two copies would not be differentiated enough; the same element cannot either be both in the object agreement position and in the subject one (4), because that would involve copies inside the agreement-domain.

(2)   *What vegetable, Mary detests?
(3)   *John likes (Intended: 'John likes himself')
(4)   *Him softly kissed her.

Grohmann's explanation can be interpreted as follows: having two copies whose features are too similar –because they carry the same contextual index– is not allowed by the CS because when the structure is transferred to the interfaces these too-similar copies imply an additional workload, as they have to be differentiated to compute Spell-Out.

The primary goal of this paper is to explore yet another condition following from efficient computation, the Distinctness Condition (DC, Richards 2010), and we will argue that a significant part of case marking inside DPs can be explained on the basis of this principle. Once that we establish the plausibility of this kind of explanation, we will argue that it can be used to indirectly diagnose for how many phases a DP contains, and whether special kinds of nouns introduce additional phases or not.

The paper is organized as follows. In the remainder of this section we will present the DC in some detail. In section 2 we will provide empirical evidence that the DC is a likely candidate to explain case marking of arguments in a deverbal nominalizaton, as opposed to that assigned to the same arguments in the transitive predicates built over the same VP; this section develops a proposal first made in Richards (2010: 38-41). Once we have provided this initial evidence, in section 3 we will introduce some data that seem to be, at first sight, incompatible with the analysis: definite DPs allow for two genitive-marked constituents, and in some languages, a particular semantic class of nouns allows for three genitive-marked constituents. In section 4, we will argue that these data are amenable to an analysis compatible with the DC and the data in section 2 once it is proposed that (i) every definite DP contains two phases, one defined by D itself and another one defined at a lower point, possibly by n and (ii)

some nouns introduce an additional phase, because they carry with them a predicational structure which defines a third phase.

1.1. The DC

Richards (2010: 5) proposes the following condition on linearization, called Distinctness:

(5)   Distinctness (*<α, α>)
        If a linearization statement <α, α> is generated, the derivation crashes

This kind of condition is viewed as an instance of those imposed on the computational system by general principles of efficient computation: two identically labeled Xs cannot be part of the same work space at the interfaces because in that case the linearization algorythm (cf. Kayne 1994) would find a contradictory statement: a label that both has to precede and follow itself. Additional operations could be imagined to solve the contradiction at PF –such as searching inside the labelled constituent to identify them as distinct constituents–, but the point is that these additional principles are not available because they would imply an extra workload, which would go against optimal computation.

A number of phenomena can be argued to be explained by the DC. Richards (2010: 8-16) himself gives a number of them. For instance, in English multiple sluicing structures in indirect interrogative and exceptive contexts are possible only if the two elements have a different label (PP and DP); if both are DPs, they are impossible. All examples are taken from Richards.

(6)   a. Every man danced with every woman, except [John] [with Mary].
        b. *Every man admired every woman, except [John] [Mary].
(7)   a. I know everyone danced with someone, but I don't know [who]
        [with whom].
        b. I know everyone insulted someone, but I don't know [who] [whom].

In Italian causatives, presence of a DP object in the embedded infinitival construction forces the causee to be introduced with a preposition.

(8)   a. Elena fa lavorare Gianni.
           Elena makes work Gianni
        'Elena makes Gianni work'
        b. Elena fa riparare la macchina a Gianni.
           Elena makes fix the car   P Gianni.
        'Elena makes Gianni repair the car'
        c. *Elena fa riparare la macchina Gianni.

In Spanish ditransitive predicates, when both nouns are animate, speakers typically reject that both the direct and the indirect object are introduced by the preposition *a*. This is so even if any of the two arguments, alone, must carry the prepositon.

(9)   a. Luis le presentó a Juan.
           Luis him.dat introduced P Juan.
        'Luis introduced Juan to him'

b. Luis lo presentó a Pedro.
   Luis him.acc introduced to Pedro.
'Luis introduced him to Pedro'
c. ??Luis presentó a Juan a Pedro.
    Luis introduced P Juan P Pedro.
'Luis introduced Juan to Pedro'
d. Luis presentó Juan a Pedro.
   Luis introduced Juan P Pedro
'Luis introduced Juan to Pedro'

Many other cases have been observed that can arguably fall into the distinctness condition. The crucial point is that there is a natural inverse correlation between the existence of internal phases in a syntactic constituent and the application of the DC. On the standard assumption that linearization applies cyclically over the domains of phases, the aforementioned effects count as evidence that the two identically labelled constituents are inside the same phase domain and, therefore, no head intermediate between them defines a phase. In the cases (6) and (7), both elements would be contained inside a CP phase; in the cases (8) and (9), the two identically marked constituents would presumably be inside the vP phase. The DC has a role as a tool to diagnose for intermediate phases (6):

(10)   If two distinct constituents x and y with the same categorial label α give rise to a Distinctness violation, then there is no phase-defining head H that dominates y and is dominated by x.

When applied to the cases thus considered, we obtain results consistent with the standard assumptions about phase-defining heads: CP and vP can define heads, but other heads closely related to them, such as those that define focus or VP, do not have this power.

1.2. Case inside DPs

This article concentrates on the empirical domain of the DP, and as such we would like to concentrate first on a case presented in Richards (2010: 9-10), where arguably the DC determines case marking inside a definite develop it, discuss an apparent counterexample to it and use what we gain from this analysis as a tool to argue in favour of internal phases inside the DP (as done, among others, in Svenonius 2004). The phenomenon is the non availability of two NP arguments introduced by the same genitive preposition (*of*).

(11)   a. *the singing [of songs] [of the children]
        b. the singing [of songs] [by the children]

In section three, we will argue that these data, being basically right, need to be reconciled with two empirical properties. The first one is that two *of*-phrases are possible inside any DP in English (and other languages, as we will see).

(12)   the invasion of Spain of 1812

The second empirical fact that must be considered is that in some languages, like Spanish, a particular class of nouns –so-called 'representation nouns'– allow for three *of*-phrases.

(13)   el retrato [de Carlos IV] [de Goya] [del Museo del Prado]
        the portrait of Carlos IV of Goya   of.the Museum of.the Prado
        'the portrait of Carlos IV by Goya at the Prado Museum'

Our strategy to handle these cases will profit from the notion of Phase domain: a chunk of structure which is sent to the interfaces, where linearization takes place, as a unit which ignores all material external to it. The Derivation-by-Phase approach to language (Chomsky 2001, 2004) allows to use this notion in order to present an analysis of the surface counterexamples to the DC noticed here: each one of the genitive constituents in (12) and (13) is linearized in a different phase domain. Having two identically labeled constituents in the same sequence means that the sequence contains at least two phases; having three means that there are three phases inside that sequence. This can be formulated as the principle in (14).

(14)   If two distinct constituents x and y with the same categorial label α do not give rise to a Distinctness violation, then there is a phase-defining head H that dominates y and is dominated by x.

In the discussion about the data in (11), (12) and (13) the kind of label that the genitive marked constituents have is crucial, so part of the necessary background is our assumptions about case licensing. This will be the topic of the next subsection.

1.3. Case

We follow Fillmore (1968), Bittner and Hale (1996), Neeleman and Weerman (1999), Weerman and Evers-Vermeul (2002) and Caha (2009) in the proposal that arguments can be introduced into the derivation with case information and that case, rather than assigned by heads, is the spell out of functional layers over DPs.

Three situations have to be distinguished: when the argument surfaces as a DP, without any overt case marking, when it is introduced by a semantically underspecified preposition like the Spanish genitive *de* 'of' and when it is introduced by a semantically strong, lexical preposition, like the Spanish agent/causer preposition *por* 'by'.

The first situation can be in principle empirically distinguished from the others just on the basis of morphological marking: there are no other markers accompanying the DP.

(15)   [$_{DP}$ Dios] creó [$_{DP}$ el mundo] en siete días
            god   created the world in seven days

With respect to the other two, in a language like Spanish, in the surface, they both seem to be spelled out by distinct prepositions, but there are some relevant differences between DPs introduced by genitive *de* and by *por* which support the idea that they do not correspond to the same syntactic label.

(16)   a. la casa [$_{KP}$ de María]

the house of María
   b. pintado [_PP_ por Dalí]
      painted   by Dalí

To begin with, the preposition *por* is associated to a specific semantic interpretation, that of the agent or author (as English *by*); in contrast, *de* is not associated to any specific semantics (much as English *of*). This marker can be associated to a possessor (16a, in a loose sense), an agent or author (17a), a patient (17b), the entity represented by a noun (henceforth, representee; cf. 17c), etc. Furthermore, the interpretation of *de* is frequently dependent both on the semantics of the noun it selects and that of the noun it modifies.

(17)   a. una novela de Agatha Christie
           a   novel of Agatha Christie
        b. la destrucción de la ciudad
           the destruction of the city
        c. un retrato de Zeus
           a   portrait of Zeus

The difference suggests that *de* does not contain a lexical head with a conceptual entry that is able to semantically select the noun it introduces, while *por* contains that kind of lexical head.

It is also well-known at least since Borer (1984) that the genitive preposition does not prevent the embedded DP from being the antecedent of an anaphor (18a), while semantically strong prepositions like por do (18b).

(18)   a. un regalo de Juan$_i$ a sí mismo$_i$
           a   present of Juan to himself
        b. *una distribución de regalos por Juan$_i$ a sí mismo$_i$
   a   distribution of presents by Juan to himself

Following Borer (1984), *de* (and its equivalents in English or Hebrew) is analyzed as a case-marker that allows the embedded DP to pass its features to a higher node, while *por* would be a head with its own grammatical and lexical content, which does not let the information contained in its complement to pass to a higher node, with the consequence that for all intents and purposes the features of the DP contained under it cannot establish a relation with an element outside the PP.

If the genitive marker is one manifestation of case, as suggested by many authors, the preposition *por* can be argued to contain the structure that *de* introduces, plus some extra layers not contained in *de*. The reason is that the preposition *por*, just as the genitive marker *de* 'of' (19a), can license the case of the noun it introduces (19b).

(19)   a. de mí
           of me.obl
        b. por mí
            by me.obl

Given these data, we propose the following representation of a DP, a genitive marker and a lexical preposition that contains case layers. The marker *por* is a PP which contains a KP that, in turn, contains a DP (20). The marker *de* is a KP that

contains a DP (21). The DP form is used in nominative and (some) accusative contexts (22).

(20)　　　　 PP　　　　　　　　　(21)　 KP　　　　　(22)　 DP

　　　 P　　　　　 KP　　　　　　 K　　　　 DP

　　　　　　 K　　　　 DP
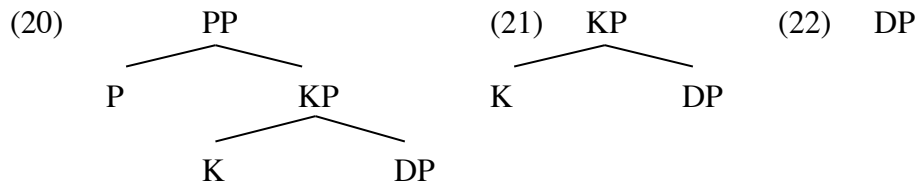
Richards (2010: 11) points out that if both P and K define a phase, introducing one constituent as PP or KP in a context where there is already another DP will not give rise to a Distinctness violation, as the embedded DP will be transferred (and linearized) in a different spell out domain as the other DP. Similarly, we expect that introducing an argument as a PP in a context where there is another KP will not trigger Distinctness, as the embedded KP will also be transferred separately. However, we do expect, in principle, that two constituents introduced as KP will not be able to appear inside the same domain, as they will transfer their DPs, but remain in the structure, causing a Distinctness violation.

Notice that we part ways with Caha's (2009, 2010) proposal that (unmarked) accusative and (unmarked) nominative are also projections of KP in languages like English, where these cases are not morphologically materialized; here we assume that in such languages what has been described as an argument in nominative or accusative case is actually a DP, and that these cases are licensed by agreement with verbal functional projections (Neeleman and Weerman 1999). We follow the standard identification of these heads (Chomsky 1995 and later work): (strong) T and (strong) v license DPs as what has been described as nominative and accusative, respectively.

Now that we have made our assumptions clear, let us move to how arguments of a verb are introduced in a transitive verb and in its nominalization.
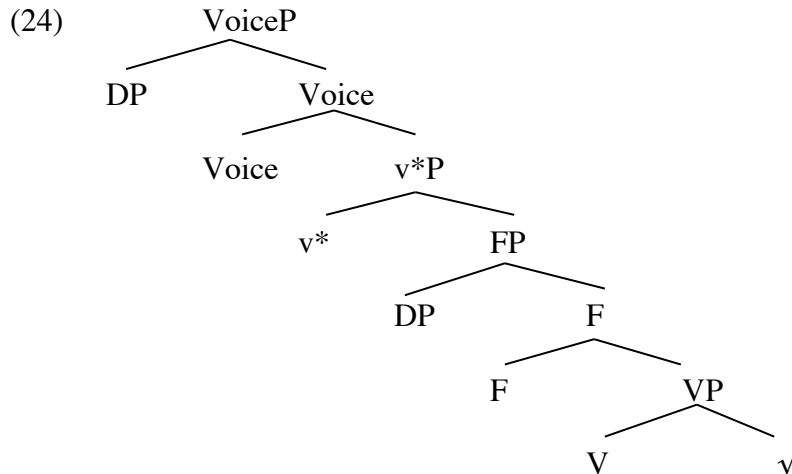

2. An analysis of argument-marking inside derived nouns

In this section, we will show evidence that supports the view that DC plays a role in the internal syntax of DPs. We will develop an analysis over a suggestion presented in Richards (2010: 38-41).

The contrast that Richards (2010) tries to capture is the one in (23), between the verbal manifestation of the verbal predicate *crea-* 'create' and its nominal manifestation as *crea-ción* 'creat-ion'. As can be seen, in a verbal construal of this transitive verb, the two arguments can be DPs (23a). In the nominal construal, where the arguments cannot materialize as DPs due to case requirements, it is not possible to project them both as PPs with *de* (23b); instead, each one takes a different preposition (23c).

(23)　　 a. [$_{DP}$ Dios] creó [$_{DP}$ el universo] en seis días.
　　　　　　 God　 created　 the universe in six days
　　　 b. *la creación [$_{KP}$ del universo] [$_{KP}$ de Dios] en seis días
　　　　　　 the creation of.the universe　　 of God in six days
　　　 c. la creación [$_{KP}$ del universo] [$_{PP}$ por Dios] en seis días
　　　　　　 the creation of.the universe　　 by God in six days

Crucial to analyze this pattern of data, and the contrast between the three examples in (23) is Phase Theory. In a Distinctness account, it is possible that two objects have the same label provided that they are transferred in different phase domains, that is, if each one of them belongs to a different phase (cf. 14). It is standardly accepted that the head little v of a transitive verb defines a phase (Chomsky 2001). Accepting that little v in a transitive verb is a phase-defining head explains that (23a) is grammatical even if it contains two DPs. We build our tree, up to VoiceP (Kratzer 1996), which completes the argument structure of the predicate. At that point, the two arguments are introduced.[1]

(24)

```
                VoiceP
              /        \
           DP           Voice
                      /        \
                  Voice          v*P
                              /        \
                           v*           FP
                                      /      \
                                   DP          F
                                             /    \
                                           F        VP
                                                  /    \
                                                 V       √
```

In the structure, we have two arguments introduced as DPs. This is not an infraction of the DC because vP is strong –able to license the case of the DP it c-commands– and thus defines a phase. Its domain (VP with all it contains) will be transferred to the interfaces at the first stage, before the specifier of VoiceP is transferred in the phase headed by CP (we follow Chomsky's 2001 proposal as opposed to Chomsky 2000). This means that at no point will the interfaces get one sequence with two DPs, so the contradictory linearization statement *<DP, DP> will not be generated.

(25)

```
                VoiceP
              /        \
           DP           Voice
                      /        \
                  Voice          v*P ——————→ phase-defining projection
                              /        \
                           v*           FP           transferred domain
                                      /      \
                                   DP          F
                                             /    \
                                           F        VP
                                                  /    \
                                                 V       √
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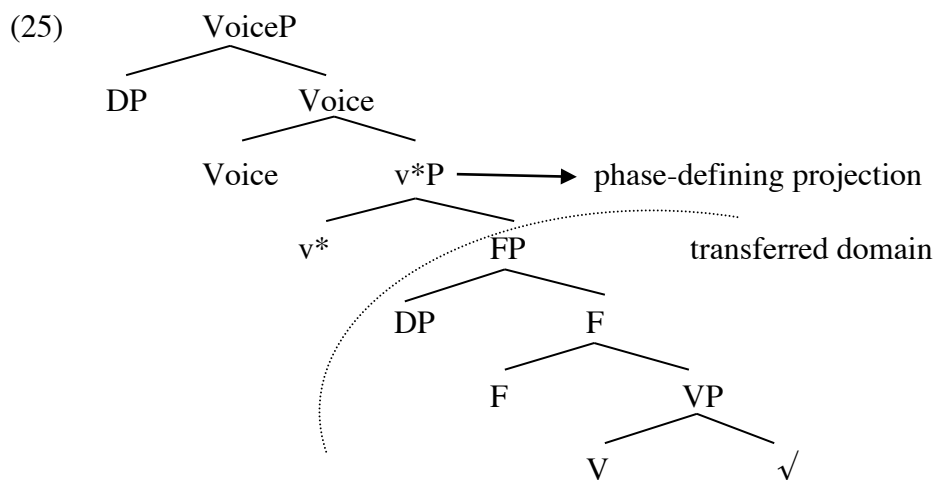
[1] Here we assume that agents are introduced outside of vP for independent reasons discussed in Kratzer (1996); as the specifier of a phase defining head is not transferred with the domain of the head, nothing would change in the analysis if the agent is introduced in spec, vP.

In this structure, we are assuming that the internal argument is not introduced by the root (contra Marantz 2005) or by VP (contra Larson 1988), but inside a functional projection of aspectual nature (Borer 2005, 2010; cf. also Alexiadou 2001). The motivation for this decision is to be found in the behaviour of nominalizations coming from these verbs. The fact that a deverbal nominalization without argument structure (a 'result' nominalization in Grimshaw's 1990 terminology) keeps the root and the verbaliser. To the extent that the presence of syntactic heads can be diagnosed through morphological marking, (26b) shows that arguments are not introduced by the root or the lexical verb head, and the correspondence with aspectual information – that licenses the temporal modifier *en cinco minutos*– suggests that the head responsible for introducing this head (cf. Borer 2010 for a development of this idea).
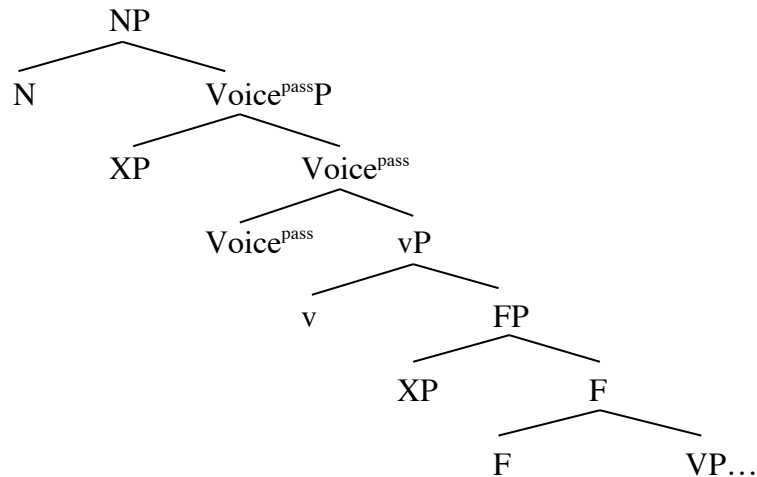
(26)   a. la organ-iza-ción de los datos en grupos en cinco minutos
           the organ-vrbl-nom of the data in groups in five minutes
       'The organization of the data in groups in five minutes'
       b. una gran organ-iza-ción
           a   big   organ-vrbl-nom
       'A big organization'

Consider now why the two arguments cannot take the same marking when the predicate is materialized as a deverbal nominalization, as in the complex event noun *creación* (23b). There is evidence that in this context vP is not strong and does not define a phase. There is a relatively wide consensus that event nouns are similar to passive construals (Picallo 1991), and indeed their empirical properties match those of a passive. In an event noun, the internal argument is compulsory, but the external argument can be left unexpressed (Grimshaw 1990) (27a). When the external argument is expressed, it must be introduced by a PP (27b), just like in the passive voice (27c). Finally, the internal argument can be expressed as an accusative pronoun in the sentence, as shown by pronominalization in (28a), which suggests that vP is strong enough to license the presence of this property. In contrast, the internal argument cannot emerge as accusative in a nominal context (28b), suggesting that now vP is not strong enough. Passive voice acts in the same way in English (28c).

(27)   a. The creation *(of the monster) took place in Switzerland.
       b. the creation of the monster by Frankenstein
       c. The monster was created by Frankenstein.
(28)   a. Frankenstein created him.
       b. *the creation him by Frankenstein
       c. *It was created him.

Let us assume that the structure of an event nominalization is comparable to that of a passive verb (therefore, headed by passive Voice). As in the passive voice, vP is weak, so it does not define a phase and it will not be able to license case of a DP. To the best of our knowledge, there are no reasons to think that in this construal the arguments are introduced by different heads –indeed, as we will see shortly, there are empirical arguments that support that the agent is still introduced by VoiceP here–.

(29)

```
                    NP
          ┌──────────┴──────────┐
          N                  VoiceᵖᵃˢˢP
                        ┌────────┴────────┐
                       XP              Voiceᵖᵃˢˢ
                                  ┌────────┴────────┐
                              Voiceᵖᵃˢˢ            vP
                                           ┌────────┴────────┐
                                           v               FP
                                                     ┌───────┴───────┐
                                                    XP               F
                                                              ┌───────┴───────┐
                                                              F             VP…
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Consider now this structure, and more in particular the possible labels that the agent and the patient can have. In contrast with (25), vP does not define a phase here, which prevents both arguments from having the same label, as that would violate Distinctness. That makes the sequences *<DP, DP>, *<KP, KP> or *<PP, PP> ungrammatical, explaining why (23b) is not possible. Assume a head H merged at a later stage of the derivation, that defines a head. This would transfer the two KPs at the same time (30), triggering a Distinctness violation.
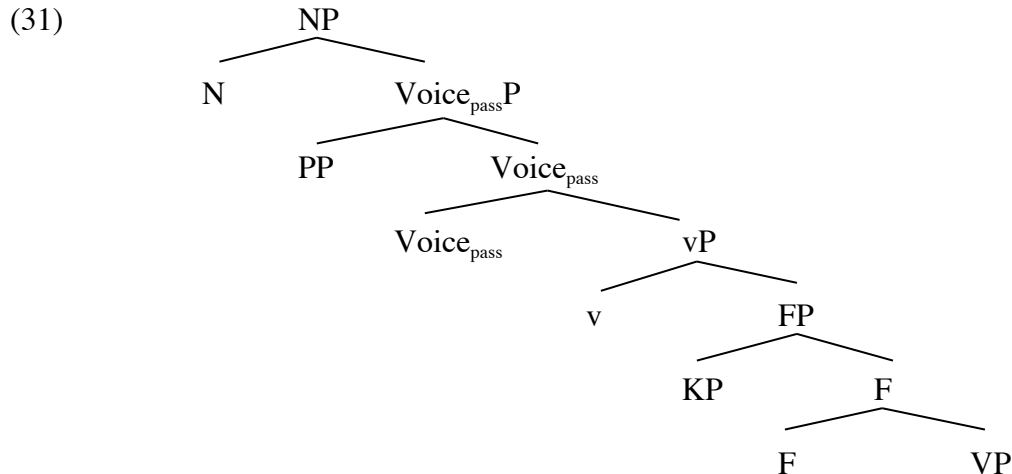
(30)

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              XP  ─────────▶   phase defining head
        ┌──────┴──────┐
        X          …NP               transferred domain
              ┌──────┴──────┐
              N         Voice_pass P        *<KP, KP>
                     ┌──────┴──────┐
                    KP          Voice_pass
                           ┌──────┴──────┐
                       Voice_pass         vP
                                     ┌──────┴──────┐
                                     v           FP
                                             ┌─────┴─────┐
                                            KP           F
                                                    ┌─────┴─────┐
                                                    F          …
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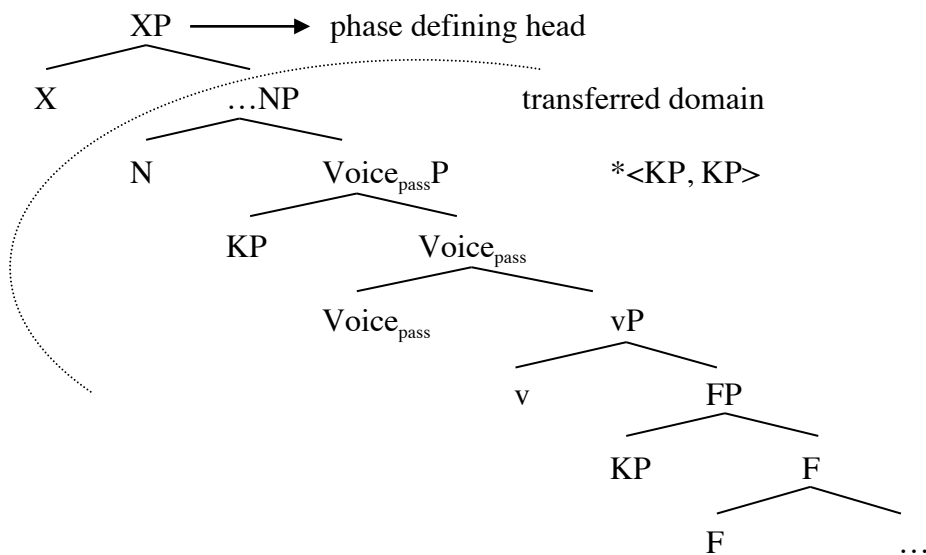
Obviously, if both arguments are introduced as PPs, we will obtain the same violation. Thus, the two arguments will need to have different labels. As vP is not strong, it will not license one of the arguments if projected as DP; as this is a nominalization, T will not license one of the arguments either. This bans any combination of KP (or PP) with DP. Given Distinctness, the only possible option is that one is materialized as KP and the other as PP.

We cannot derive from principled grounds, however, which one of the two arguments will be expressed as a PP, or in other words, we cannot derive the fact that the agent is materialized as a PP and the patient, as a KP. We would like to speculate

that this depends on the lexical prepositions available in each language. Both English and Spanish have a lexical preposition that is compatible with the agent interpretation (*by, por*), but no lexical preposition compatible with the patient interpretation. If we assume this accidental lexical restriction on the kind of PPs available in the languages considered, then the only way of materializing the two arguments is the one in (23c), whose structure is given in (31).[2]

(31)

```
                     NP
              ┌───────┴───────┐
              N          Voice_pass P
                       ┌──────┴──────┐
                      PP         Voice_pass
                              ┌──────┴──────┐
                         Voice_pass         vP
                                        ┌────┴────┐
                                        v         FP
                                             ┌────┴────┐
                                            KP         F
                                                   ┌───┴───┐
                                                   F       VP
```

Note that the kind of prepositional marking used to introduce the agent is evidence that this argument has to be merged in a verbal projection, and not as a simple noun modifier. Spanish, unlike English, does not allow underived nouns to take a PP with *por*, even when the agent interpretation is salient given the semantics of the noun.

(32)   a. a book by Chomsky
       b. *un libro por Chomsky
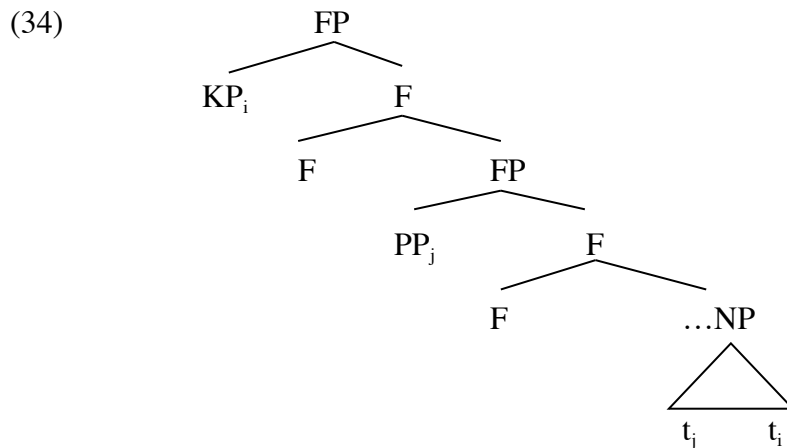   a   book by   Chomsky

This property can be explained if the P *por* carries in Spanish an uninterpretable feature that is unlicensed unless the structure which introduces it is verbal. The absence of a verb in (32b) makes the sequence ungrammatical, but in (31) its presence is licensed by VoiceP. Thus, we get evidence that the agent PP has to be introduced below the level of the structure that nominalises the verbal constituent.

Here we are not directly concerned with the movements that the constituents undergo, because by assumption Distinctness would be triggered even by unpronounced copies, as the hierarchical structure must be considered by the linearisation algorithm. Let us, however, say a few words about linear ordering. When both arguments appear at the same time, the Spanish word order is as represented in (33): Noun > KP > PP.
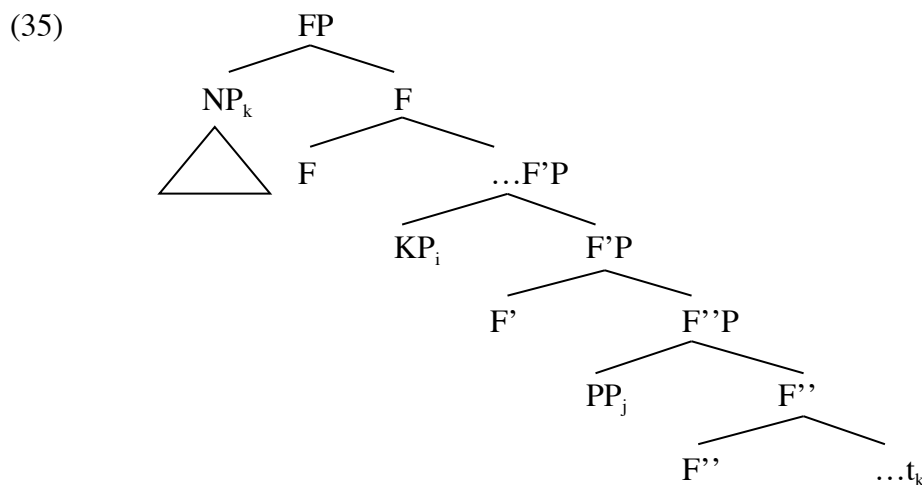
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[2] Admittedly, it would be analytically preferable to be able to derive, rather than stipulate from the lexical inventory, that when given a choice languages prefer to mark agents rather than patients as PPs. Cross-linguistically, this seems to be an almost universal property. Perhaps general conceptual reasons, having to do with the prominence of agents in events, are behind this tendency, but we are in no position to reject the possibility that grammatical factor not identified in this analysis give a more grounded explanation. Another option is that passive Voice universally selects for a PP as its specifier, something that would enforce that the agent has to be materialized as that category, and then by the DC, the patient as KP.

(33)   la destrucción de la ciudad por los soldados
       the destruction of the city   by   the soldiers
       'The violent destruction of the city'

This ordering can be obtained if at a first stage the arguments move to a position between the NP and the domain where determiners and number are merged, with KP landing in a position higher than PP.

(34)

```
                        FP
                   ┌────┴─────┐
                 KP_i          F
                          ┌────┴────┐
                          F         FP
                               ┌────┴────┐
                             PP_j         F
                                     ┌────┴──────┐
                                     F          …NP
                                              ┌──┴──┐
                                             t_j    t_i
```

At a second stage, in an instance of remnant movement, the NP lands in a position higher than the position of KP. This gives us the linear order in Spanish (35).[3]

(35)

```
                     FP
                ┌────┴─────┐
             NP_k           F
            ┌──┴──┐    ┌────┴────┐
           /      \    F        …F'P
          /_____\        ┌────┴────┐
                          KP_i        F'P
                               ┌───────┴────┐
                              F'          F''P
                                     ┌──────┴──────┐
                                   PP_j            F''
                                              ┌─────┴─────┐
                                             F''         …t_k
```

At this point, we have shown that case marking inside a deverbal nominalization can be predicted –once we assume that for other reasons agents are introduced as PPs– by the Distinctness Condition, making standard assumptions about how the case

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of DPs is licensed and about the passive-like nature of deverbal nominalizations. This suggests that the DC is a likely candidate to succesfully motivate the pattern of data inside DPs. However, there are some cases where the DC seems to be falsified by data coming also from the internal syntax of DPs. This is the topic of the next section.

3. Multiple KPs inside the same DP: the case of Spanish

In Spanish, it is not impossible to have two phrases marked by *de* 'of' inside the same DP. This is allowed by DPs containing all kinds of nouns, including non derived object denoting nouns (36a) and deverbal complex event nouns (36b).

(36)   a. el coche [$_{KP}$ de Marta] [$_{KP}$ de los últimos años]
             the car   of Marta   of the last   years
        b. la invasión [$_{KP}$ de Polonia] [$_{KP}$ de 1939]
             the invasion   of Poland   of 1939

This pattern, prima facie, seems to contradict the DC: when the first phase domain is transferred –presumably triggered by the definite D–, two KPs will be in the same spell out domain, and the contradictory statement *<KP, KP> would be generated. Can these data be analysed in a way compatible with the DC?

There are restrictions over what kinds of KPs can co-occur in the sequence, and they are more clear in the case of deverbal nouns, as they allow a wider range of complements and modifiers. As we saw in the previous section, deverbal nouns do not admit two prepositional phrases with *de* if both refer to arguments of the noun. (37a) shows that *de* can be used to express the object discovered; (37b), that it can also introduced the discoverer. (37c) shows again that both cannot be introduced at the same time by *de*. Thus (37c) contrasts with (37d), where the two *de* phrases are possible.

(37)   a. el descubrimiento de la penicilina
             the discovery   of the peniciline
        b. un descubrimiento de Fleming
             a   discovery   of Fleming
        c. *el descubrimiento de la penicilina de Fleming
              the discovery   of the peniciline of Fleming
        d. el descubrimiento de la penicilina de 1928
             the discovery   of the penicillin of 1928

The kind of de modifier that can be added to a DP that already contains a KP is very restricted. It must introduce an entity that locates in space or time the entity denoted by the noun. In (36a), the modifier determines during which time period it was true that María had that car; in (36b), it determines in which year the invasion took place; in (37d), in which year penicillin was discovered. When the entity denoted by the noun can refer to distinct objects or events, this modifier helps determine the reference of the DP. If María has had severa cars in the course of her life, the modifiers helps identify which one; the same with the several invasions of Poland through history in (36b). The kind of constituents that can act as modifiers in this context are those that denote definite places and times (38a, 38b, 38c, 38d), including deictic adverbs (38e, 38f).

(38) a. la foto de María de la página tres
          the photo of Maria of the page three
       'the shoe of María that is in the corner'
     b. el autobús de Sevilla de las 16.30
          the bus   of Sevilla of the 16.30
       'the bus to Sevilla of 16.30'
     c. la sucursal del BBV de la calle Alcalá
          the office of.the BBV of the street Alcalá
     d. el pase de The Social Network de esta tarde
          the showing of The Social Network of this evening
     e. el jefe de María de ahora
          the boss of María of now
     f. el hermano de María de aquí
          the brother of María of here

In all these cases, the modifier needs to help determine the identity of the object denoted by the noun; (38f) is only acceptable if María has at least two brothers, one living here (e.g., in this country) and another one living abroad. Indefinite noun phrases are rejected in these modifiers, as they do not help determine the reference.

(39) *el novio de María de algún año
          the boyfriend of María of some year

The order between the two modifiers with of is also fixed: even in contrastive focus environments, inverting their order is marginal.

(40) ??la invasión de 1939 de Polonia, no de los Sudetes
          the invasion of 1939 of Poland, not of the Sudetes

If all DPs allow two distinct KPs, those whose NP belongs to a particular semantic class allow three. Those are the nouns that we will call 'representation nouns'. By representation nouns we mean nouns like *cuadro* 'picture', *foto* 'photo', *novela* 'novel', *biografía* 'biography', *caricatura* 'caricature' and *busto* 'bust', which denote objects where information –visual or otherwise– about individuals and events is codified. The label we are using groups them on the basis of their conceptual meaning, that is, what they have in common is an aspect of their semantics. Attending to other criteria, like their morphological shape, the nouns do not form a natural class. The cases just presented are non-derived nouns; in (41) we present some representation nouns that are arguably derived from verbs.

(41) a. escultura 'sculpture', from esculpir 'to sculpt'
       b. traducción 'translation', from traducir 'to translate'
       c. representación 'representation', from representar 'to represent'

The morphological shape of the nouns varies, but, crucially, all nouns used to represent information, deverbal or not, allow three KPs: in (42a), the KP denotes the author of the representation (henceforth, 'author'); in (42b), the entity represented (henceforth, 'representee'). These two can co-occur (42c), and a third KP can be added to them (42d). (43) gives another example.

(42)   a. un retrato de Picasso
          a portrait of Picasso
       b. un retrato de Dora Maar
          a portrait of Dora Maar
       c. el retrato de Dora Maar de Picasso
          the portrait of Dora Maar of Picasso
       d. el retrato de Dora Maar de Picasso de este museo
          the portrait of Dora Maar of Picasso of this museum
(43)   a. la biografía de Paul Preston (author)
          the biography of Paul Preston
       b. la biografía de Franco (representee)
          the biography of Franco
       c. la biografía de Franco de Paul Preston
          the biography of Franco of Paul Preston
       d. la biografía de Franco de Paul Preston de 1994
          the biography of Franco of Paul Preston of 1994

The more extenal KP can be shown to be one of those modifiers that are used to locate and can help identify the reference of the DP. It cannot contain an indefinite DP (44a) and its order is very strict (44b).

(44)   a. *el retrato de DM de P de un museo
          the portrait of DM of P of a museum
       b. ??/*el retrato {de este museo} de DM {de este museo} de P
          the portrait of this museum of DM of this museum of P

In part of the literature (cf. Escandell-Vidal 1995) this locator is sometimes described as a possessor, on the basis of sequences like (45).

(45)   el retrato de DM de P de Rockefeller
       the portrait of DM of P of Rockefeller

It is not necessary to interpret Rockefeller here as the Rockefeller Center; it can be a person that owns the painting. However, note that it must still be definite, as all proper names are:

(46)   *el retrato de DM de P de alguien
       the portrait of DM of P of someone

What seems to be happening here is rather that 'possessors' can be reinterpreted as locations and viceversa, a well-known situation cross-linguistically. The possessor can be interpreted metaphorically as a location occupied by an object, and it can be used to identify the reference of the object. Imagine, for instance, that Picasso had painted four identical portraits of Dora Maar and we want to refer to the token owned by Rockefeller.

3.1. Other special properties of representation nouns

From what we have seen in the data just considered, there are two prima facie conterexamples to an account of argument marking inside nominalizations based on the DC: (a) every DP can have two KPs; (b) DPs containing representation nouns can have three KPs. With respect to the first problem, we already have some information about under which conditions this can happen: the second KP must be a definite locator that heps identify the reference of the DP. With respect to the second problem, we still need to find other properties that make representation nouns special and help establish an analysis.

Representation nouns introduce authors and representees, which we might be tempted to consider semi-arguments of these nouns –to the extent that, semantically, every symbolic representation of an entity must have an entity represented and an author of that representation–. However, it is clear that these arguments are not like those introduced in deverbal complex event nouns, if only because they are not obligatory. To begin with, as we have seen, many of these nouns do not contain verbal exponents in their morphological make up. This makes any analysis where these nouns are always derived from verbs doubtful. Secondly, the author cannot be introduced by the preposition *por* 'by', which we have analysed in §2 as a preposition that must be licensed in a verbal context.

(47)   *la biografía de Thatcher por Beckett
          the biography of Thatcher by Beckett

Finally, representation nouns still denote objects, not eventualities. As it has been pointed out (Grimshaw 1990), the thematic interpretation of modifiers with complex event nouns is blocked by some factors. One of them is that if the noun combines with KPs or PPs expressing arguments, it cannot denote a physical object, as in the example (48). This interpretation, called the 'object noun' or 'result noun' interpretation, is not compatible with a thematic reading of the prepositional phrases (49).

(48)   una pesada construcción de piedra
         a   heavy construction of stone
         'a heavy stone building'
(49)   una pesada construcción de piedra (*por los Etruscos)
         a   heavy   construction of stone   by the Etruscans

To the extent that the plural form of nouns might force an object reading, the argument interpretation of PPs in complex event nouns can also be blocked by plural number. Some deverbal nouns, indeed, cannot get an event reading in the plural, specially if their meanings as events are those of activities. One such example would be the noun *aprendizaje* 'process of learning':

(50)   a. el aprendizaje del alemán por parte de Borges
             the learning   of-the German by   Borges
         b. *los aprendizajes de varias lenguas por parte de Borges
             the learnings   of several languages by   Borges

Representation nouns behave differently from complex event nouns when pluralized In this respect, representation nouns differ from non-representation deverbal nouns. As noticed in Real Academia Española (2009: §12.11p), representation nouns can have modifiers interpreted as representees (and also authors) even if they denote objects and are presented in the plural form. We illustrate this with the representation noun *descripción* 'description' (51a, 52a), which happens to be also deverbal but in this context does not denote an event, and with the noun *busto* 'bust' (51b, 52b), which is non derived.

(51)   a. Poirot llevaba en su bolsillo la descripción [del asesinato] [de
           Poirot carried in his pocket the description of.the murder   of
       Hastings].
       Hastings
       b. El busto [de Marie Antoinette] [de Boizot] pesa muchos kilos.
           the bust   of Marie Antoinette   of Boizot weighs many kilos
(52)   a. Poirot llevaba en su bolsillo las descripciones [del asesinato] [de
           Poirot carried in his pocket the descriptions   of.the murder of
       Hastings y   del   doctor Sheppard].
       Hastings and of.the doctor Sheppard
       b. los bustos [de Marie Antoinette   y   de José II] [de Boizot]
           the busts   of Marie Antoinette and of Joseph II   of Boizot
       pesan muchos kilos.
       weigh many kilos

Consider now a second crucial property of representatioon nouns. In Spanish, depictive modifiers internal to the DP are very restricted. A KP modifier depending on a non derived noun generally cannot take a depictive modifier. In (53), the adjective must be interpreted as internal to the noun phrase introduced by the preposition. This can be shown by possessive pronominalization: when the KP is substituted by a possessive pronoun, the adjective must be part of the substituted constituent (53b).

(53)   a. la manzana d[el estudiante enfermo]
           the apple of-the student   sick
       b. su manzana (*enfermo)
           his apple   sick

In contrast, when the non derived noun belongs to the class of representation nouns, it is possible to have depictive modifiers. It can be shown that in (54a) the adjective does not belong to the constituent formed by the noun below the KP because the possessive is compatible with the adjective.[4]

---

[4] As it is the case with depictive modifiers in general, they can be adjectives, as in the example just presented, or prepositional phrases. The last category is frequently used with representation nouns expressing paintings, portraits and sculptures.

(i)   a. el retrato   d[el Conde] [a caballo]
              the portrait of the Count on horseback
           b. la estatua de [Cervantes] [en una silla]
              the statue of Cervantes   on a chair

(54)   a. la foto   d[el estudiante] [enfermo]
           the picture of the student   sick
        b. su foto (enfermo)
           his picture sick

The availability of depictive modifiers is a property that representation nouns share with the event reading of deverbal nouns, representational or not. As we show in (55), the pattern of data with these nouns is equal to (54) and not to (53).

(55)   a. el asesinato [de Marat] [desnudo]
           the murder of   Marat naked
        b. su asesinato desnudo
           his murder   naked

This last property suggests that there must be some connection between deverbal nouns and representation nouns, as they both can license depictive modifiers. However, this connection must be performed in such a way that we do not introduce the same internal structure for both classes of nouns, as then we would predict – counterfactually– that they would introduce their arguments in the same way. In the analysis that we will develop in §4, we will argue that, given the lack of a full fledged proper verbal structure, depictive modifiers in representation nouns are introduced by a Predication Phrase (PrP, Bowers 2000), with consequences that will be crucial for the DC.

3.2. A note on predicative de-phrases

Before we proceed to the analysis, there is a final piece of data that we have to adddress. Nouns also allow an additional *de*-phrase with predicative meaning, that can co-occur with the KPs that we have described in the previous paragraphs. The relevant constituents are underlined in (56).

(56)   a. la estatua de metal de Felipe II de Chillida de la Plaza Mayor
           the statue of metal of Felipe II of Chillida of the Plaza Mayor
        b. la casa de veraneo de Luis de los últimos diez años
           the house of vacation of Luis of the last ten years
        'Luis' holiday house of the last ten years'

These of-phrases have special syntactic properties that suggest that they are not labeled as KPs and, as such, they have to be outside our analysis. They express characteristics that classify the noun in the same manner as adjectives, and they can always be used predicatively, something which is not always the case with the other *de*-phrases with which they can co-occur.

(57)   a. La estatua es de metal.
           The statue is of metal
        b. La casa es de veraneo.
           The house is of vacation
        c. *La casa es de los últimos diez años.
           The house is of the last ten years

d. ??La invasión es de Berlín.
   The invasion is of Berlin

In many cases, indeed, they can alternate with restrictive adjectives. (58a) is equivalent to (56a) and (58b), to (56b).

(58)   a. la   estatua metálica
           the statue   metallic 'the metal statue'
        b. la   casa veraniega
           the house summery 'the summer house'

These properties suggest that the label of these of-phrases is not KP, but whatever label we assign to predicative adjectives. If their label is not KP, but something else, irrespective of the position they occupy in the tree, they will not trigger a distinctness effect with a KP.

For explicitness, we can assume Kayne's (1994) analysis of restrictive adjectives and restricted prepositional modifiers as being reduced relative clauses that are introduced as CP into the derivation (see also Cinque 2010). Even if this CP contains a KP, expressed by the *de*-phrase, the label of the constituent is CP which presumably acts as a Phase defining head, transferring its domain. Thus it will not trigger a distinctness effect.

As we expect, if we try to put two *de*-phrases of this kind, the sequence becomes ungrammatical, because then we have a distinctness violation (two CPs inside the same spell out domain).

(59)   *la casa de madera de veraneo de Juan
          the house of wood of vacation of Juan

Now that we have motivated that this kind of of-phrase do not cause a distinctness violation because it is labeled as something else than KP, we continue with our analysis of the absence of distinctness effects inside DPs.[5]

4. Phases inside the DP and Distinctness

At this point, we hope to have given a sufficiently detailed description of the empirical facts that pose a problem for the DC involving multiple KPs. In our analysis, we will argue that all DPs contain an internal phase, defined by a low nominal projection (presumably nP), and that in some languages the nouns that we have called representation nouns introduce a predicative structure (PrP) that defines an additional phase. (60) represents the schema of our analysis: two identically labelled constituents are possible if there is between them a phase-defining head which ensures that they will be processed in two distinct spell out domains.

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[5] The question remains of why series of adjectives inside the same DP are possible in natural languages. See the conclusions section for a provisional suggestion about how to solve these cases.

(60)
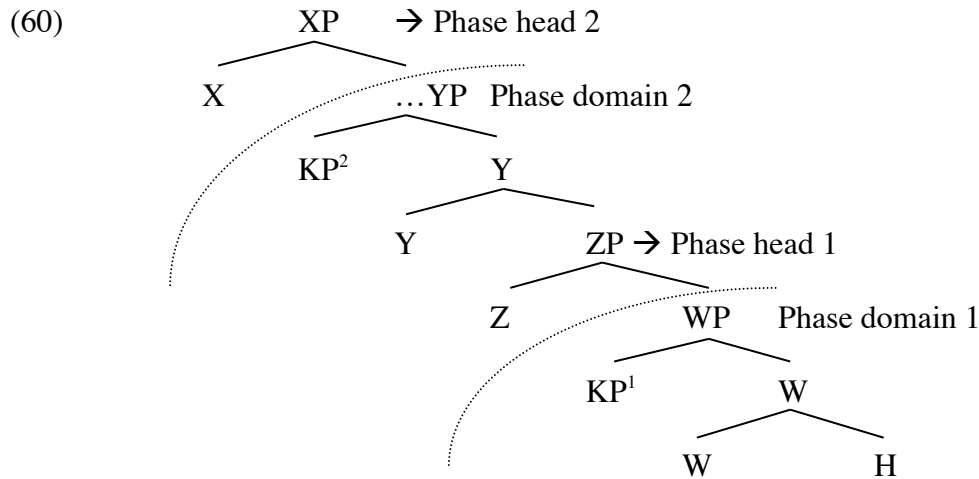
4.1. Locators and low possessors: nP defines a phase

The first piece of data that we have to address is the fact that any KP –denoting a possessor or not– is compatible with a KP expressing a locator, like *of 1978* in *the war of 1978*. One immediate thing to solve is where in the structure the locators are introduced. We have seen several properties of these modifiers that suggest they should be introduced in the determiner domain, where the reference of the DP is defined. To begin with, they are crucial in defining the reference of the DP. Secondly, there seem to be constraints on the information carried by the determiner internal to the locator –it must be definite–. This can be explained if this kind of modifier is introduced at the level where the definiteness is already being defined, and not at the NP level, where the denotation of the noun is defined. Thirdly, the presence of the locator can also influence the type of determiner used to head the DP:

(61)   a. {el / un} coche de Marta
            the / a   car   of Marta
        b. {el /*un} coche de Marta de los últimos años
            the   a   car   of Marta of the last   years

Even if the relationship established between Marta and her car does not need to be unique, and therefore we can assume that we make reference to only a car of the several that Marta might own, we cannot use the indefinite article when a locator with an overt definite determiner is present. Even if we know that in the last years Marta has owned a number of cars simultaneously, in (61b) the indefinite pronoun is out. If we want to convey the message that we talk about only one of the cars owned by Marta in the last years, we must use (62), where the determiner preceding *coches* 'cars' is definite.[6]

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[6] An apparent counterexample are cases like (i), where the DP is indefinite but seems to have a locator:

        (i)   una película de 1982
                   a   movie   of 1982

The indefiniteness is only possible when the modifier does not overtly carry a definite determiner itself (e.g., years and some proper names), and when there is maximally only another KP in the structure:

        (ii)   una película (*de un extraterrestre) de Spielberg de 1982
                   a   movie   of an alien   of Spielberg of 1982

(62)   uno de los coches de Marta de los últimos años
        one of the cars   of Marta of the last   years

This suggests that whatever position the locator occupies needs to be local to the position where the D is introduced, or else this kind of interaction would be unexpected. Note that this effect is reminiscent of what has been called '(in)definiteness spread' (Jackendoff 1977, Barker 1995, Alexiadou 2005), with the caveat that in Spanish it generally does not apply of low possessives; the effect is much stronger when involving locators.

Finally, there is a correlation between the role of the locator KPs and a particular kind of determiners, demonstrative determiners. These KPs locate an individual in the time and space axis; demonstratives perform the same task, only that through deixis or anaphora, as they do not contain lexical morphemes that can specify the location beyond the landmarks defined by the speech act or previously introduced times and places. It is well-known, indeed, that demonstratives across languages codify proximal and distal notions which apply both to time and space. If we take Spanish, we have a series of three demonstratives. The first series (63) is used for proximal values, and express a location proximal to the location of the speaker or proximal to the moment of speech.

(63)   a. esta mesa
           this table 'the table closer to me'
        b. este día
           this day 'today'

The second series of demonstratives locates entities in a more distant position, sometimes characterisable as being close to the location of the addressee; in the time axis, they locate the entity away from the moment of speech. The third series of demonstratives is maximally distal, referring to a time or place far from both speaker and addressee (65).
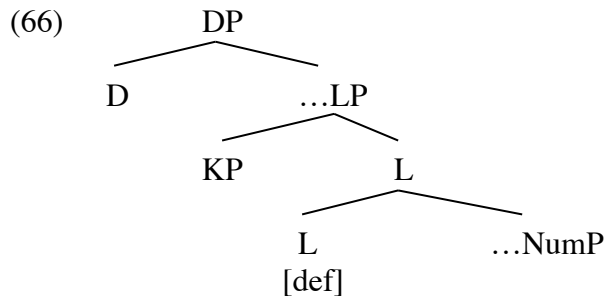
(64)   a. esa mesa
           that table 'the table closer to you'
        b. ese día
           that day 'a day which is not today'
(65)   a. aquella mesa
           that.dist table 'the table far away from you and me'
        b. aquel   día
           that.dist day 'a day far away from today'

Moreover, the position occupied by this modifier is not rigidly fixed:

        (iii)   una película de 1982 de un extraterrestre
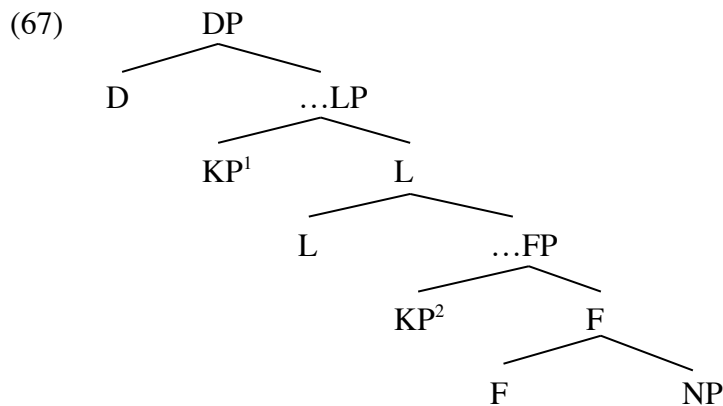   a   movie of 1982 of an alien

These empirical differences suggest that the modifier in (i) is not grammatically a locator, and does not occupy the same position as the other elements discussed. We leave for further research the analysis of this kind of modifiers.

Given these properties and relations, we propose that the locator is introduced in a high structural position inside the domain defined by determiners. For explicitness, we label this position L(ocation)P. Following the proposals that identify different determiner positions (Zamparelli 2001, Larson 2004), we propose that this projection is dominated by DP and dominates the designated areas for number, adjectives and the noun.

(66)
```
            DP
          /    \
        D       …LP
              /    \
           KP        L
                   /    \
                  L      …NumP
                [def]
```

The generalization that the determiner has to be definite if the locator is present can be captured if L carries a feature [def] into the derivation. This feature will have to be compatible with the information contained in D. Presumably, the head L would also impose on its specifier the same restriction, accounting for the fact that both the locator and the DP where it appears must be definite.[7]

Remember now the position occupied by the argument-like KP in our analysis of argument marking inside deverbal nominalisations. We proposed that it lands in an area that hosts arguments of the noun, above the base position of NP. Combining both parts of the tree, and ignoring irrelevant projections, we obtain (67).

(67)
```
            DP
          /    \
        D       …LP
              /    \
          KP¹        L
                   /    \
                  L      …FP
                       /    \
                    KP²        F
                             /    \
                            F      NP
```

The locator is hierarchically higher than the semi-argumental KP. This is a welcome result for the semantics of the construction: when the locator has a temporal meaning, it restricts the time frame in which the relation between the NP and its arguments takes place. In (68), we state that the relationship between María and her boyfriend is restricted to the last week. This can be directly captured if the locator combines with a constituent where that relation has already been defined.

---

[7] Further research is necessary to determine if the different sensitivity to (in)definiteness spread across languages is due to different ways to introducing the different KPs (as Alexiadou 2005 would suggest) or actually is related to the kind of positions where these KPs are merged.

(68)   el novio   de María de la última semana
        the boyfriend of María of the last   week

Consider the structure in (67) from the perspective of the DC. Given the DC, the configuration in (67) should be ungrammatical if, and only if, no head dominating KP^2 and not dominating KP^1 defines a phase. Only in that case the two KPs would be inside the same spell out domain.

Is there any head that potentially can define a phase below DP and above NP? A plausible candidate would be nP, for several reasons. The first one is that at the Conceptual-Intentional interface it expresses and entity that has some semantic autonomy. In Baker (2003), it is argued that the head n introduces a crucial semantic component of a noun, its index of identity. This semantic component identifies an entity within a bigger domain and allows to compute whether it is the same or different from other entities. The index of identity is assigned to a set of properties which defines a class, and as such it is expected that different classes will give different identity truth conditions inside the same pair world-time. The following example, adapted from Baker (2003), illustrates this. In the same situation both (68a) and (68b) can be true. In the first case, the identity is judged on the basis of individual people, so if the same person takes two flights on the same day, it only counts as one person. In the second case, the identity is judged on the basis of passengers, so when one person takes two flights on the same day, she counts as two passengers, one per flight.

(68)   a. SAS is used by 20.000 people every day.
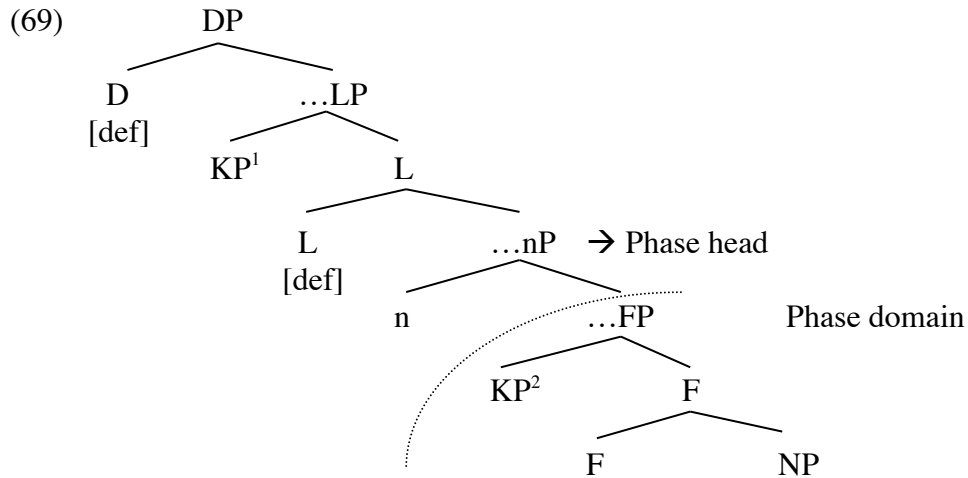   b. SAS is used by 30.000 passengers every day.

The nP allows judgements to be made about sameness and distinctiveness. This seems like the kind of he conceptual system can manage this kind of object as a separate unit, because it is defined by a biunivocal and universal properties of nouns. The likelihood that nPs are phases comes also from the intuition that individuals (defined by nP) are pervasive conceptual categories.

Another reason to propose that n can define a phase has to do with the symmetry between the verbal and the nominal systems (see also Svenonius 2004). In the clausal domain two phases are generally recognized: one that closes the domain where argumental relationships has been defined (vP) and one that closes the domain where a whole proposition has been defined, including its connection to discourse –through focus, topic, etc.– and the speaker's and adressee's involvement (CP). Similarly, the nP would close the domain where the arguments of a noun are defined, and the DP would connect that denotation to discourse by giving it a referentiality value and allowing to make presuppositions about the speaker's expectations about the identity of that individual.
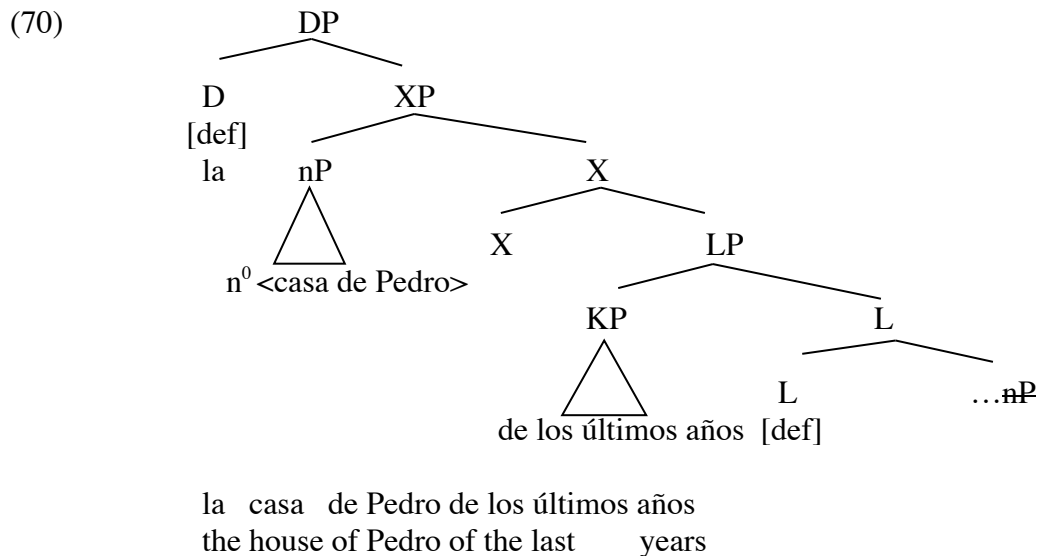
The idea that nPs define phases has also been supported in Cornilescu and Nicolae (2011), who give arguments in favour of n's phasehood based on double determiner constructions, the behaviour of elements on the n-periphery and ordering of constituents.

If nP is the parallel of vP in the DP domain, then it would define a phase and would transfer the lower KP before the locator KP has been introduced into the structure. (69) presents the derivation. Above NP, an FP is projected that hosts a first KP, as an argument or semi-argument of the noun. Over that area, the nP is projected;

it sends its domain to the interfaces, removing FP and the KP it contains. The derivation continues, LP is projected, hosting the locator.

(69)

```
                    DP
                  /    \
                 D      …LP
               [def]   /    \
                     KP¹      L
                            /    \
                           L      …nP  → Phase head
                         [def]   /   \
                                n    …FP        Phase domain
                                    /    \
                                  KP²     F
                                         /  \
                                        F    NP
```

Linear order is obtained by moving nP to a position between DP and LP. Remember that, below nP, the NP had already undergone remnant movement and ocuppies a position above the lower KP. The sequence NP-KP is already spelled out when nP is projected; we represent the spelled out sequence between brackets (<…>) to indicate that at this point it is a frozen sequence without syntactically active labels.

(70)

```
                    DP
                  /    \
                 D      XP
               [def]   /   \
                la   nP     X
                     /\    /   \
                    /  \  X     LP
              n⁰ <casa de Pedro>  /  \
                               KP     L
                               /\    /  \
                              /  \  L    …nP
                    de los últimos años [def]
```

la casa de Pedro de los últimos años
the house of Pedro of the last   years

4.2. PrP defines an extra spell out domain in representation nouns

Let us address now the fact that representation nouns in a language like Spanish can host an additional KP. As we have seen, this is not the only special property of this class of nouns in Spanish: among underived nouns, they are also the only that can introduce a depictive modifier. One immediate question is whether both properties are related.

There is a cross-linguistic correlation between the possibility of licensing an extra KP inside representation nouns and the availability of depictive modifiers in the same kind of nouns. We have seen that Spanish tests positively for both properties. Russian, on the other hand, tests negatively in the two situations. A representation noun, just

like complex event nouns in Russian (71), does not allow for two genitives (72a). The constituent interpreted as the author is expressed in instrumental –not genitive– case (72b). As instrumental case in Russian does not have an underspecified semantics, we can take this as a reflect that the author is a projection of PP, not of KP.

(71)   razrushenije   [gorod-a]   [armij-ej   vrag-a]
        destruction   city-gen   army-ins   enemy-gen
        'the destruction of the city by the enemy's army'
(72)   a. *skulptura   [korol´-a]   [Frejd-a]
            sculpture   king-gen   Freud-gen
        *'the sculpture of the king of Freud'
        b. skulptura   [korol´-a]   [Frejd-om]
            sculpture   king-gen   Freud-ins
        'the sculpture of the king by Freud'

In this language, representation nouns do not allow for depictive modifiers either.

(73)   a. *skulptura   [korol´-a]   [gol-ym]
            sculpture   king-gen   naked-ins
        'the sculpture of the king naked'
        b. *jego   [skulptura]   [gol-ym]
            his   sculpture   naked-ins
        'his sculpture naked'

There seems to be a correlation between the two properties, something which makes it likely that they share a common cause.[8] Most of the languages tested by us pattern like Spanish. English is another example. This language can use prepositions other than *of* to introduce the author of a representation in an underived noun, but it is still possible to put two *of*-phrases, one for the representee and one for the author. The sequence is not considered perfect by native speakers, but this might be due to the fact that it is less informative than using the preposition *by*.

(74)   a. She's secreted a photo of her of John Rowland in it (google)
        b. a picture of her of her own hand

English also allows depictive modifiers with this class of nouns.

(75)   a. her photos naked
        b. his portrait on horseback

Colloquial Romanian patterns with Spanish: two genitives are allowed by these nouns and depictives are possible.

(76)   a. sculptur-a rege-lui lui Rodin
            sculpture-the king-the.gen the.gen Rodin
        'the sculpture of the king by Rodin'

---

[8] Indeed, according to some native speakers of the variety of Russian spoken in Latvia, representation nouns can have two genitives. As expected if there is a correlation, these speakers also accept the depictive modifier.

a. fotografii-le ei goală
   photos-the   her naked
'her photos naked'

Japanese also patterns with Spanish and English.

(77)   a. Rodin-no   oosama-no   chookoku
          Rodin-gen   king-gen   sculpture
       'the sculpture of the king by Rodin'
       b. Hanako-no hadaka-no shashin
          Hanako-gen naked-gen picture
       'a picture of Hanako naked'

One possibility that comes to mind to explain the correlation is that whatever structure licenses a depictive modifier inside representation nouns also defines a phase head between the author KP and the representee KP. In the following pages we will explore this possibility.

One first factor to determine is the position of this possible projection. Note in (78) that depictive must modify the representee, and cannot modify the author. Thus, in (78) it must be that Carlos IV is naked in the picture, not that Goya was naked while painting it.

(78)   el retrato de Carlos IV desnudo de Goya
       the portrait of Carlos IV naked of Goya

This argues in favour of introducing the depictive where the representee is also introduced. Independent evidence allows us to place the author KP with respect to the representee KP. Consider first (74b): the representee contains the modifier *own*, which acts as an anaphoric element that has to be c-commanded by an antecedent. In this case, the antecedent is the author, *her*. This suggests that the author occupies a higher structural position than the representee.

Another piece of data confirms this. Consider the following pattern of data (well-known in the literature, cf. Escandell-Vidal 1995, Picallo and Rigau 1999: 985). In Spanish, authors and representees can remain unexpressed and be bound by prenominal possessive pronouns.[9] We see that the possessor can bind the author if the representee is present (79b), but, if the author is present, the possessor cannot bind the representee (79c).

---

[9] An alternative analysis of the relation between the possessive and these two KPs is that the possessive is a pronominal that occupies the base position of the representee or the author, but has to rise to the DP domain. This analysis is falsified by the possibility that the possessive and a correferential KP co-occur in the same DP; this doubling has a contrastive meaning ('of hers, not of his'):

   (i)   su   hermana de ella
            her sister   of hers

The fact that both constituents can appear at the same time indicates that they do not compete for the same position, and that rather we have a case of a pronoun that can bind a phonologically non-overt category in some positions. Note, however, that even if the possessive was a pronominal form of the KP which has to undergo movement to DP, the same intervention effect that we have described would equally diagnose the hierarchy of elements inside the DP.
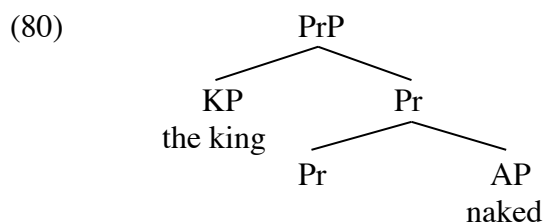
(79) a. el retrato de Carlos IV de Goya
         the portrait of Carlos IV of Goya
      b. su$_{author}$ retrato [de Carlos IV]$_{representee}$
         his   portrait of Carlos IV
      c. *su$_{representee}$ retrato [de Goya]$_{author}$
         his   portrait of Goya

This contrast can be treated as an intervention effect, if the author is higher than the representee and the prenominal possessive associates to the closest KP position.
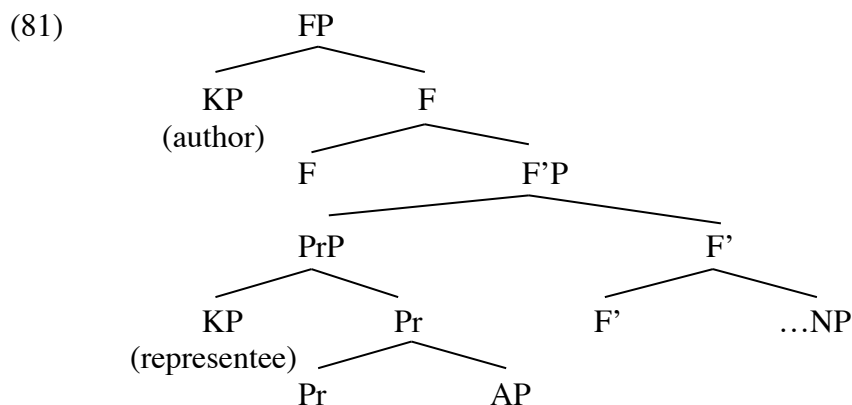
Now we have determined that the author is hierarchically higher than the representee and that the depictive modifier is associated to the second KP. Let us propose a structure that accounts for these possibilities.

Our first ingredient is that some languages, like Spanish or English, grammaticalise the relational semantics of representation nouns –that must be representations of some entity in a particular situation– by introducing as one of its arguments a structure that expresses this semantic notion. Russian does not grammaticalise this semantic property, which remains as part of the conceptual semantics of the root. For this reason, in Russian the structure of a representation noun does not have any special properties with respect to other classes of nouns.

What is the nature of the structure that a representation noun takes as an argument? The fact that it licenses depictive modifiers suggests that it is predicational in nature. We follow Bowers (2000) proposal and label such head Pr; it is a relational head that takes a predicate as its complement and establishes a predication with the subject, expressed by its specifier. Semantically, Pr acts as the lambda operator, taking an unsaturated predicate and combining it with the constant that satisfies its empty position (80).

(80)
```
                    PrP
                  /     \
               KP        Pr
            the king    /   \
                      Pr      AP
                           naked
```

Consider now what happens when we introduce (80) as a specifier in the area where we have proposed that (semi-)arguments of nouns are introduced.

(81)
```
                      FP
                   /      \
                KP          F
             (author)     /   \
                         F      F'P
                              /      \
                          PrP          F'
                        /    \        /    \
                     KP       Pr    F'      …NP
               (representee)  /  \
                            Pr    AP
```

Crucially, in this configuration, the representee KP is embedded in a complex specifier. At this point we have to ask ourselves whether the internal labels of complex specifiers are computed in the same spell out domain as the spine of the tree. Uriagereka (1999), as part of his Multiple Spell Out proposal, has argued that the only label of a complex specifier that is syntactically active for the rest of the derivation is the one that dominates the whole constituent, PrP in our case. This would account for the well-known restriction on having subextraction from inside specifiers: the labels contained inside the specifier are not syntactically active anymore. On the other hand, it is possible to apply movement to the label of the specifier, showing that this label is still active. We assume Uriagereka's explanation of this pattern. Complex specifiers constitute distinct command units with respect to the spine of the tree –the sequence formed by combining heads and complements– where they are merged. A complex specifier cannot be built by applying recursive merge to the spine of the tree while preserving the Extension Condition (Chomsky 1995) or the No Tampering Condition (Chomsky 2005), that is, the principle that every merge operation extends the tree, but does not modify the properties of the objects that undergo merge. By sequential merge, we would never arrive to the structure in (82).

(82) {F', {{Pr,{K, {Pr ,{Pr, {A}}}}}}, {F', {N}}}

Uriagereka's proposal is that (82) is obtained by building in parallel two command units by sequential application of merge and preserving Extension / No Tampering: those in (83a) and (83b), the first corresponding to the spine of the tree and the second, to the complex specifier.

(83) a. {F', {F', {N}}}
     b. {Pr, {K, {Pr ,{Pr, {A}}}}}

These two command units eventually combine, but in order to do so, it is a prerequisite that (83b) is spelled out. Only its maximal label, Pr, will be taken into account in merge, for instance to satisfy the selectional restrictions imposed by F' into its specifier. The internal structure is spelled out and the labels have disappeared from the syntactic computation. For this reason, (82) would be equivalent to (84), where we use again <…> to enclose a sequence that has been spelled out and is not considered in the next spell out domain.

(84) {F', {Pr,<K, Pr, A>}, {F', {N}}}

Crucially for our purposes, the label K is inside the sequence that has been already spelled out, so it will not be in the same spell out domain as the author KP.

Our analysis is based on the correlation with the availability of a depictive modifier. Thus, we make one prediction that can be tested in languages that we have not considered: double KP between the representee and the author will be possible only when a depictive modifier is introduced, as this is done through a PrP that introduces the representee KP inside a different spell out domain, avoiding thus an infraction of the DC.

Consider, as a summary of the analysis, what is the maximal number of *de*-phrases that a Spanish DP can allow. The maximum would be three KPs, and this only with representation nouns: the author and the representee do not cause a DC violation

because the latter is spelled out inside a complex specifier; the locator does not produce a DC violation with either because it is merged in the D domain, above the nP that defines an extra phase.

(85)   el retrato de Elisabeth II de Bacon de la National Gallery
        the portrait of Elisabeth II of Bacon of the National Gallery

To these three KPs, a fourth *de*-phrase can be added as a depictive modifier; as discussed previously, this *de*-phrase is a restrictive predicate which is presumably introduced as CP.

(86)   el retrato de Elisabeth II de espaldas de Bacon de la NG
        the portrait of Elisabeth II of backs of Bacon of the NG
        'the portrait of Elisabeth II with her back turned of Bacon of the NG'

5. Conclusions and further lines of research

In this paper, we have explored an analysis of argument marking inside nominalizations based on the Distinctness Condition. We have seen that there are two kinds of prima facie counterexamples to this kind of account, but upon closer inspection we have argued that (a) there are reasons to believe that nP defines a phase internal to the DP, so no DC infraction takes place provided that the two identically labelled constituents are separated by that phase head and (b) in some languages representation nouns are grammaticalised as taking a PrP, and one KP is embedded under the specifier defined by PrP, so it belongs to a different spell out domain.

Our account certainly leaves some unresolved issues. The most important of them is the role of adjectives and how they are integrated in a Distinctness-based account of the DP. One might ask why sequences of (seemingly identically labeled) adjectives do not trigger distinctness violations.

(87)   la escasa   producción novelística medieval
        the scarce   production novelistic   medieval

To the best of our knowledge, there are no independent reasons to think that any two co-occurring adjectives carry different labels, so a different explanation for the lack of DC violations in sequences like (86) needs to be found. One interesting possibility would be to explore the idea that whenever an element triggers phi-feature agreement, a phase is defined at the point where the operation is performed (Kornfilt 2003, Chomsky 2007). If this was the case, wherever an adjective is introduced, it brings a phase domain with it, so the next adjective-checking operation would transfer the first adjective to the interfaces, avoiding a distinctness violation. This suggestion implies that adjectives syntactically agree in any language where they can co-occur – that is, for instance in English–, even if agreement is not morphologically marked. Another option would be to give up the view that adjectives are specifiers of designated functional heads in the NP periphery (Laenzlinger 2005) and treat at least some of them as adjunct-like constituents introduced in their own independent spell out domain.

In general, adjectives –their position and their interaction with KPs– has not been considered in this paper. Notice, for instance, that the phase head n will presumably

be dominating the adjective area in our proposal, at least in a language like Spanish where restrictive adjectives are linearized after the N. This would imply, at the very least, that the hierarchy identified in Cinque (2005), where A is ordered above N, identified the lexical nominal head N, but not the more abstract n. It would also imply that restrictive adjectives are integrated inside the argument-like structure of nouns, as nP closes that area in our proposal. Of course, the proposal that nP dominates (at least some) adjectives has clear consequences for the consideration that adjectives have in syntactic theory, and we have left them completely unexplored in this article. The details about the integration of adjectives in this proposal would be left for further research, but we at least hope to have provided a coherent picture of a fragment of the syntax of DPs.

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