# (Im)possible deletions in the Spanish DP[1]

Andrés Leandro Saab
a.l.saab@hum.leidenuniv.nl
*University of Comahue -Leiden University*

*Abstract:* This paper centers on the problem of identity in Spanish nominal ellipsis. It is argued that a purely formal identity condition on nominal ellipsis, as proposed in Depiante & Masullo (2001), is not a sufficient condition and a structural condition is added to the theory. Concretely, it is argued that nominal ellipsis only affects the *n*P layer (see also Ticio 2003 and Saab 2004a-b) excluding NumP as a possible target for non-pronunciation. This hypothesis not only accounts for the well-known fact that number, but not gender, can obviate the identity condition on ellipsis, but can also explains why some nouns in the left periphery of the DP cannot be elided even when an identical antecedent is available in the linguistic context. It is also shown that data from ellipsis reveal a non-uniform behavior of some morphosyntactic properties of Spanish nouns, in particular, with respect to gender resolution. It is proposed then that gender is a property on *n* that is resolved post-syntactically through certain information available on *n* itself or on Roots (such as the presence of a sex feature). This goes against a long lexicalist tradition in Spanish grammar including Depiante & Masullo (2001) and is in consonance with recent findings in Nunes & Zocca (2009) and Bobaljik & Zocca (2010). Finally, ellipsis data provide an interesting argument in favor of a late insertion approach for Roots and lead me to formulate an identity condition that dissociates functional morphemes and Roots.

*Keywords:* Nominal Ellipsis, Distributed Morphology, Gender Resolution, Identity, Number, Epithets

*Resumen:* Este trabajo se centra en el problema de la identidad en la elipsis nominal en español. Argumentamos que la existencia de una condición de identidad puramente formal para la elipsis nominal, tal como se propone en Depiante y Masullo (2001), no es una condición suficiente y, en consecuencia,

agregamos una condición estructural a la teoría. Concretamente, proponemos que la elipsis nominal afecta solamente a la capa del S*n* (véase también Ticio 2003 y Saab 2004a-b), excluyendo al SNum como un posible objetivo para la elipsis. Esta hipótesis no solo da cuenta del hecho conocido de que el número, pero no el género, puede obviar la condición de identidad en la elipsis, sino también da cuenta de por qué algunos nombres ubicados en la periferia del SD no pueden ser elidios incluso cuando haya un antecedente idéntico disponible en el contexto lingüístico. Mostramos, además, que ciertos datos de la elipsis revelan un comportamiento no uniforme de algunas propiedades morfosintácticas de los nombres del español, en particular, las relacionadas con la resolución del género. Proponemos entonces que el género es una propiedad de *n* que se resuelve post-sintácticamente mediante cierta información disponible en *n* mismo o en la Raíz (tal como la presencia de un rasgo de sexo). Nuestro análisis apunta en contra de una larga tradición lexicalista en la gramática del español que incluye a Depiante & Masullo (2001) y está en consonancia con ciertos hallazgos recientes en Nunes & Zocca (2009) y Bobaljik & Zocca (2010). Finalmente, los datos de la elipsis proveen un interesante argumento a favor un enfoque de inserción tardía para las Raíces, lo que nos lleva a formular una condición de identidad que disocia morfemas funcionales y Raíces.

*Palabras clave:* Elipsis Nominal, Morfología Distribuida, Resolución de Género, Identidad, Número, Epítetos.

*Resumo:* O artigo centra-se no problema da identidade na elipse nominal do espanhol. É defendido que uma condição de identidade puramente formal na elipse nominal, como proposto em Depiante & Mapullo (2001), não é uma condição suficiente, sendo acrescentada à teoria uma condição estrutural. Concretamente, é defendido que a elipse nominal afecta apenas a camada *n*P (ver também Ticio 2003 e Saab 2004a-b) excluindo NumP como um possível alvo para a não pronunciação. Esta hipótese não explica apenas o facto bem conhecido de que o número, mas não o género, pode impedir a condição de identidade na elipse, mas também a razão pela qual alguns nomes na periferia esquerda do DP não podem ser elidios mesmo quando um antecedente idêntico está disponível no contexto linguístico. É também demonstrado que dados sobre a elipse revelam um comportamento não uniforme de algumas propriedades morfossintácticas dos nomes em espanhol, em particular no que diz respeito à determinação do género. É assim proposto que o género é uma propriedade em *n* que é resolvida pós-sintacticamente através de alguma informação disponível no próprio *n* ou em Raízes (como a presença de um traço de género). Isto vai contra a longa tradição lexicalista na gramática espanhola incluindo Depiante & Masullo (2001), e ao encontro de descobertas recentes em Nunes & Zocca (2009) e Bobaljik & Zocca (2010). Finalmente, dados sobre a elipse proporcionam um interessante argumento a favor de uma abordagem de inserção tardia para as Raízes e leva-me a formular uma condição de identidade que dissocia morfemas funcionais e Raízes.

*Palavras-chave:* Elipse Nominal, Morfologia Distribuida, Determinação do Género, Identidade, Número, Epitetos.

## 1. Introduction

It is a well-known fact that nominal ellipsis is one of the most salient properties of Spanish grammar. Although standard analyses assume that this construction consists of a base-generated null nominal (see Brucart 1987 and 1999, for Spanish), it has also been proposed that nominal ellipsis is PF deletion (see Raposo 1999, Depiante & Masullo 2001, 2004 and Ticio 2003, among others). In this paper, I assume a theory of ellipsis that rejects both of these options. Following Bartos (2000), (2001), Kornfeld & Saab (2002) and Saab (2009), I propose that ellipsis consists of the non-insertion of phonological matrices at the level of PF, as it is usual in the Distributed Morphology framework (see Halle & Marantz 1993 and much subsequent work). However, against what is assumed in these works, I will show that the identity condition restricting the non-insertion of phonological matrices is syntactic in nature. In other words, the only features computed for identity are those present in the narrow syntax.

Nevertheless, I will show that, though necessary, the identity condition does not account for the full paradigm that we will see in the next section. I propose then that ellipsis applies only within the lexical domain of a DP; i.e., nominal ellipsis is ellipsis of an *n*P (see also Ticio 2003 and Saab 2004a-b) in a sense I will specify below. This means that elements that are outside of this domain cannot be computed for ellipsis. As we will see, this structural condition accounts not only for why number, but not sex/gender, triggers partial identity in contexts of nominal ellipsis, but can also derive cases of *impossible deletions*, i.e., cases in which formal identity is satisfied and yet non-insertion is impossible. Thus, two apparently opposite identity effects –number partial identity and impossible deletions- are the result of the same licensing condition.

Several important issues concerning the nature of gender in Spanish are addressed as well. In the first place, I will propose that gender is not a syntactic primitive, but a morphological one. This idea is in consonance with the working hypothesis that features that are purely morphological are not visible in the syntactic component (see Embick 2000 and subsection 5.2.). This entails a particular view of the so-called *linguistic imperfections*: specifically, I assume that the distribution of abstract morphemes in the narrow syntax crucially depends on interpretability (Chomsky 1995). This does not imply the non-existence of purely syntactic features (say, EPP features), but their postulation requires strong empirical motivation.

Notice that if gender is not a syntactic primitive and the identity condition for phrasal ellipsis is a purely syntactic phenomenon, then it follows that gender is invisible for the identity condition and, consequently, gender identity effects under ellipsis should be related to other kind of features. As for

animate nouns, the obvious candidate is sex ([male] or [female]), an interpretable feature. For the case of inflectional pairs[2] like *tío/tía* 'uncle/aunt', then, the identity condition on ellipsis requires identity of sex features, gender features not being present at the point in which this condition applies.

Secondly, the fact that sex triggers strict identity effects cannot follow from the putative lexical nature of gender, as proposed in Depiante & Masullo (2001), in Kornfeld & Saab (2002) and, recently, in Eguren (2010). There are several conceptual and empirical reasons to reject the idea that nominal ellipsis could provide evidence in favor of a lexicalist approach to gender resolution. Instead, what ellipsis facts seem to indicate is: (a) that sex features are *syntactically* distributed across the *n*P domain, and (b) that gender is a non-uniform category in the sense that in some cases it is resolved on *n* for the same Root (e.g., inflectional pairs like *tío/tía* 'uncle/aunt') and, in others, it is also resolved on *n* but on the basis of the semantics of different Roots (e.g., suppletive pairs like *padre/madre* 'father/mother'). These two observations derive the complex pattern with respect to the behavior of gender under ellipsis. First, the fact that sex features are under the *n*P domain entails that they are always affected by the identity condition on ellipsis and, as a consequence, they must have an identical sex feature in the antecedent. Second, the fact that gender is resolved in non-uniform ways accounts for different degrees of grammaticality in contexts of nominal ellipsis, a fact that has been observed for ellipsis of predicative nouns in the sentential domain as well (see Nunes & Zocca 2009 and Bobaljik & Zocca 2010). In any case, under the view to be presented here there is no lexical rule for gender resolution in Spanish. The only difference between inflectional and suppletive pairs is that in the former the Root remains the same both in the feminine and in the masculine, whereas in the latter we have different Roots for each member of the pair. This explains why suppletive pairs trigger a higher degree of ungrammaticality in ellipsis than inflectional ones. As for the theory of ellipsis resolution, this means, contrary to Murguia (2004), that lexical Roots and functional morphemes are computed in a dissociated but strict syntactic way (i.e., morpheme by morpheme), against a purely semantic approach to ellipsis (à la Merchant 2001) and in favor of some syntactic approaches (see Saab 2003, 2009 and Chung 2006, for extensive discussion).

The paper is organized in the following way. In section 2, I present the data to be analyzed in the subsequent sections. In section 3, I discuss two previous analyses to gender and number asymmetries in contexts of nominal

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[2] As it will become clear later (subsection 5.2.), *inflectional pairs* are those pairs in which gender is resolved only on the basis of the syntactic/semantic information present in a designated abstract morpheme that selects the same Root, namely, *n*.

ellipsis (Depiante & Masullo 2001 and Kornfeld & Saab 2002). In section 4, I present some technical matters concerning the nature of ellipsis as non-insertion of phonological exponents and the morphosyntactic representation of lexical Roots. The nature of gender in Spanish is explored in section 5 where I propose that gender is a purely morphological property of *n*. In section 6, the pattern of (im)possible deletions is accounted for in purely syntactic terms. Section 7 contains some concluding remarks.

## 2. (Im)possible deletions in the nominal domain

In this section, the main data to be discussed subsequently are presented. As the paradigm is centered on the problem of identity, other properties of nominal ellipsis previously noted in the literature on Romance languages will not be taken into consideration (see Brucart 1987, Bernstein 1993, Lobeck 1995, Panagiotidis 2002, Kornfeld & Saab 2002, 2005, Ticio 2003, Saab 2009, and Eguren 2010, among many others).

### 2.1. Inflectional asymmetries

Depiante & Masullo (2001) have noted that number features can obviate the identity condition in nominal ellipsis contexts. Gender features, instead, must obey this condition. See the examples in (1):

(1)  (a)  Juan  visitó  a  su  tío  y  María  visitó  a  los  ~~tíos~~
J.     visited  to  his  uncle  and  M.     visited  to. the-MASC-PL  ~~uncles~~
suyos.
poss-3.MASC.PL
'Juan visited his uncle and María visited her uncles.'

(b)  Juan  visitó  a  sus  tíos  y  María  visitó  al  ~~tío~~
J.     visited  to  his  uncles  and  M.     visited  to.the-MASC.SG  ~~uncle~~
suyo.
poss-3.MASC.SG
'Juan visited his uncles and María visited her uncle.'

(c)  ?? Juan  visitó  a  su  tío  y  María  visitó  a  la  ~~tía~~
J.     visited  to  his  uncle  and  M.     visited  to. the-FEM.SG  ~~aunt~~
suya.
poss-3.FEM.SG
'Juan visited his uncle and María visited her aunt.'

(d)  ?? Juan  visitó  a  su  tía  y  María  visitó  al  ~~tío~~
J.     visited  to  his  aunt  and  M.     visited  to.the-MASC.SG  ~~uncle~~
suyo.
poss-3.MASC.SG
'Juan visited his aunt and María visited her uncle.'

These data show that, whatever the order between the antecedent and the elided constituent is, gender, but not number, must be strictly identical in the antecedent and the elided noun for ellipsis to take place. Depiante & Masullo's judgments are absolute: (1a) and (1b) are grammatical, but (1c) and (1d) are ungrammatical. However, when more complex cases are considered the degree of grammaticality varies. Pairs like *tío/tía* 'uncle/aunt' constitute regular instances of gender opposition related to sex. In cases of suppletive pairs like *padre/madre* 'father/mother', however, the degree of ungrammaticality is stronger than in inflectional pairs:

(2)  (a)  *El          padre   de Juan  y    la          ~~madre~~ de María
          the-MASC.SG  father   of J.        and the-FEM.SG ~~mother~~ of M.

          'Juan's father and María's mother'

     (b)  *El          caballo de Juan  y    la          ~~yegua~~ de María
          the-MASC.SG  horse   of J.        and the-FEM.SG ~~mare~~ of M.

          'Juan's horse and María's mare'

No Spanish speaker doubts that the semantic relationship in regular pairs and suppletive ones is the same, i.e., *tío/tía* 'uncle/aunt' and *padre/madre* 'father/mother' show the same sex opposition. Therefore, a purely semantic analysis (à la Merchant 2001 and related works) should predict the same status of grammaticality in both pairs. This is not borne out, as we have seen. If the standard assumption is that phonological matrices do not count at LF (or post-LF), then a semantic account cannot explain the contrast at hand.

It is worth noting that phonological matrices do not count for identity considerations either. This is supported by cases of accidental homophony (e.g., *orden/orden* 'order-masc/command-fem'), where the degree of grammaticality is as in (2):

(3) * El          orden natural de las  cosas   no   puede ser  alterado
     the-MASC.SG order natural of the  things  not  can    be   altered

     por una         ~~orden~~ arbitraria   de Dios.
     by  a-FEM.SG ~~order~~ arbitrary    of God

     'The natural order of the things cannot be altered by an arbitrary order of God.'

In brief, all these facts seem to suggest that nominal ellipsis cannot be simply anaphoric resolution or PF deletion. Based on the work by Kornfeld & Saab (2002), this argument is further developed in section 3.

## 2.2. Impossible deletions

Although Spanish is a language in which nominal ellipsis is a very productive phenomenon, there are, however, some non-obvious constraints showing that formal identity is not a sufficient condition for ellipsis. Consider the following case:

(4)  el   burro   de Juan
     the  donkey of  Juan

This DP has two readings: a possessive reading (John has a donkey) and an attributive one (John is a donkey) (for different analyses of epithets in Spanish, see Suñer 1990, 1999, Español-Echevarría 1997, Saab 2004a-b, and Di Tullio & Saab 2006, among others). However, in nominal ellipsis contexts the attributive reading vanishes, as first noted by Suñer (1990) for Spanish:

(5)  el   burro   de Juan  y    el   burro   de Pedro (only possessive)
     the  donkey of  J.      and the  donkey of  P.
     'Juan's donkey and Pedro's'

It is expected, then, that if a DP is unambiguously attributive (e.g., *el desastre de tu marido* lit. 'the disaster of your husband'), the elliptical counterpart of that DP is ungrammatical. This is borne out:

(6)  * el desastre de tu    marido   y    el   ~~desastre~~ del    mío
       the disaster of  your husband  and the  ~~disaster~~ of-the POSS-1.MASC.SG

Other DPs that apparently are not related to these show a similar behavior in ellipsis. Constructions like *una pila de libros* 'a pile of books' have a quantificational reading (a lot of books) and a descriptive one (a physical object formed by books) (see Sánchez López 1999). Saab (2004a) has shown that the quantificational reading disappears in elliptical contexts:

(7)  Tengo      una pila de libros y    una ~~pila~~ de revistas
     have-1.SG  a    pile of books and a    ~~pile~~ of magazines

     sobre la    mesa.
     on    the   table

     'I have a pile of books and a pile of magazines on the table.'

     *'I have lot of books and lot of magazines…'

What is relevant here is the fact that formal identity cannot account for any of these data, because, as it is clear, each element in the elliptical gap has, indeed, an identical antecedent in the first conjunct. The analysis I will propose here account for these data in a very simple –and strictly syntactic- way. As we will see, in the end, all cases of (im)possible deletions (i.e., number partial identity, gender strict identity and impossible deletions) are derived from the following hypotheses: (a) identity is resolved in syntactic terms, and (b) nominal ellipsis is $n$P ellipsis.

## 3. Two previous analyses of inflectional asymmetries in nominal ellipsis

### 3.1. Depiante & Masullo (2001)

Although other authors had noted the data in (1) (cf. Leonetti 1999, footnote 54: 819), Depiante & Masullo (2001) were the first to offer an explicit analysis. Their argument is the same as the one developed by Lasnik (1999) to

explain certain VP ellipsis data in English. Lasnik shows that some inflectional differences are irrelevant to VP ellipsis. For instance, the past or present form of the main verb *sleep* can be the antecedent for the bare form of the same verb:

(8)  (a) John slept, and Mary will ~~sleep~~ too.

   (b) John sleeps (every afternoon), and Mary should ~~sleep~~ too.

However, there are exceptions: the verb *be* must have an identical antecedent:

(9)  (a) * John was here, and Mary will ~~be~~ too.

   (b) John will be here, and Mary will ~~be~~ too.

Briefly, Lasnik's account is the following (Lasnik 1999: 112):

(10) (a) A form of a verb V can only be deleted under identity with the very same form.

   (b) Forms of *be* and auxiliary *have* are introduced into syntactic structure already fully inflected. Forms of "main" verbs are created out of lexically introduced bare forms and independent affixes.

The claim in (10a) posits a theory of ellipsis as strict formal identity, a non-standard assumption (Chomsky 1965). (10b) accounts for the paradigm at hand: main verbs are created by virtue of a morphosyntactic process, hence, the surface verbal forms coincide at some point during the derivation, satisfying the formal identity condition. A sentence like (10) could have the following underlying structure:

(11)  John INFL sleep, and Mary will ~~sleep~~ too.

The verbs *have* and *be* enter the syntax fully inflected, so only in the case where these verbal forms are identical is ellipsis possible.

This is exactly the same argument that Depiante & Masullo apply to the paradigm in (1). Their explanation can be summarized as in (12):

(12) (a) Ellipsis is PF deletion under strict formal identity.

   (b) Number is a syntactic affix, whereas gender is a Root property (i.e., it enters the syntax fully inflected with the noun).

As observed in (13), there is a point in the derivation in which the number affix is syntactically independent of the noun and, consequently, the formal identity requirement is satisfied and ellipsis can take place. Gender, however, is a Root property, hence only when this category is identical both in the antecedent and the elliptical DP, can ellipsis take place. This is not the case here.

(13) (a)  Juan   visitó      [a    su    tío]    y     María   visitó      [a
         J.     visited-3.SG [to   his   uncle] and   M.      visited-3.SG [to

         los            -s    ~~tío~~   suyos]
         the-MASC.PL    -pl   uncle    poss-3.MASC.PL]

(b)  Juan  visitó        a  sus [-s  tío]     y    María   visitó
J.       visited-3.SG  to  his  [-pl  uncle]  and  M.        visited-3.SG

[al              t̶ío̶    suyo]
[to-the-MASC.SG  uncle  poss-3.MASC.SG]

(c)  ??Juan  visitó        [a   su   tío]    y    María  visitó         [a
J.         visited-3.SG [to  his  uncle] and  M.      visited-3.SG [to

la              t̶ía̶    suya]
the-FEM.SG  aunt   poss-3.FEM.SG]

(d)  ??Juan  visitó        [a   su   tía]   y    María   visitó
J.         visited-3.SG [to  his  aunt] and  M.        visited-3.SG

[al              t̶ío̶    suyo]
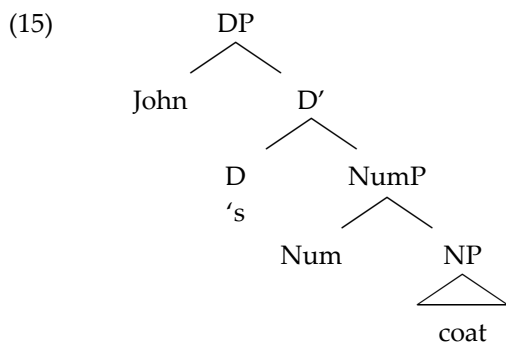[to-the-MASC.SG   uncle  POSS-3.MASC.SG]

This analysis has some consequences for the theory of gender resolution in Spanish. Basically, Depiante & Masullo propose a lexicalist account for the representation of gender features in Spanish, in the same vein as Aronoff (1994) and even Harris (1991), for whom the rule that produces pairs like *tío/tía* is lexical (his human cloning rule). Furthermore, such an analysis has consequences for the structure of the DP as well. On the one hand, it provides independent evidence in favor of a NumP between D and N (Ritter 1991 and much subsequent work) and, on the other hand, their argument could be used against a GenP (Picallo 1991).

However, as far as gender representation is concerned, their proposal has some shortcomings. Their analysis is unable to distinguish between inflectional pairs such as *tío/tía* 'uncle/aunt', and suppletive ones such as *padre/madre* 'father/mother' (see section 1). In fact, Depiante & Masullo (2004) explicitly claim that gender in Spanish is as in Hebrew, a language for which Ritter (1993) has argued gender to be a noun property, as opposed to Romance languages (see 5.1. for more details). With respect to nominal ellipsis, Depiante & Masullo's hypothesis makes an incorrect prediction. Plainly, such a proposal cannot account for the different degrees of grammaticality that we have seen in (1) and (2), where there is a clear contrast between inflectional and suppletive pairs. As we will see, there are reasons to assume a non-uniform analysis for the resolution of gender in Spanish.

Depiante & Masullo's approach also has problems for accounting for the fact that number features are not always skipped when identity is computed. English instantiates what can plausibly be cases of NumP ellipsis (Lobeck 1995). Take, for instance, the following possessive constructions:

(14)  a. John's coat and Peter's coats/coat

b. I saw John's daughter, and then Peter's daughters/daughter.

The standard analysis for these genitive DPs is represented below, where the genitive phrase is located in Spec,DP:

(15)

```
                 DP
                /\
          John      D'
                   /\
                  D    NumP
                 's    /\
                     Num   NP
                          /\
                          coat
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Assume now, with Lobeck (1995), that the phrase affected by ellipsis is NumP. If this is on the right track, it should be the case that number, regardless of its syntactic nature, triggers strict identity effects. This prediction is borne out[3]:

(16)    a. John's coat and Peter's [~~coat/*coats~~]

        b. I saw John's daughter, and then Peter's [~~daughter/*daughters~~]

        c. John's coats and Peter's [~~coats/*coat~~]

        d. I saw John's daughters, and then Peter's [~~daughters/*daughter~~]

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[3] Anikó Lipták (p.c.) informs me that Arnold Zwicky contrasts the following examples in his blog:

    (i)    I accept the first argument, but reject the other two ___. [understood *arguments*]

    (ii)   I accept the first two arguments, but reject the third ___. [understood *argument*]

    (iii)  That was your dream. Kim's ___ were all nightmares. [understood *dreams*]

    (iv)  Those were your dreams. Kim's ___ was a nightmare. [understood *dream*]

                 (http://arnoldzwicky.wordpress.com/2009/12/08/nominal-ellipsis)

According to Zwicky, (i) and (ii) are fully grammatical, but (iii) and (iv) require an extra processing work, even when verbal agreement provides the relevant information for the elided number feature inside the DP. A plausible hypothesis is that (i) and (ii), where numerals are visible, are cases of *n*P ellipsis, but (iii) and (iv) are cases of NumP ellipsis.

However, the data in (i)-(iv) could be controversial. David Embick (p.c.) finds (v) and (vi), where *dream* is replaced by *book*, better than (iii) and (iv).

    (v)    Those books are yours. Kim's is on the table.

    (vi)   That book is yours. Kim's are on the table.

More research is needed here in order to determine the factors underlying this type of ellipsis in English and its relation with verbal agreement. Nevertheless, it is worth noting that the same controversy is found in Spanish with respect to gender and its relationship to concord (e.g., judgments vary among speakers, especially, when more concord information is provided). It seems that also in Spanish some processing work plays a role among speakers. What is fully uncontroversial is the behavior of number in contexts of ellipsis and nobody disputes the asymmetries between gender and number even when both categories trigger concord. My intuition, which is in consonance with the main claim made in the paper, is that this asymmetry on the role played by agreement/concord depends on whether a given feature is affected by the identity condition or not.

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This brief remark on English NumP ellipsis leads us to conclude that the lexical *vs*. non-lexical distinction does not resolve the problem of partial identity in the nominal domain. The key factor underlying inflectional asymmetries under ellipsis does not seem to be the identity condition but the size of the elided constituents affected by ellipsis (i.e., the key factor is licensing).

Finally, although Depiante & Masullo do not deal with the cases of *impossible deletions* we have seen in subsection 2.2, their purely morphological identity condition cannot give an explanation for these facts, unless additional premises are added.

## 3.2. Kornfeld & Saab (2002)

Kornfeld & Saab (2002) try to refine some technical matters of Depiante & Masullo's proposal and, at the same time, propose an approach to ellipsis in the Distributed Morphology framework. With regard to the first issue, they agree with Depiante & Masullo's idea that ellipsis is a PF phenomenon and that number, unlike gender, heads its own projection in the syntax. Indeed, they provide evidence against the hypothesis that this kind of nominal ellipsis could be accounted for in terms of a base-generated null nominal, as in Brucart (1987) and much of the work done on nominal ellipsis in Romance languages, concluding that the best analysis is a transformational one (see Raposo 1999, Kornfeld & Saab 2005, and Saab 2009 for more arguments in favor of a transformational theory of nominal ellipsis). However, they present some problems for Depiante & Masullo's approach. Let me review one that is relevant for what follows.

Under Depiante & Masullo's account, it is not clear how the plural affix is deleted in cases like (1a), where the antecedent is singular and the elided noun plural. Consider (13a) again, repeated as (17):

(17) Juan visitó      [a  su   tío]    y   María visitó      [a
     J.      visited-3.SG [to his  uncle]  and M.      visited-3.SG [to

     los          -s   ~~tío~~   suyos]
     the-MASC.PL  -PL   uncle  poss-3.MASC.PL]

Kornfeld & Saab's proposal is that the plural affix, strictly speaking, is not affected by ellipsis and must be rescued by some morphological mechanism (see Saab 2009 for an explicit implementation of this idea). If this is on the right track, then again the asymmetry between gender and number in contexts of ellipsis should be related to the licensing of nominal ellipsis and not to the identity condition. With respect to gender, however, they maintain the spirit of Depiante & Masullo's account, so all the problems pointed out to the latter in the previous subsection remain in Kornfeld & Saab's analysis.

The second departure from Depiante & Masullo's approach has to do with their general assumption about ellipsis as PF deletion. In their proposal, it is assumed that lexical items enter the syntax fully inflected and that ellipsis eliminates phonological matrices, as in the classical approach to ellipsis in generative grammar which Lasnik (1999), among others, restates. Kornfeld & Saab show that a late insertion approach (in the sense of Halle & Marantz 1993) to ellipsis is superior[4]. Basically, it is proposed that identity only makes reference to the morphosyntactic features which are present in the terminal nodes, phonological matrices being irrelevant. In this sense, ellipsis consists of the non-insertion of phonological exponents in morphology. In the next section, I address informally how a theory of non-insertion should work (see Saab 2009 for a more explicit formulation).

## 4. Root representation and the syntactic nature of ellipsis

The view of ellipsis as non-insertion of phonological matrices at the level of PF depends on the hypothesis of Universal Late Insertion, according to which all items, lexical and functional, are inserted at the morphological level. However, in some proposals -explicitly made in Embick & Halle (in preparation), it is argued that only functional items undergo late insertion. As far as I know, the main empirical reason for this last proposal comes from Embick (2000), who has shown that the complex properties of deponent verbs in Latin may be explained if it is the case that the Roots of these verbs are inherently specified for some morphological feature, [pass], which is independent of passive syntax. His analysis accounts for the fact that deponent verbs have passive morphology even though they behave as transitive verbs syntactically. Nevertheless, notice that from this argument we can only conclude that some morphological features are present in the syntax, but nothing can be asserted about the presence of phonological features in this component. That is to say, there is no evidence for an "early" or a "late" insertion approach for Roots with regard to their phonological exponence[5]. In view of this, we have some alternatives for representing Roots syntactically: (a) it could be that Roots are represented by a label (e.g., $\sqrt{19}$) which is supplied with a phonological exponent only at the morphological level (Chomsky 1995 and Embick 2000: 210); (b) Roots could be sequences of complexes of phonetic features plus some diacritic features- as, for instance, class membership- and an index for distinguishing homophones (e.g., $\sqrt{ORDEN_{21}}$ vs. $\sqrt{ORDEN_{339}}$) (Embick

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[4] Bartos (2000), (2001) obtains the same conclusion based on data from Hungarian.

[5] This is not the case with functional items. Syncretism phenomena show that a late insertion approach is superior (see Embick & Halle (in preparation)).

& Halle (in preparation)); (c) Roots are bundles of syntactic-semantic features in the same way that functional morphemes are. Under alternatives (a) and (b), it is predicted that syntactic-semantic features are invisible in the syntax, although other arbitrary features are not, as, for example, the [pass] feature on deponent Roots in Latin. The difference between both is that, in a sense, (a) maintains the claim that all phonetic features are only added post-syntactically, as it is the case with option (c). I disregard here option (b) whose main consequence is that Roots are indeed phonological deleted, a view with large conceptual and empirical implications for the theory of ellipsis.

The morphological identity condition given in Kornfeld & Saab has implicit a late insertion approach to Roots in the sense of option (c). However, we may accommodate it according to option (a) along the following lines: *Root identity is label identity*. Under this approach, the paradigm (1) is accounted for essentially in the same way as in Kornfeld & Saab's analysis. Basically, *tío* and *tía* are labeled with distinct indices –as, for instance, √123 and √246, respectively-, therefore label identity is violated and non-insertion cannot take place. With respect to cases like (1a, b), the underlying syntactic representation obeys label identity, for the simple reason that number is not included as part of the vocabulary entry of a Root, so the Root for *tío* in the first and the second conjunct is represented syntactically by, say, √123 and number by an abstract morpheme in an independent projection which is outside the scope of ellipsis operations. However, a label identity approach to ellipsis must face the same shortcomings as its alternative view. Plainly, it cannot account for the different degree of grammaticality between inflectional pairs (1), on the one hand, and suppletive (2) / homophone (3) pairs, on the other hand. The reason is that we have a distinct label for each member of each pair. It is predicted then that all violate label identity in the same way. However, we should explore an alternative. Remember that under option (a) semantic features are invisible in the syntax but other morphological features can be present in that component.

Assume now that for inflectional pairs we have the same label for each pair but a different gender feature, so the representation for *tío*/*tía* could be √123$_{[-fem]}$ and √123$_{[+fem]}$, respectively. For the other cases, instead, we have different labels with different gender features. Thus, the representation, for instance, for *caballo*/*yegua* 'horse/mare' should be √567$_{[-fem]}$ and √911$_{[+fem]}$, respectively (the same with homophone pairs). Now, the contrast is accounted for straightforwardly, because only inflectional pairs obey label identity, the degraded status of these pairs in ellipsis being a consequence of the non-coincidence of $\phi$ -features. In spite of the fact that this approach to Roots can explain the ellipsis facts, it has, however, a problematic consequence, because now there is no way to capture the fact that inflectional pairs are related in some systematic fashion to biological sex, a semantic property. If nothing more

is said, it remains as an absolutely arbitrary fact that some Roots which have some semantic features, say [+human, +female], are always related to a [+fem] value. In this sense then it seems that at least some semantic features are not invisible for morphosyntactic processes. The point to be addressed is whether or not these features are property of Roots. In subsection 5.2., I present an analysis of gender in Spanish that is compatible with option (a).

On the other hand, an interesting question that has not to be addressed explicitly in the PF-deletion approach to ellipsis is where identity applies. For a DM framework this is a crucial question. The right answer is, obviously, an empirical matter. In Saab (2003), I extended Kornfeld & Saab's analysis and suggested that identity is satisfied at morphology. However, it is not clear that this should be the case. Take as example the VP ellipsis cases of (8), repeated below:

(18)  (a) John slept, and Mary will ~~sleep~~ too.

(b) John sleeps (every afternoon), and Mary should ~~sleep~~ too.

The most natural answer for this case is that identity should apply before lowering of T to $v$, otherwise, T should be part of the elliptical gap, against the facts. Notice now that "before lowering" should be simply the narrow syntax. That is because morphology is only defined by a set of morphological operations (Merger, Fission, Fusion, and so on) together with the vocabulary insertion rules. Thus, the assumption that identity applies in the syntax makes a specific prediction with respect to morphological sloppy identity phenomena across languages. Basically, if a morphological sloppy identity effect is observed in a particular language, then a morphological operation is involved. In other words, morphological sloppy identity effects are the direct consequence of the syntax-morphology mismatch. In Saab (2005), I showed that this view accounts for two specific cases of morphological sloppy identity effects in Spanish: subjunctive-imperative asymmetries in contexts of stripping and subject agreement asymmetries in context of TP ellipsis. Note that under this theory the identity condition on ellipsis could be defined in strict terms, contrary to a long tradition on ellipsis, at least from Chomsky (1965).

From these remarks, we can define the identity condition on ellipsis along the following lines (see Saab 2009 for extensive discussion):

(19)  *Ellipsis:*

A constituent C can be elided if there is a constituent C' identical to C in the syntax.

*Identity:*

(A)  An abstract morpheme $\alpha$ is identical to an abstract morpheme $\beta$ iff $\alpha$ and $\beta$ match all its semantic and syntactic features.

(B)  A Root A is identical to a Root B iff A and B have the same label.

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In section 6, the facts presented so far are derived from this condition together with the analysis of the Spanish DP that I propose in the next section.

## 5. The resolution of gender in Spanish

As observed above, Depiante & Masullo's analysis can be understood as an argument against the postulation of a GenP in the syntax and, at the same time, as an argument in favor of a lexicalist treatment of this category. Since the DP hypothesis proposal (Abney 1987), researchers in this field have argued for different functional categories inside the nominal domain. There is general agreement about the existence of a NumP between D and N, but the status of gender is still a matter of controversy. Picallo (1991), for instance, has argued that a GenP could account for certain word order facts in Catalan. Bernstein (1993) proposes, instead, a word marker projection, WMP, in the sense of Harris (1991) and argues that this projection is the locus of a productive variation in Romance languages. Among the linguists that argued against some of these categories, we can mention Ritter (1993) and Panagiotidis (2002), as two main proponents of this tendency. Depiante & Masullo's argument is interesting to the extent that it is independent of the problem of word order, another issue in the focus of debate (see Alexiadou 2001b). However, it depends on an inadequate view of gender representation and ellipsis, as we have seen above. Here, I agree with Kornfeld & Saab, Ritter and Panagiotidis about the non-existence of a GenP. Putting aside for the moment words in which gender seems to be semantically motivated, it is clear enough that, in most Spanish nouns, gender is an arbitrary property of some lexical items. Following Chomsky's (1995) claim about the interpretability of functional categories at LF, it seems then that a gender projection is unjustified. Therefore, we are left with the question on gender distribution. In the rest of this section, I address this issue in detail.

### 5.1. Gender is not on Number

Ritter (1993) convincingly argues against a GenP in syntax. If so, she argues, the gender feature should be located on some of the other available projections inside the DP. Based on certain contrasts between Hebrew and Romance languages, she proposes that in Hebrew gender is on N but, in Romance languages, it is located on Num. The argument for Hebrew seems to be relatively clear and convincing. In this language, gender switching constitutes a productive source of derivational processes. The adding of feminine suffixes (*-it*, *-et* or *–a*) to a masculine noun produces feminine nouns semantically related to them, but the adding of a plural suffix (*-im* or *–ot*) only produces the plural form of the stem noun.

(20)  *Masculine nouns*                    *Feminine nouns*
    a. magav  'wiper'                      magev-et 'towel'
       magav-im 'wipers'                   magav-ot 'towels'
    b. maxsan 'warehouse'                  maxsan-it 'magazine'
       maxsan-im 'warehouses'              maxsani-ot 'magazines'
    c. amud 'page'                         amud-a 'column'
       amud-im 'pages'                     amud-ot 'columns'

(Bat-El 1986 *apud* Ritter 1991: 796)

Ritter correctly observes that this is not a productive strategy in Spanish. Only in non-productive pairs that express a fruit/tree relation we observe a similar situation. In (21) I present an almost exhaustive sample of this type of pairs in Spanish[6] (see Ambadiang 1999):

(21)      *tree (masc.)*                              *fruit (fem.)*
    (a) manzan*o*     'apple-tree'          manzan*a*     'apple'
        cerez*o*      'cherry-tree'         cerez*a*      'cherry'
        naranj*o*     'orange-tree'         naranj*a*     'orange'
        ciruel*o*     'plum-tree'           ciruel*a*     'plum'
        per*al*       'pear-tree'           pera          'pear'

        *feminine*                                *masculine*

    (b) higu*era*     'fig-tree'            hig*o*   'fig'
        tomat*era*    'tomato-plant'        tomat*e* 'tomato'

---

[6] The pairs denoting tree/fruit relationship are the most productive among these type of pairs (although see Ambadiang 1999 for more examples). As for their behavior in contexts of nominal ellipsis, they seem to behave as suppletive pairs, as the strong ungrammaticality of the following example shows:

(i) *El            manzano  de Pedro  es  muy  viejo  pero  la  ~~manzana~~
    the-MASC.SG    apple-tree of P.    is  very  old    but   the-FEM.SG apple

    suya            todavía  es  la   mejor.
    poss-3.FEM.SG   still        is  the  best

    'Pedro's apple-tree is very old but its apple is still the best.'

However, it should be noted that gender plays no role in the deviance of (i), because pairs like *limón/limonero* 'lemon/lemon tree' have no gender distinction (both members are masculine) and, despite this, they trigger the same degree of ungrammaticality as (i):

(ii) * El           limonero   de Pedro  es  muy  viejo  pero  el          ~~limón~~
     the-MASC.SG    lemon-tree  of P.     is  very  old    but   the-MASC.SG lemon

     suyo             todavía  es  el   mejor.
     poss-3.MASC.SG   still        is  the  best

     'Pedro's lemon-tree is very old but its lemon is still the best.'

Notice that it seems to be implausible to assign to each member of these pairs a different Root (although see Saab 2009). Therefore, they cannot be directly related to suppletive pairs or to inflectional pairs. I will leave open a detailed analysis of these cases for future research.

Note that the tree/fruit relationship is expressed by means of other derivational suffixes as well, as *–al* or *–era*, which is indicative of the derivational character of the process. In most inanimate nouns, however, gender is just an arbitrary feature without any semantic import:

(22)   *Masculine*                         *Feminine*

paso   'step'                      pasa   'raisin'
caso   'case'                      casa   'house'
rumbo 'direction'                  rumba 'rumba'
pasto  'grass'                     pasta  'pasta/paste'

In animate, and mainly human, nouns there is a systematic gender opposition related to biological sex. This is expressed in different ways (see Harris 1991, Ambadiang 1993, 1999, and Aronoff 1994, among many others). The paradigm given in (23) is a sample of the kind of strategies for relating sex to gender in Spanish:

(23)   *Sex related pairs*

*Masculine (class 1)*                          *Feminine (class 2)*
(a) hermano     'brother'            hermana     'sister'
    hijo        'son'                hija        'daughter
    niño        'boy'                niña        'girl'
    esposo      'husband'            esposa      'wife'
    tío         'uncle'              tía         'aunt'
    muchacho    'boy'                muchacha    'girl'
    gato        'cat'                gata        'cat'
    perro       'dog'                perra       'bitch'
    burro       'donkey'             burra       'donkey'

    *Class 3*                                    *Class 2*
(b) jefe        'boss'               jefa        'boss'
    monje       'monk'               monja       'nun'
    nene        'baby'               nena        'baby'
(c) *Invariable nouns*
    (el 'the-MASC.SG'/la 'the-FEM.SG)    testigo     'witness'
    (el 'the-MASC.SG'/la 'the-FEM.SG)    mártir      'martyr'
    (el 'the-MASC.SG'/la 'the-FEM.SG)    estudiante  'student'
    (el 'the-MASC.SG'/la 'the-FEM.SG)    dentista    'dentist'
    (el 'the-MASC.SG'/la 'the-FEM.SG)    patriota    'patriot'

*Other suffixes*

*Masculine*                         *Feminine*
(d) duque       'duke'               duquesa     'duchess'
    zar         'czar'               zarina      'czarina'
    poeta       'poet'               poetisa     'poet'
    gallo       'cock'               gallina     'hen'

*Suppletive Pairs*

*Masculine*                                     *Feminine*
(e) caballo     'horse'              yegua       'mare'

| | | | |
|---|---|---|---|
| macho | 'male' | hembra | 'female' |
| yerno | 'son-in-law' | nuera | 'daughter-in-law' |
| toro | 'bull' | vaca | 'cow' |
| hombre | 'man' | mujer | 'woman' |
| padre | 'father' | madre | 'mother' |
| papá | 'dad' | mamá | 'mum' |

The cases in (23a) show a systematic opposition with regard to gender, sex and inflectional class. The words in the left column are masculine, belong to class 1 (*-o*) and possess a [male] feature, whereas the ones in the right column are all feminine, belong to class 2 (*-a*) and possess a [female] feature. The pairs in (23b) simply show that the relationship between inflectional class and gender is only indirect, so the words in the left column are masculine but belong to class 3. The nouns listed in (23c) are invariable with respect to inflectional class, but show a sex/gender distinction, as indicated by concord processes. Other less productive suffixes produce a feminine noun from a bare stem. For example, adding *-esa* to the stem *duqu-* gives as result the feminine noun *duquesa* (although see subsection 6.1.). Finally, (23e) is a sample of some suppletive pairs, as the ones we have discussed in the previous sections.

From the fact that gender switching is not a productive strategy to derive new inanimate nouns from existing ones, Ritter concludes that gender is not a Root property in Spanish or, in other words, that gender is mainly inflectional in this language in the sense that its locus is on the functional domain, namely, on NumP . Although I agree with this general conclusion, her claim that gender should be on Num seems to be inadequate. First of all, the claim that gender should receive a uniform treatment across Romance languages is an oversimplification. As I have said, the Spanish data only show that in this language gender is mainly inflectional; any other conclusion should be supported with additional evidence. Second, even in Spanish, the paradigm just mentioned suggests the idea that gender assignment may be a non-uniform process.

The other data that Ritter presents supporting her analysis are from Romanian and Walloon, languages in which nominal morphology is quite different from Spanish, so the conclusion obtained from the former should not be extended to the latter without independent evidence. Let us consider Romanian. In this language, there is a class of neuter nouns which are masculine in the singular form but feminine in the plural (see Farkas 1990: 540):

(24) (a)  Un          scaun   confortabil          e   folositor.
          a-MASC.SG  chair   comfortable-MASC.SG  is  useful-MASC.SG
          'A comfortable chair is useful.'

    (b)  Nişte  scaune  confortabile          sint  folositoare
         some   chairs  comfortable-FEM.PL    are   useful-FEM.PL
         'Some comfortable chairs are useful.'

Farkas accounts for this phenomenon in terms of a co-occurrence restriction rule stating that a [+plural] noun is [+feminine], unless otherwise specified. Ritter modifies this analysis and proposes that gender is a property of number by itself. This hypothesis is compatible with her general view about gender in Romance languages, but it is not conclusive in any way. Even if we demonstrate that her account for Romanian is the only possible one, we cannot conclude anything about other Romance languages from it. In fact, it is plausible that gender is one of the most productive sources of variation among Romance languages.

Finally, the main problem for Ritter's proposal, as it will become clear in subsection 6.1., is that it cannot handle the contrast between gender and number in contexts of nominal ellipsis we are exploring here. In effect, if number and gender had the same syntactic distribution, such a contrast would be unexpected.

The analysis I present in the next subsection maintains the claim that gender is mainly inflectional in Spanish but its locus is $n$, not Num. Then, in section 6, I will show how the different patterns under ellipsis are accounted for once it is assumed that ellipsis only affects the $n$P.

### 5.2. Where is gender? A non-uniform treatment for gender resolution in Spanish

To begin with, let us assume the following DP structure:

(25)

```
            DP
          /    \
        D      NumP
              /     \
           Num       nP
                   /    \
                  n      √P
```
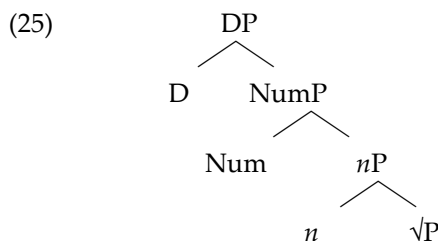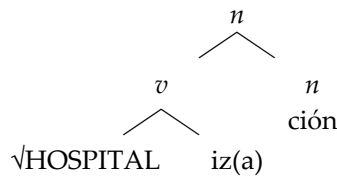
This structure is very similar to that proposed for the first time in Ritter (1991) (see Panagiotidis 2002 for a related view). The most striking difference is that I am assuming an independent projection of a light noun whose main function is to categorize bare Roots (see Alexiadou 2001a, and Embick & Marantz 2008, among others). With respect to gender representation, I propose that gender is resolved on $n$ at the morphological level through information present either on $n$ itself or on Roots.

The fact that gender may be on $n$ can be demonstrated by some simple cases of derivational morphology. Consider (26a) and its associated structure (26b):

(26)    a. hospitalización, vaporización, …'hospitalization', 'vaporization', ...
      b.

$$
\begin{array}{c}
n \\
\swarrow \quad \searrow \\
v \qquad\qquad n \\
\swarrow \searrow \qquad \text{ción} \\
\sqrt{\text{HOSPITAL}} \quad \text{iz(a)}
\end{array}
$$

In Spanish, the noun *hospital* 'hospital' is masculine (cf. *el*/*\*la hospital* 'the-MASC.SG /\*the-FEM.SG hospital'), but *hospitalización* is feminine (cf. *\*el/la hospitalización* 'the-MASC.SG/\*the-FEM.SG hospitalization'). The more plausible hypothesis is, then, that in these cases gender is a property of the suffix *–ción*, an instance of *n*. Furthermore, even though in this paper I do not address the problem of nouns like *hospital*, in which gender is a purely arbitrary property, it seems to be clear that they are specified for gender only by virtue of being related to a category-defining head; otherwise we should conclude that *hospitalización* contains a masculine Root, but a feminine $n$[7].

Second, there are some constructions in Spanish that contain empty nouns. Consider the following cases:

(27) (a)    Los          *e* que quieran          que vengan.
        the-MASC.PL *e* that want-PRES.SUBJ.3.PL   that come-SUBJ.3.PL
        'Those who want to may come.'

    (b)    Los          *e* de  arriba    me          molestan    todo  el    tiempo.
        the-MASC.PL *e* of   upstairs CL-DAT.1.SG bother-3.PL all   the  time
        'The ones upstairs bother me all the time.'

    (c)    El          *e* que vengas          me          molesta.
        the-MASC.SG *e* that come-SUBJ.2.SG CL-DAT.1.SG bother-3.SG
        'Your coming bothers me.'

It is hard to argue here that these could be instances of nominal ellipsis in the sense that I am proposing, because there is no available linguistic antecedent (see Kornfeld & Saab 2005 and Saab 2009 for a detailed analysis of these constructions). Therefore, the occurrence of an empty noun should be a matter of anaphoric resolution. Modifying some aspects of Panagiotidis's empty noun theory (see Panagiotidis 2002), I assume that empty nouns are instances of intransitive *n*s, which are interpreted at LF as free variables. Beyond the

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[7] As Jorge Hankamer points out to me, the suffix *–ción* is not combining with *hospital*, but with a verb formed from *hospital*, so the conclusion could be that there is no gender conflict. I think that this is true in a lexicalist framework, where *hospitalización* enters the syntax fully formed, although in such a framework one should still explain the fact that we obtain a feminine noun from a verb which is, in turn, derived from a masculine noun. As a reviewer points out, in a phase-cyclic approach to derivational morphology (in particular, under Embick's 2010 approach) gender conflict does not arise, either, if Root properties or properties of the inner functional nodes are inactive when the outer *n* morpheme (a cyclic head) is realized.

consequences of this assumption for nominal ellipsis theories[8], it follows that concord with the determiner in the above examples should be determined by the intransitive $n$, which possesses the gender feature. In (28), we have a simplified underlying structure where the only possible candidate for the gender feature is $n$, which triggers concord with the determiner at the morphological level:

(28) [$_{DP}$   los/las                        [$_{NumP}$ [$_{nP}$ $n_{[-fem/+fem]}$ que quieran          que vengan ] ] ]

     [$_{DP}$   the-MASC.PL/the-FEM.SG[$_{NumP}$ [$_{nP}$ $n_{[-fem/+fem]}$ that want- SUBJ.3.PL  that come-SUBJ.3.PL]]]

Finally, consider the morphosyntactic structure of pronouns as a last piece of evidence. Panagiotidis, among others, has argued that they have the very same structure that full DPs have, the difference being that the former are headed by a noun lacking denotation (a pronominal noun in his terms). Assuming again that what this author calls pronominal nouns are instances of intransitive $n$s, it should be the case that gender is a property of this category. The structure of a strong pronoun, then, is as in (29):

(29) [$_{DP}$ él/ella [$_{NumP}$ [$_{nP}$ $n_{[-fem/+fem]}$ ] ] ]  'S/he'

In summary, the fact that some derivational suffixes and rootless constructions (i.e., empty noun constructions and pronouns) are specified for gender and trigger concord processes suggest that gender is not a property of Roots.

Therefore, I propose that, in the general case, gender must be specified on $n$ in Spanish. In other words, the gender feature is a property of $n$ both in words in which gender is simply a diacritic (e.g., *mesa* 'table', *pared* 'wall', *piso* 'floor', *pasto* 'grass', *silla* 'chair', and so on) and in [+human] or [+animate] nouns in which there is some regular relationship between gender and sex. Although it is beyond the scope of this paper to propose a theory of the relationship between inflectional class, gender and sex (see Roca 1989, Harris 1991, Ambadiang 1993, 1999, and Aronoff 1994, among many others), I assume that class features are purely morphological and are only inserted at the morphological level.

The nature of gender is a bit more complex, but Roca (1989) and Harris (1999) have convincingly shown that the relation between gender and sex is only indirect. An option is to assume that gender is a diacritic that is inserted only in morphology, as well. Under this view, gender is an arbitrary feature and, as such, it must not be present in the syntax. In other words, it obeys the Feature Disjointness Principle (FDP) (see Embick 2000), as formulated in (30):

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[8] The most salient consequence is that we need a distinction between deep and surface anaphora in the sense of Hankamer & Sag (1976).

(30)    *Feature Disjointness*

Features that are phonological, or purely morphological, or arbitrary properties of vocabulary items, are not present in the syntax; syntacticosemantic features are not inserted in morphology. (Embick 2000: 188)

This is obvious for cases in which gender is not related to any semantic property as, for instance, *mesa* 'table'. In cases in which gender is related to sex, this interaction is resolved by a set of rules that converts a semantic property into a morphological one. The rules in (31a,b) could be adequate for cases as *tío/tía* and the ones in (31c,d), where a gender feature is post-syntactically inserted only in the context of certain Roots, determine a gender value for inanimate nouns. Note that I am assuming that gender is a binary feature with a [+/- feminine] specification along the lines of Aronoff (1994) (although see Saab 2004b for some discussion):

(31)    (a) $n_{[female]} \leftrightarrow$ [+fem]
      (b) $n_{[male]} \leftrightarrow$ [-fem]
      (c) $n \leftrightarrow$ [+fem] / √CAS(A), √MES(A), √MAS(A) [__], ..., etc.
      (d) $n \leftrightarrow$ [-fem] / √PIS(O), √PAST(O), √SOL [__], ..., etc.

The rules in (31a,b) can be understood as functions that have semantic features as arguments and give morphological features as values. In this way, gender is late inserted in morphology. This hypothesis allows us to maintain the universality of the features in the path from syntax to LF. The question, now, is what the source of the sex feature is. As it is evident, it has to be present in the course of the syntactic derivation. But there are least two options with respect to its localization: (a) it is a Root-independent semantic feature made available by the set of Universal Features of UG (see 31a,b), or (b) it is a Root property. Under the first view, a sex feature, say [female], is inserted as an independent feature on some of the functional projections of the DP and supplied by a rule like (31a) with a gender feature, post-syntactically. We have seen that there is evidence for localizing it on *n* and not on Number. However, there are other cases in which sex features seem to be specified on Roots. Suppletive pairs, like the ones we have seen above (see (23e)), are good candidates for this option:

(32)    *Masculine*                                    *Feminine*
      caballo          'horse'              yegua         'mare'
      macho            'male'               hembra        'female'
      yerno            'son-in-law'         nuera         'daughter-in-law'
      toro             'bull'               vaca          'cow'
      hombre           'man'                mujer         'woman'
      padre            'father'             madre         'mother'
      papá             'dad'                mamá          'mum'

The suggestion is then that in these cases the sex feature is a Root property. In any case, it is not clear whether such a feature is as visible in the

syntax as it is in the case of functional morphemes. An option is that there is no rule for relating sex to gender, but simply the gender diacritic is inherently specified on the Root from the starting point of the syntactic derivation. In a labeled-Root approach, as in Embick (2000), we only have a label (and, if necessary, some arbitrary features) that is post-syntactically supplied in morphology, semantic properties of Roots being part of encyclopedic meaning. Hence, the fact that *madre* 'mother' is female is an idiosyncratic property of that Root and we do not expect for such an idiosyncrasy to be visible for morphosyntactic operations. If the non-compositional meanings of such Roots were visible for morphosyntactic operations we should predict that *madre* would have a masculine counterpart, contrary to fact (\**madro*). In some sense, then, suppletive pairs are irregular, i.e., they constitute a deviation of the FDP. However, Embick (2000), as we have mentioned above, has shown that the complex properties of deponent verbs in Latin may be explained if it is the case that the Roots of these verbs are inherently specified for some morphological feature which is independent of certain syntactic processes. This could be the case with suppletive pairs. An option is that FD only applies to functional morphemes, so Roots may be arbitrarily associated with some morphological features.

Nevertheless, this cannot be the whole story. The option just presented loses its force in view of the fact that suppletive pairs are regular in the sense that we do not find cases in which a given Root has a [female] feature as part of its encyclopedic meaning but a [-feminine] feature at morphology. That is to say, there is a systematic relationship between semantic and morphological features. The conclusion we arrive at is that for these cases inherent sex features are visible for morphosyntactic processes. The syntactic representation of a suppletive item could consist of a label plus some necessary semantic feature (e.g., *madre*=√365$_{[female]}$). Suppletive pairs then respect FD. For cases like *madre/padre* 'mother/father', we can have the following rules, where *n* obtains a gender specification through the semantic information of these particular Roots[9]:

(33)    (a) $n \leftrightarrow$ [+fem] / √MADR$_{[female]}$ ___

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[9] A reviewer suggests that the hypothesis that some Roots are specified with sex features could be problematic in view of the categorization assumption for Roots (Embick and Marantz 2008), because if Roots has no category, how could they be specified for gender, a nominal property? Notice, however, that under the rules in (33) gender is a property of *n* not of Roots. But even if gender features were Root properties, the question depends on how we define *morphosyntactic visibility*. In a cyclic approach to morphology, where little *x*s are defined as cycles (Embick 2010), the morphosyntactic effects of some features would be related to these cyclic heads. That is to say, a gender feature should not have any influence when dominated by, say, a cyclic *v*.

(b) $n \leftrightarrow$ [-fem] / $\sqrt{}$PADR[male] ___

In brief, the two options mentioned above could coexist in a given language; that is to say, sometimes a sex feature is an independent feature made available by UG and inserted on $n$, and sometimes it is inherently specified on some Roots. Consequently, gender in Spanish is resolved in two different ways. In one of them, the sex-gender interaction is fully resolved on $n$ that selects the same Root, and, in the other, it depends on certain semantic information on Roots. I will call the former $n$Sex ($n$S) and the latter $R$Sex ($R$S). In the $n$S cases, Roots remain constant and the process assigning the gender feature on $n$ takes place only at PF. In the $R$S cases, sex is an inherent property specified on different Roots, whose effect at morphology is the same as $n$S, i.e., to connect a semantic value (sex) with a morphological one (gender). In both cases, gender is a property of $n$. As I show in the next section, the two processes I have proposed here are necessary in order to account for the full paradigm of nominal ellipsis.

## 6. Accounting for the data

From the analysis sketched in the previous section, it follows that the lexical *vs.* non-lexical distinction cannot be the correct explanation for the paradigm in 2.1. A non-uniform treatment for gender in Spanish looks more empirically adequate and, as shown below, has an additional advantage: it can account for the ellipsis data. In the next subsections, I propose a new analysis departing from Depiante & Masullo and Kornfeld & Saab's and show that it is preferable in some non-trivial aspects. Crucially, this analysis maintains the formal identity condition on ellipsis but introduces an additional syntactic condition, which is necessary in order to explain why gender and number behave in a different way with respect to ellipsis and why there are cases of impossible deletions as the ones we have previously introduced in 2.2.

### 6.1. Nominal ellipsis as $n$P ellipsis

The different degrees of grammaticality I presented in 2.1. can be schematized as follows:

(34)   Ellipsis

(a) Number: ok (*tío/tíos* 'uncle/uncles')

(b) $n$S: ?? (*tío/tía* 'uncle/aunt', *el/la testigo* 'the-MASC.SG/the-FEM.SG witness')

(c) *R*S: * (*madre/padre* 'mother/father', *duque/duquesa* 'duke/duchess')

To this list, I have added the case of invariable nouns into the set of $n$S (cf. 23c) and pairs like *duque/duquesa* 'duke/duchess' (cf. 23d) into the set of $R$S. This is because the former behave as inflectional pairs, as far as ellipsis facts are

concerned, and the latter as suppletive pairs. Take (35a, b) as examples (see Depiante & Masullo 2001 for cases like (35a)):

(35) (a)??el          dentista de Juan  y    la       ~~dentista~~ de Pedro
        the-MASC.SG dentist   of J     and the-FEM.SG ~~dentist~~ of  P.

       'Juan's dentist and Pedro's'

    (b)  *el           duque de York  y    la       ~~duquesa~~ de Gran Bretaña
         the-MASC.SG duke   of York  and the-FEM.SG ~~duchess~~ of Great Britain

       'The duke from York and the duchess from Great Britain'

The only difference between (35a) and inflectional pairs is in the word marker exponence, a matter that is irrelevant for ellipsis operations. This may be because word marker exponents are inserted as late as possible in morphology; i.e., they are not present in the syntax (against Bernstein 1993, among others). With respect to (35b), the ellipsis data show that they behave as suppletive pairs, which is indicative of the fact that we are dealing with two different Roots √DUQU and √DUQUES. So, the analysis for the paradigm in (1) and (2) should be straightforwardly extended to these cases as well.

Let me propose now the hypothesis that nominal ellipsis only applies within the domain of an *n*P (see Ticio 2003, and Saab 2004a-b, 2009). Under this view, ellipsis only affects a specified structural domain, which I will call *ellipsis domain*. Let me call elements outside the ellipsis domain the *domain of the licenser*, which includes all the functional projections above *n*P; that is, DP and NumP. Kornfeld & Saab (2002) have shown that Num is necessary to license nominal ellipsis[10] (see also Lobeck 1995, among others), so it follows that it cannot be elided. We can formulate this idea as in (36):

(36)  Elements outside the *n*P cannot be elided.

Hence, the question now is to be or not to be in the ellipsis domain. The number head is outside this domain[11], so it is not computed for ellipsis operations, but sex features are distributed across that domain, both in the case in which it is on *n* or on √, so it is computed for ellipsis purposes.

Notice that if, as Ritter (1993) has argued, gender is on Num (see 5.1.), then we should expect it to behave as number with respect to identity in ellipsis, but we have seen that this is not borne out. The very same problem applies to Alexiadou & Gengel's (to appear) proposal, based on Bernstein (1993). According to this type of approach nominal ellipsis is licensed by the presence

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[10] In the terms proposed by Merchant (2001), this means that Num is the bearer of the [E] feature, i.e., the feature triggering ellipsis.

[11] Regarding the number affix and how it is rescued, Kornfeld & Saab propose that it is trivially adjoined to the determiner after ellipsis (see 3.2.). However, there are other alternatives (see Saab 2009).

of a Classifier Phrase (a Word Marker Phrase in Bernstein's terms), that encodes a [Class] feature that in Spanish or Italian is expressed as formal gender. As for nominal ellipsis, ClassP is outside the elliptical domain between the deleted NP and NumP:

(37)  [$_{DP}$ D [$_{NumP}$ NUM [$_{ClassP}$ Class/Gen [$_{NP}$ … N …

This analysis, like Ritter's, cannot capture the gender and number asymmetries in contexts of nominal ellipsis. All things being equal, we should expect no differences between both categories as far as the identity effects are concerned, because both are outside the scope of the identity condition. Under my analysis, instead, the basic pattern follows without any additional assumption.

We should account now for the contrast between the *n*S cases (34b) and the *R*S ones (34c). I have argued that in *n*S pairs the gender feature is not inflected with the Root, but is inserted on *n*, therefore the degraded status of gender sloppy identity cannot be accounted for in Depiante & Masullo and Kornfeld & Saab's terms. The syntactic underlying structure –previous to rules (31)- for sentences like (1c) should be as follows:

(38)  ??Juan visitó a [$_{DP}$ su [$_{NumP}$ SG. [$_{nP}$ ***n*[male]** [$_{\sqrt{P}}$ **√12**-]]]] y María visitó a [$_{DP}$ la [$_{NumP}$ SG. [$_{nP}$ ***n*[female]** [$_{\sqrt{P}}$ **√12** …]]]] (√12 = TI)

*R*S cases should have, instead, a different underlying structure, where the sex feature is an inherent property of the Root. Take as an example pairs like *padre/madre* 'father/mother' (see (2a)):

(39)  [$_{DP}$ El [$_{NumP}$ sg. [$_{nP}$ *n* [$_{\sqrt{P}}$ **√32[male]** de Pedro]]]] y [$_{DP}$ la [$_{NumP}$ SG. [$_{NP}$ *n* [$_{\sqrt{P}}$ **√41[female]** …]]]] (32 = PADR-; 41 = MADR-)

Both (38) and (39) violate the identity condition in (19), repeated below, but there is a crucial distinction between them that could account for the contrast.

(40)  *Ellipsis:*

A constituent C can be elided if there is a constituent C′ identical to C in the syntax.

*Identity:*

(A) An abstract morpheme α is identical to an abstract morpheme β iff α and β match all its semantic and syntactic features.
(B) A Root A is identical to a Root B iff A and B have the same label.

In (39) there is a stronger identity condition violation than in (38), in which the Roots remain identical to each other, because suppletive pairs violate (40B). In (41), I summarize the different possibilities:

(41)  (a) OK: [$_{NumP}$ φ$_{\{\beta\}}$[$_{nP}$ φ$_{\{\gamma\}}$ ROOT$_1$] …[$_{NumP}$ φ$_{\{\alpha\}}$ [$_{nP}$ φ$_{\{\gamma\}}$ ROOT$_1$]
       (b) 44A violated: ??[$_{nP}$ φ$_{\{\beta\}}$ ROOT$_1$] …[$_{nP}$ φ$_{\{\alpha\}}$ ROOT$_1$]
       (c) 44A and B violated: *[$_{nP}$ φ$_{\{\beta\}}$ ROOT$_1$]… [$_{nP}$ φ$_{\{\alpha\}}$ ROOT$_2$]

However, there is another way to think about the contrast between inflectional and suppletive pairs, one that avoids *counting* feature mismatches. Concretely, it could be the case that a violation of Root identity (40B) always produces a stronger degree of ungrammaticality than a violation of abstract morpheme identity (40A). This is because functional morphemes are always linked to syntactic nodes that form natural classes, whereas Roots are unitary objects that cannot be broken down into a bundle of related features. On the empirical side, this approach seems more adequate in view of the fact that homophone pairs in contexts of ellipsis behave in the same way as suppletive ones, besides there is no sex feature (i.e., a functional feature) present in the syntax for these cases. Consider again a case of accidental homophony in contexts of nominal ellipsis (cf. 3):

(42) *El          orden natural de las   cosas    no   puede  ser   alterado
     the-MASC.SG order natural of the  things   not  can     be    altered

     por una        ~~orden~~ arbitraria   de Dios.
     by   a-FEM.SG  ~~order~~ arbitrary    of God.

     'The natural order of the things cannot be altered by an arbitrary order of God.'

For these cases, there is not any obvious syntactic difference as far as the feature specification of *n* is concerned. As in the case of all inanimate nouns, there is no syntactic and semantic correlate for morphological gender. As a consequence, gender is assigned on *n* at morphology by rules of the type of (31c,d) above. In (43), the syntax of these homophone pairs is represented and in (44) the rules for gender insertion are given.

*Syntax*

(43)      (a)     *n*                    (b)        *n*

             √8         *n*                    √158        *n*
        (851 = √ORDEN 'command')    (158 = √ORDEN 'order')

*Gender resolution at morphology*

(44)   (a) *n* ↔ [+fem] / √851__
       (b) *n* ↔ [-fem] / √158__

If this analysis is on the right track, then the strong ungrammaticality of examples like (42) can only follow from a violation of Root identity because the identity condition only calculates features present in syntax. This confirms that there is a qualitative difference between Roots and functional morphemes as far as the identity condition on ellipsis is concerned.

In summary, I have shown that the behavior of gender and number features in contexts of nominal ellipsis cannot follows from the lexical *vs*. non-lexical distinction. Therefore, I have proposed that the crucial difference between both categories follows from the licensing condition in (36). It is important to note that there is nothing new in this observation, because the

same pattern is observed in the sentential domain, where depending on the size of the elliptical constituent we find different identity effects for the same category. For instance, it is well known that VP-ellipsis across languages, but not TP-ellipsis, presents sloppy identity effects with respect to tense (see Saab 2009 for extensive discussion). What is particular to nominal ellipsis is the fact that gender triggers different degrees of grammaticality under ellipsis. This is accounted for once Roots and abstract morphemes are qualitatively dissociated as far as the identity condition on ellipsis is concerned. As we have seen, suppletive pairs, but not inflectional ones, always involve different Roots and, as a consequence, they violate the identity condition for Roots in the cases at hand. Inflectional pairs also trigger a violation of the identity condition but only in relation to abstract morphemes. Roots remain identical in the antecedent and the elided phrase in the relevant cases. In this respect, my conclusion is in consonance with Nunes & Zocca (2009) and Bobaljik and Zocca (2010), who have observed the non-uniform nature of gender resolution in contexts of ellipsis of predicative nouns across languages[12].

In the next subsection, I present independent evidence for the claim in (36). In other words, I derive the cases of impossible deletions (see 2.2.) from the condition in (36). Thus, two apparent different (and opposite!) patterns are unified under the same approach to ellipsis.

## 6.2. Deriving impossible deletions

In Saab (2004a), I propose an analysis of epithets (e.g., *el burro* 'the donkey', *el tonto* 'the fool', and so on) and *det+epithet+de+N* (e.g., *el burro de Juan* lit. 'the donkey of J.', *el desastre de tu marido* lit. 'the disaster of your husband', and so on). In connection to the former, all the evidence seems to show that a DP containing an epithet behaves like a strong pronoun as far as its referential

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[12] Nevertheless, the facts and the technical implementation vary considerably. In Bobaljik & Zocca (2010), for instance, data such as the ones in (i), are taken as evidence for the unmarked character of masculine features (as opposed to feminine).

(i)    a. John is a waiter, and Mary is … too. [waitress]
       b. # Mary is a waitress, and John is … too. [waiter]

However, although the same pattern is attested in Spanish (see Saab 2004b and 2009), it cannot be the case that pairs like *actor/actriz* 'actor/actress', which behave like the English examples in contexts like (i), are resolved in terms of a privative opposition, because in contexts of nominal ellipsis, they pattern as suppletive pairs (see 35b, for instance) i.e., they trigger a strong degree of ungrammaticality in both directions (antecedent feminine, elided masculine or vice versa). I cannot address here the problem of predicative nouns in contexts of ellipsis. I refer to Saab (2004b) and (2009) for more discussion.

properties are concerned[13]. Following Panagiotidis (2002) with the modification already indicated above, the structure of a strong pronoun is as in (45) (cf. 29):

(45)  [$_{DP}$ él/ella [$_{NumP}$ [$_{nP}$ $n_{[-fem/+fem]}$ ] ] ]

This is the very same structure I proposed for epithets. The main point to have in mind is that the epithet occupies a pre-nominal position, Spec,NumP or a higher Spec position:

(46)  [$_{DP}$ el [$_{NumP}$ burro [$_{nP}$ $n_{[male]}$ ] ] ]

This analysis accounts for the fact that DPs containing an epithet and strong pronouns share essentially the same distribution and, at the same time, explains why epithets behave as qualifying adjectives in pre-nominal position. Like qualifying adjectives, epithets can be modified by a degree element and cannot occur with other adjectives in pre-nominal position; i.e., they are in complementary distribution:

(47)  (a) el   muy  burro  (cf. el   muy  famoso   músico)
           the  very  donkey      the  very  famous   musician

      (b) el    famoso burro  (cf.    *La  hermosa famosa mujer)
           the  famous donkey         the  beautiful famous woman

In (47a), the only available reading is attributive; that is, *burro* cannot be the head of the lexical projection of the DP. In (47b), instead, the only available reading is the opposite, i.e., *burro* is the head of the lexical projection.

Regarding its referential properties, notice that epithets behave as strong pronouns both in left dislocation constructions (48) and in infinitive constructions with an explicit subject (49):

(48)  (a) *Estoy  segura  de que  *de María*$_i$,  Pedro siempre  habla mal de *esa idiota*$_i$
           am-1.SGsure     of that *of María*$_i$,  Pedro always    speaksbad of *that idiot*$_i$

      (b) *Estoy  segura  de que  *de María*$_i$,  Pedro siempre  habla   mal de *ella*$_i$.
           am-1.SGsure     of that *of María*$_i$,  Pedro always    speaks bad of *her*$_i$

      (c) Estoy  segura  de que  *de María*$_i$,  Pedro siempre  habla mal *pro*$_i$.
          am-1.SGsure     of that *of María*$_i$,  Pedro always    speaks bad *pro*$_i$
          'As for María, I am sure that Pedro always speaks badly about her.'
          (adapted from Zubizarreta 1999:4222)

(49)  (a) *Al   salir       *el   idiota*$_i$ apresurado de su   casa,   *Juan*$_i$ se
          to-the leave-INF  *the  idiot*$_i$ hurried        of  his  house,  *Juan*$_i$ SE

          tropezó  en la    vereda.
          tripped  in the   sidewalk

      (b) *Al       salir        *él*$_i$ apresurado de su   casa,   *Juan*$_i$ se tropezó  en la
          to-the    leave-INF   *he*$_i$ hurried        of  his  house, Juan$_i$ SE tripped   in the
          vereda.

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[13] See Aoun, Choueiri & Norbert Hornstein (2001) for a similar conclusion based on Lebanese data.

sidewalk

(c)   Al      salir     *PRO*$_i$ apresurado de su   casa,   *Juan*$_i$ se tropezó
      to-the  leave-INF *PRO*$_i$ hurried      of  his  house, Juan$_i$ SE tripped

      en   la   vereda.
      in   the  sidewalk

      'Leaving his house in a hurry, Juan tripped over the sidewalk.'

Regardless of the explanation we adopt, these data show that epithets behave as strong pronouns[14]. The structure in (46) accounts for this fact and can be extended to *det+epithet+de+N* constructions straightforwardly. In order to show this, consider some of the differences between them and genitive constructions like *el hermano de Juan* 'Juan's brother'. First, as Suñer (1990, 1999) has shown, there is a clear contrast between them with respect to binding principles. Note that the complement of the epithet can bind an anaphor (50), cannot locally bind a pronoun (51) and cannot be the antecedent of an R-expression which c-commands it (52) (examples (50) and (51) are adapted from Suñer 1999: 553):

(50) (a)  *El    hermano*$_i$ *de Juan* nunca *se*$_i$      lava.
          the   brother   of J.$_i$   never  *himself*$_i$ washes

          'Juan's brother never washes himself.'

     (b)  El    desastre de *Juan*$_i$ nunca *se*$_i$      lava.
          the   disaster of J.$_i$     never  *himself*$_i$ washes

(51) (a)  El    hermano de *Juan*$_i$ nunca *lo*$_i$ lava.
          the   brother of J.$_i$     never  *him*$_i$ washes

          'Juan's brother never washes him.'

     (b)  *El    desastre de *Juan*$_i$ nunca *lo*$_i$  lava.
          the   disaster of J.$_i$     never  *him*$_i$ washes

(52) (a)  El    hermano de *Juan*$_i$ piensa que   *Juan*$_i$ está loco.
          the   brother of J.$_i$     thinks that  J.$_i$     is   crazy

          'Juan's brother thinks that Juan is crazy.'

     (b)  *El    desastre de *Juan*$_i$ piensa que *Juan*$_i$ está loco.
          the   disaster of J.$_i$     thinks que  J.$_i$     is   crazy

Second, as also noted by Suñer (1990, 1999), only genitive constructions can be pronominalized by a possessive pronoun:

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[14] See Saab (2004a) for a more detailed discussion. The hypothesis that epithets are pronouns has a long tradition in generative grammar, dating back at least to Jackendoff (1972). However, such a view was challenged by Lasnik (1976) who proposed that they are similar to R-expressions. Lasnik's argument is based on cases in which epithets and R-expression apparently share the same distribution. However, Dubinsky & Hamilton (1998) have shown that this is not the case and propose treating epithets as antilogophoric pronouns. In Saab (2004a), I showed that their analysis is supported by Spanish data.

(53)  (a) El hermano   de *Juan*        → *su* hermano
         *Juan*'s brother                  *his* brother

      (b) El idiota de *su marido*      →**su* idiota
         the idiot of *his husband*      **his* idiot

In this regard, epithets behave as partitive constructions:

(54)  Un grupo de *los senadores*      → **su* grupo
      a group of *the senators*        →**his* group

Taking these and other contrasts as a basis, I proposed that the apparent complement of the epithet is generated in the Spec*n*P position where it receives partitive case in a local relationship with a null *n*:

(55)  [DP el [NumP burro [*n*P de Juan [*n'* $n_{[male]}$ ] ] ] ]

The only difference between this structure and the one in (46) lies in the partitive PP in Spec,*n*P. Crucially, the epithet is in Spec,NumP in both structures. With this analysis in mind, we can give a simple answer to the problem of impossible deletions. Remember our basic fact (see 2.2.): (56) has the possessive reading but not the attributive one, as the gloss illustrates:

(56)  el    burro   de Juan   y    el   ~~burro~~   de Pedro
      the   donkey  of J.      and  the  ~~donkey~~  of P.

      'Juan's donkey and Pedro's'

If my analysis is on the right track, then we should assign the following two structures for each reading:

*Attributive reading*

(57)  (a)   *[DP el [NumP burro [*n*P de Juan  $n_{[male]}$ ]]] y [DP el [NumP ~~burro~~ [*n*P de Pedro  $n_{[male]}$ ]]]

*Possessive reading*

      (b)   [DP el [NumP [*n*P $n_{[male]}$ burro de Juan]]] y [DP el [NumP de Pedro[15] [*n*P ~~$n_{[male]}$ burro t~~ ]]]

As we can see, in (57b) the noun *burro* is in the domain of ellipsis and, furthermore, it has an identical antecedent in the first conjunct; therefore, ellipsis can take place. This is not the case with (57a) where the noun is outside the domain of ellipsis and, consequently, it cannot be understood as part of the elliptical gap.

The analysis in (55) supports the claim made in (36) in a conclusive way and, at the same time, makes certain predictions with respect to qualifying adjectives in pre-nominal position. Briefly, it predicts that pre-nominal adjectives cannot be part of an elliptical gap either[16]. This is borne out:

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[15] I am assuming that the remnant of the elided *n*P moves to the left periphery of the DP (see Saab 2009 for discussion).

[16] In fact, it seems that all qualifying adjectives undergo this restriction regardless of their position, as we can see in (i):

(58) (a)  la  hermosa mujer de Juan y  la  ~~mujer/*hermosa mujer~~  de Pedro
         the beautiful woman of  J.  and the ~~woman/*beautiful woman~~ of P.

'Juan's beautiful wife and Pedro's (wife)'

(b)  el  pobre estudiante de física  y  el  ~~estudiante/*pobre estudiante~~
     the poor student  of physics and the ~~student/*poor    student~~
     de matemática
     of maths

'the poor student of physics and the student of maths'

Relational adjectives, on the other hand, can be part of an elliptical gap[17]:

(59) una  comedia musical española y  una ~~comedia musical~~ italiana
     a    comedy musical Spanish and a  ~~comedy musical~~ Italian
     'a Spanish musical comedy and an Italian one'

These data support the analysis of adjective position in Spanish proposed by Bosque & Picallo (1996). According to them, qualifying adjectives are outside the lexical domain of the *n*P (see footnote 16), whereas relational adjectives are distributed across different levels of that domain.

The same analysis can be extended to the cases that we have seen in (7) above, repeated as (60) below. Remember that nouns like *pila* 'pile' have two potential readings: descriptive and quantificational. However, the quantificational interpretation is impossible in nominal ellipsis contexts:

(60) Tengo    una pila de libros y  una ~~pila~~ de revistas   sobre la  mesa.
     have-1.SG a   pile of books and a  ~~pile~~ of magazines  on    the table.
     'I have a pile of books and a pile of magazines on the table.'
     *'I have lot of books and lot of magazines…'

The simpler answer here is to assume two different underlying structures, as in the case of epithets. Under the quantificational reading, the noun cannot be elided because it is in Spec,NumP. Under the descriptive reading, instead, the noun is in the domain of ellipsis and, as a consequence,

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(i)  La mujer    hermosa de Pedro y  la  ~~mujer/*mujer    hermosa~~ de Juan
     the woman   beautiful of P.   and the ~~woman/*woman beautiful~~ of J.
     'Pedro's beautiful wife and John's'

Giannakidou & Stavrou (1999) obtain the same conclusion based on Greek data. We agree with these authors and with Bosque & Picallo (1996) that all qualifying adjectives are outside the *n*P domain, so the phenomenon in (i) can be included in our analysis. It remains open how the word order is derived. Our analysis is similar to Giannakidou & Stavrou's. However, they try to explain the generalization stating that nominal ellipsis is ellipsis of a head or a complex head. Therefore, they should analyze *comedia musical* in (59) as a complex head. I do not assume such an analysis here; see Bosque & Picallo (1996) for arguments against it.

[17] As discussed in Saab (2004b) and (2009) in detail, the data presented here contrast with the predictions made by Ticio (2003).

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can be elided. This analysis allows us to unify all the impossible deletion phenomena under a simple account.

There are some facts that support the conclusion that quantificational nouns are in the left periphery of the Spanish DP. On the one hand, they cannot be modified by other pre-nominal element. Thus, the noun *montón* in (61) can be only interpreted as descriptive (cf. 47b):

(61)  Un   hermoso montón   de flores
      a       beautiful pile        of  flowers
      *many beautiful flowers…

On the other hand, epithets and quantificational nouns share and interesting property: both allow the so-called *ad sensum* agreement phenomenon:

(62) (a)   Un   montón  de libros se cayó/cayeron      de la    biblioteca.
          a      pile        of  books SE fell-3.SG/fell-3.PL of  the   library

   (b)  El                  ángel   de tu     mujer   está contento/contenta.
        the-MASC.SG   angel   of your  wife    is    happy-MASC.SG/happy-FEM.SG
                                              (example b adapted from Suñer 1999)

What is interesting is that when *ad sensum* agreement is triggered, the only available reading is quantificational in (62a) and attributive in (62b). When there is no *ad sensum* agreement the opposite readings arise; that is, (62b) means that your wife has an angel (i.e., your wife's angel) and (62a) means that a pile of books (i.e., an object formed by books) fell. This is accounted for if both epithets and quantificational nouns are not the head of the DP, as I am proposing. Agreement is triggered then by the features distributed across each DP. In (62a), under the quantificational reading, the plural feature is encoded on Num, and in (62b), under the attributive reading, gender is encoded on the intransitive $n^{18}$.

If this account is on the right track, it should be extended to the typical case of *ad sensum* agreement in Spanish, namely, (pseudo)-partitive constructions. In other words, it is predicted that ellipsis in (pesudo)-partitive constructions triggering *ad sensum* agreement is not possible. This is borne out. (63) shows that *ad sensum* agreement is possible in (pseudo)-partitive constructions (see Brucart 1997) and (64) shows that ellipsis is impossible in contexts of *ad sensum* agreement.

(63) (a)   Un   grupo  de senadores votó/votaron          la    ley.
          a      group  of senators     voted-3.SG/voted-3.PL the  law.
   (b)  Un   grupo  de los   senadores votó/votaron          la    ley.

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[18] An important consequence of this analysis is that the theoretical status of the notion of *ad sensum* agreement should be reconsidered (see Saab 2004b, 2009 for discussion).

a    group  of  the  senators    voted-3.SG/voted-3.PL  the  law

(c)  La  mayoría  de  los  senadores  votó/votaron          la   ley.
     the  majority  of  the  senators    voted-3.SG/voted-3.PL   the  law

(d)  Una parte de los  senadores  votó/votaron          la   ley.
      a   part  of  the  senators    voted-3.SG/voted-3.PL  the  law

(64) (a)  ?La  mayoría  de  los  senadores  votó         a  favor de la   ley
          the  majority of  the  senators    voted-3.SG  to favor of the  law

          pero la   ~~mayoría~~ de los  diputados    votó          en contra.
          but   the ~~majority~~ of the  delegates    voted-3.SG   in against

    (b)  *La  mayoría  de los  senadores  votaron        a  favor de la   ley
          the  majority of  the  senators    voted-3.PL   to favor of the  law

          pero la   ~~mayoría~~   de los  diputados votaron    en contra.
          but the   ~~majority~~  of the  delegates voted.3.PL in against

    (c)  Un  grupo  de senadores  votó        a  favor  de la   ley
          a   group  of senators    voted-3.SG to favor   of the  law

          pero uno  ~~grupo~~ de  diputados          votó en contra
          but   a   ~~group~~ of  delegates   voted-3.SG in against

    (d)  *Un grupo  de senadores  votaron    a  favor de la   ley
          a   group  of senators    voted-3.PL to favor of the  law

          pero uno ~~grupo~~ de diputados  votaron       en contra.
          but   a   ~~group~~ of delegates  voted-3.PL   in against

In short, the generalization is that nouns triggering *ad sensum* agreement cannot be elided. Regardless of whether these nouns occupy the same position in the geometry of the DP, it seems to be clear that all of them have a common structural property: they are elements of the left periphery of the Spanish DP. This property accounts for why they cannot be elided. That is, they are not part of the domain of nominal ellipsis in the sense defined above.

## 7. Concluding remarks

In this paper, I have argued that nominal ellipsis obeys two conditions: a strict identity condition and a licensing condition, both applying at syntax. With respect to the licensing condition, I have shown that the target of the ellipsis in the DP domain is restricted to the complement of Num: i.e., *n*P. This licensing condition accounts for the fact that nouns in the left periphery of the DP cannot be deleted and for the fact that the number morpheme is not part of an elliptical gap. That is, the analysis I have proposed unifies what at first glance seems to be opposite phenomena: the possibility of having partial identity with respect to number and the impossibility of eliding predicative nouns. In turn, I have further argued that identity makes reference to both abstract morphemes and Roots (against Murguia 2004). We have seen that inflectional and

homophone/suppletive pairs present a clear contrast in nominal ellipsis contexts. I have proposed that this contrast is accounted for, provided that we conceive gender resolution in Spanish as a non-uniform process. In the case of inflectional pairs, gender is resolved on *n* by virtue of a sex feature (i.e., an interpretable feature) which triggers gender insertion in morphology. In the case of suppletive pairs, different Roots are specified with distinct sex features that also trigger gender resolution on *n* in morphology. The direct effect of this view is that suppletive pairs, but not inflectional ones, violate Root identity. Finally, homophone pairs always behave as suppletive ones in the sense that each member of a given pair is represented by a different Root in the syntax, but in this case there is no rule relating sex to gender. Instead, gender insertion for these pairs depends on arbitrary information of each Root. The prediction is that homophone pairs behave as suppletive ones in contexts of nominal ellipsis.

The analysis presented so far has some relevant consequences for the theory of ellipsis resolution and for the architecture of the grammar, in particular for the morphosyntactic representation of lexical Roots. As for ellipsis resolution, the pattern I have explored points in favor of some syntactic approaches to this issue (Saab 2003, 2005, 2009, and Chung 2006, among many others) and against purely semantic ones (Merchant 2001).

As for the representation of Roots, the data presented here suggest: (i) that a late insertion approach for Roots seems more empirically adequate than its alternative views, and (ii) that at least some semantic features of Roots should be visible at the syntax-morphology interface, a revealing consequence. It is a matter of future research whether or not these semantic features have some common property.

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**Andrés Leandro Saab**
a.l.saab@hum.leidenuniv.nl
Universiteit Docent-Leiden University