GENDER AND NUMBER
IN ROMANCE

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ABSTRACT: This article assesses the relation between formal gender and grammatical number. It is claimed that both gender and number are the exponents of interpretable features in functional projections of nominals. It is also shown that number can only be expressed in categories that are assigned a formal gender or class. A strong version of the Uniformity hypothesis is adopted by suggesting that nominal constructions not only should conform to a universal hierarchical structure but the locus where their grammatical features are interpreted should be invariant.

KEYWORDS: Agreement, grammatical gender, grammatical number

1. INTRODUCTION

This essay explores the syntactic function of grammatical gender and its relation with grammatical number in Catalan and Spanish. I propose that gender inflection in a common noun constitutes the formal correlate of an interpretable feature that linguistically encodes categorization processes. This feature is hosted in a functional projection in nominal structures. The conjecture that these cognitive processes may have grammatical expression has already been formulated by some scholars in different theoretical frameworks.[1] It is recast here under a Minimalist perspective. The relation between gender and number is accounted for by claiming that the assignment of grammatical number depends on the assignment of a formal class to a linguistic category. In the course of the discussion, a few data from languages of families other than Romance are brought in to support the view that some aspects of the functional nominal structure should be invariant but their particular morpho-phonological realization may vary cross-linguistically.

[1] See Allan (1977), Craig (1986a), Corbett (1991) and Croft (1994), among many others.

2. THE STATUS OF THE GENDER FEATURE

Grammatical gender has been considered one of the features that form the referential feature set of a nominal category (i.e. the so-called *Phi* set), which includes also person and number. At the syntactic component, gender is generally assumed to participate in the operation of abstract Agreement in a bundle which includes the interpretable person and number. Gender has generally been conceived as an unvalued and non-interpretable item in a functional probe (say, T or *v*) and as a valued but also non-interpretable feature in the *Phi*-set of the nominal category that constitutes its potential goal.[2] Formal gender appears to be a syntactic artifact in this system since, besides its assumed non-interpretability in either probe or goal, it has not been assumed to intervene in the computation in a specific way.[3] Gender differs from other non-interpretable items, such as the so-called EPP feature or structural case, which have been attributed the syntactic functions of triggering phrasal movement or rendering arguments active or "visible" for abstract Agreement respectively (see Chomsky, 1995, *et seq.*). From a Minimalist point of view, the assumption that gender is not interpretable in either probe or goal – together with its apparent lack of a specific computational function – is puzzling. General and strict principles of economy should lead us to the conclusion that the computation should be maximally efficient and that each formal feature intervening in the system should be either interpretable or associated with a specific syntactic effect.

One can consider the possibility that gender inflection is not a syntactic object but rather a dissociated morpheme, a pure morpho-phonological entity that is post-syntactically inserted at Spell Out.[4] Dissociated morphemes, however, do not intervene in LF processes yet grammatical gender has effects at the interpretive component. For example, gender can determine whether or not a variable-like reading obtains for pronominal elements, as in the classical "donkey" sentences exemplified below in Catalan:

(1) a. Quan un venedor   té una cadira$_i$ la$_i$
         when a   seller-MASC has a   chair-FEM it-FEM,SG

         / el$_{*i/j}$ / ho$_{*i/h}$ ven
         / it-MASC,SG / it-NEUT sells
         'When a seller has a chair, he sells it'

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[2] On the non-interpretability of formal gender, see Bernstein (1993a, 1993b), Ritter (1993) and Borer (2005).

[3] See, however, Ferrari (2005), who attributes to it a nominalizing function.

[4] See Embick and Noyer (2001: 558).

b.   Quan una venedora té un armari$_i$ la$_{*i/j}$
        when a   seller-FEM has a closet-MASC it-FEM,SG
        / el$_i$ / ho$_{*i/h}$ ven
        / it-MASC,SG / it-NEUT sells
        'When a seller has a closet, she sells it'

The clitic pronouns in the above sentences are all singular. They must agree in gender with their respective antecedents in order to be bound by them. If there is no gender agreement, the constructions (1a-b) are grammatical, but the pronouns will then be interpreted as free. In this paper, it is shown that grammatical gender is also associated with the expression of grammatical number. Genderless categories are also numberless in Romance and can not participate in any phenomena related to grammatical number. The evidence that gender feeds number can not be accounted for under the post-syntactic or dissociated morpheme hypothesis, which predicts that no relation should exist between the two features.[5]

3. ROMANCE GENDER

As is well known, all Catalan and Spanish common nouns must morphologically belong to one of two possible formal classes: the masculine or the feminine, henceforth [±fem].[6] Determiners, demonstratives, pronouns or adjectives syntactically related to nouns or to nominal expressions by concord, syntactic Agreement or anaphora also show [±fem] inflection, as in the following Catalan example:

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[5] On the interaction between grammatical gender and number, see Heycock and Zamparelli (2005: 234) and references cited there.

[6] For the purposes of the present discussion, we can very generally say that [+fem] prototypically surfaces as the suffix /a/ in both Catalan and Spanish. The value [−fem], the unmarked grammatical gender in both languages, mostly surfaces as the suffix /o/ in Spanish, and is phonologically null in Catalan. This is a coarse generalization with well known morpho-phonological irregularities. For example, the Spanish noun *mano* 'hand' apparently has an /o/ inflection but it is a feminine noun, whereas *mapa* 'map' and *poeta* 'poet' appear to show /a/ inflection both in Catalan and Spanish, but are masculine. Harris (1991) has analyzed these suffixes as word markers, which are different from grammatical gender. The inherent gender of such nouns establishes regular concord in the masculine or in the feminine with determiners and adjectives (cf. Sp. *la mano blanca* lit. 'the-FEM hand white-FEM', 'the white hand' / *el mapa amarillo* lit. 'the-MASC map yellow-MASC', 'the yellow map' / *un poeta estúpido* lit. 'a-MASC poet stupid-MASC', 'a stupid poet' / *una soprano maravillosa* lit. 'a-FEM soprano marvelous-FEM', 'a marvelous soprano'. Binding or coreference are also sensitive to formal gender, and not to word markers (cf. Sp. *Todo poeta cree que la crítica lo/*la admira* 'Every-MASC poet believes that the critique admires him/*her' / *Toda soprano cree que el empresario la/*lo contratará* 'Every-FEM soprano believes that the impresario will hire her/*him'). Derivational suffixes also follow inflectional regularities in these cases: *manaza/*manazo* 'big hand-FEM', *mapazo/*mapaza* 'big map-MASC', *poetastro/*poetastra* 'poetaster-MASC'. In this context, I will put irregularities and word markers aside to consider only the syntactic effects of the grammatical gender feature.

(2)　La　　ploma　negra,　encara no la　　puc
　　　the-FEM pen-FEM black-FEM still　　not it-FEM can.PRES-1.SING
　　　fer　　servir
　　　make use
　　　'The black pen, I still can not use it'

　　Neither Catalan nor Spanish have neuter nouns. The label "neuter" has been traditionally applied to some pronominal forms,[7] but it is not a third grammatical gender complementary to masculine and feminine in these languages. Rather, 'neuter' is a term borrowed from the three-gendered Latin system and stands for the absence of formal gender in Catalan or Spanish. All nouns, irrespective of their denotation, are gendered. Nominals can not be the linguistic antecedents of neuter pronominal forms, as already seen in (1a-b) above, where the neuter *ho* 'it' can not be linked to the indefinite noun phrase.

　　Leaving aside the morphological expression of natural (sexual) gender distinctions, one can generally say that the interpretation of common nouns, either mass or count, is not affected by belonging to a particular gender type.[8] Although grammatical gender may not be interpretable in the lexical N category, I propose that it is the formal exponent of an interpretable functional feature, which I will label [CLASS] for convenience. This feature is hosted in a functional projection *c* (for *class*) immediately dominating N, as shown in (3):

(3)　　$[_c$ [CLASS] $[_N$ N]]

Let us entertain the conjecture that [CLASS] serves to translate to the grammatical system non-linguistic processes of entity categorization. In many Indo-European languages, the presence of [CLASS] is manifested as formal gender on the noun, but in other language families this grammatical entity may surface with other linguistic tools. One of them is that of resorting to noun classifiers or noun classes, where [CLASS] is rendered as overt semi-lexical items or as morphemes that appear to catalog the entities denoted by nouns in various different ways: perceptual distinctions (physical or functional), (in)animacy hierarchies, natural divisions, or ranking of objects within scales determined by various non-linguistic factors. Consider, in this respect, the distribution and

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[7] They are, among others, the Catalan clitic *ho* 'it', its Spanish counterpart *lo* 'it' and the Spanish tonic form *ello* 'it'. Some demonstratives like *això/allò-esto/eso/aquello* 'this/that' and certain quantifiers like the Spanish *algo* 'some' are also neuter.

[8] For example, the nouns *diente*-MASC / *dent*-FEM 'tooth' or *tenedor*-MASC / *forquilla*-FEM 'fork', in Spanish/Catalan respectively, have a different gender, a fact that only affects concord with their syntactically related categories. Mascaró (1985: 101) provides a list of a few cases where gender has some semantic import as in the Catalan pair *cistell / cistella* 'basket-MASC / big basket-FEM', or the Spanish *saco / saca* 'sack-MASC / big sack-FEM'. In these cases, gender alternation is related to size and feminine inflection is probably a disguised derivational morpheme.

interpretation of noun classifiers in the Jacaltec example (4). The distribution of noun classes is exemplified in the Seshoto example (5):[9]

(4) swatx' *ix*   ix   *ixim*   b'itx
     made   NCL:*woman* girl NCL:*corn* tamal
     'The girl made the tamales'
     (Jacaltec, Mayan, from Craig, 1986a: 264)

(5) *ba*-shányana *bá*-ne   *bá*-fúmáné   *di*-perekisi
     NCL:*2*-boys NCL:*2*-those NCL:*2*-found NCL:*10*-peaches
     tsé-monáte
     NCL:*10*-good
     'Those boys found peaches that are tasty'
     (Seshoto, Bantu, from Demuth, 2000: 273)

In (4), the noun classifiers surface as independent lexemes immediately preceding the noun. These types of classifiers usually have a nominal origin, deriving in some cases from nouns that have been morpho-phonologically reduced to varying degrees (see Craig, 1986b: 255). In the Bantu example (5), the noun classes combine with number and are prefixed on the noun with concord spreading to the categories related to it.

Whatever form or denotation noun classifiers or noun classes may have, they are linguistic objects that, like formal gender, grammatically classify nouns, whether or not they also classify in some other non-linguistic dimension (material composition, social hierarchy or physical analogy) the entities the nouns denote. The noun class/noun classifier paradigms may cross-linguistically vary, but irrespective of dialectal or language idiosyncrasies, they have the following characteristics, according to Rijkhoff (2004: 74):

(6) a. They occupy a fixed position in nominal constituents.
     b. They form a closed system within the language.
     c. They are not subject to variation.[10]

These properties are typical of the functional elements that constitute extended projections of the noun and characterize formal gender of the Romance type as well. Many scholars, following different theoretical or methodological traditions, have suggested that the inflection for gender typical of many Indo-European languages is akin to some extent to these syntactic objects known as noun classes or noun classifiers.[11] I adopt this insight while considering

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[9] I will not attempt to discuss in any depth the properties of languages with classifiers or noun classes. The cursory look at some of them and the cross-linguistic data brought up to the fore in this discussion is intended to support the proposed hypothesis on the syntactic role of formal gender in Romance.

[10] Unless they are creatively used for verbal play or metaphor (see Allan, 1977: 307).

[11] See, among others, Corbett (1991: 312), Zavala (1990) and Grinevald (1999, 2000, 2002).

the hypothesis that grammatical gender (of the Romance type), noun classi-fiers (of the Mayan type) and noun classes (of the Bantu type) are all the same kind of functional element.[12] It should be pointed out, before proceeding, that the analogy is not extended here to other types of classificatory devices such as the so-called numeral, genitive or verbal classifiers.[13] The coexistence in some languages of a number of different types of classifiers occupying a hierarchically fixed and different position within a nominal structure suggests that the label 'classifier' may be too coarse and general a cover term for a number of different functional elements within DP.[14] Thus, the suggested par-allelism is limited here to the grammatical objects known as noun classifiers, such as the ones exemplified in (4), and noun classes, like the ones exemplified in (5). I therefore do not consider in this context numeral, genitive or verbal classifiers.

3.1 *The functional category* c

I have proposed that [CLASS] is an interpretable feature that heads a functional projection. The latter merges with a lexical N complement that enters the numeration fully inflected. At the syntactic component, the feature [CLASS] probes N. The category hosting [CLASS], the selector, projects after Merge (see (3) above).

In languages like the Mayan seen in (4), noun classifiers realize the fea-ture content of *c* with an overt and independent lexeme chosen from a closed inventory of forms. In the Bantu example (5), noun classes appear as prefixes. In both cases, the realization of [CLASS] precedes N, either as a free or as a bound morpheme. In the Romance case, gender follows the noun, surfacing as a suffix when overt. Previous accounts of nominal constituency such as Pi-callo (1991) and Bernstein (1993a, 1993b) have claimed that the post-nominal (suffix) position of gender inflection in the Romance NP obtains from a head raising and adjunction operation of the uninflected N stem to the head of a functional category.[15] In what follows, I disregard head raising or "stem hop-ping" as a possible syntactic mechanism, in order to satisfy the strict cyclicity imposed by the Extension Condition (see Chomsky, 2001). I consider instead the alternative that the pre- or post-nominal position of the exponent of the [CLASS] feature follows from a parametric difference: the locus of its valu-

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[12] On the parallelism between the Romance gender and the Bantu noun class system, see Ferrari (2005).

[13] See Allan (1977) for an overview of classification systems.

[14] For general discussion on this issue, see Croft (1994). See also Zavala (1990, 1992) and Grinevald (2000: 70), who discuss the existence of four concurrent types of classifiers within nominal constructions in the Kanjobalan languages (Mayan family). See, in this respect, note 23.

[15] See, however, Ritter (1993) and Di Domenico (1997: 136), who argue against the existence of a functional projection hosting gender in the Romance languages.

ation. Suppose that [CLASS] in *c* is always interpreted in the functional projection, but is selected as unvalued in Romance. The [±fem] inflection forms that appear suffixed to Catalan and Spanish nouns are the overt manifestation of a syntactic Agreement operation between [CLASS] in *c* and its formal feature correlate in N, which is inherent in the lexical entry of the noun but is not interpretable in N. The feature [CLASS] in Romance has to relate with a fully inflected N, the lexical category in its local c-command domain, in order to be valued. The binary feature [±fem] in N encodes the two possible options in which [CLASS] can formally be valued by the Agreement operation in Catalan and Spanish:

(7) $[_c$ [CLASS] $[_N$ N$_{[\pm\text{fem}]}$]]

This account preserves the Extension Condition without appealing to post-syntactic reordering. The relation between gender inflection in N and the [CLASS] feature in *c* entails the hypothesis that Agreement is a syntactic relation between the unvalued features of a probe and the valued features of its goal (Chomsky, 2001). In this case, the probe-goal relation obtains between CLASS and gender features in N. Note that this proposal departs from the hypothesis that unvalued features are invariably non-interpretable. Here, the locus of interpretation has been suggested to be in the unvalued probe [CLASS] in the functional *c*. Its matching correlate in the goal N is valued (i.e. [±fem]) but not interpretable.

The possibility of having one and the same feature in more than one syntactic position, i.e. that Agreement is feature sharing, has already been proposed in Frampton and Gutmann (2000). Note that the mechanism that is being suggested here does not constitute an isolated case within grammatical constructions. The same Agreement procedure between a feature realized in more than one syntactic location, functional and lexical, also obtains between the [TENSE] feature in T and its correlate in V. Pesetsky and Torrego (2004) point out that the interpretable [TENSE] feature in T Agrees with, and is valued by, a correlated feature instance surfacing as overt inflection on the verb, [±past], which is not interpretable. They assess Chomsky's (2001) proposal on the biconditional relation between valuation and interpretability and suggest that these should be independent properties. If so, elements of the lexicon can accordingly contain four types of feature instances:

(8)   a.   [valued,   uninterpretable]
        b.   [unvalued, uninterpretable]
        c.   [valued,   interpretable]
        d.   [unvalued, interpretable]

Recall that we continue to assume that probes are always unvalued. Hence, only instances of features conforming to the types (8b) and (8d) are possible

probes. Those of type (8a) are the goal of Agreement operations because they are valued. In addition to being valued, items conforming to (8a) are not interpretable at LF, and the operation Agree with matching feature correlates must apply with the effect of deleting such feature instances at Spell Out. Elements conforming to (8c) do not necessarily have to participate in syntactic Agreement operations. They are valued (hence, they can not be probes) and LF interpretable (hence, they do not delete). If they participate in syntactic agreement, they can only be goals. With these assumptions in mind, let us return to the issues under consideration.

In the case of Catalan and Spanish nominals, the binary [±fem] feature realized as inflection in N belongs to type (8a). This non interpretable (and valued) goal Agrees with the unvalued and interpretable [CLASS] feature (its probe) hosted in the abstract c selecting N. The probe belongs to type (8d) in Romance. In the configuration (9a) below, the Agreement operation formally values [CLASS] in one of only two possible ways in Catalan and Spanish. The procedure triggers syntactic LF deletion of its [±fem] instance in N when the phase is completed. The morphological [±fem] correlate of [CLASS] remains overt at the PF component, as in the example (9b), which exemplifies the value [+fem]:

(9) a. $[_D$ D ... $[_c$ [CLASS$_{+fem}$] $[_N$ N$_{[+fem]}$]] ...]   LF
     b. (la/una)   corbat$a$ PF
         (the/a-FEM) tie-FEM

The combination characterized as (8c) is arguably exemplified in languages with noun classifiers, like the one exemplified in (4) above. They realize with an independent functional lexeme the [CLASS] feature in c. The functional category takes a complement N devoid of a non-interpretable correlate. An interpretable and valued feature of these types is possibly also hosted in c in languages of the Bantu family. In this case, the noun class morpheme is prefixed to the noun, fused with number. The remaining combination of properties (8b) (i.e. non-interpretable and unvalued) may arguably obtain in some pronominal forms, see Picallo, 2007).

3.2 Bare nouns

Nouns conforming to the (bare) structure $[_c$ CLASS N] in (7) above name types of entities but not their instantiations. To do so, the syntactic object c must merge with number, hosted in a superordinate functional projection (see section 4) and, subsequently, with a phonologically null or an overt Determiner, among other possible functional elements (see Cinque, 2005). Evidence for the assumption that the bare sub-structure c names types, and not tokens of a given type, can be found in a few constructions where it is syntactically licensed. In Catalan and in Spanish, its distribution is severely restricted to the complement

positions of some lexical environments: the object of a few prepositions, light verbs or intensional predicates, among a handful of others.[16] The following examples illustrate them in Catalan and Spanish respectively:

(10)   a.   El president necessita escorta
                'The president needs bodyguard-MASC'
        b.   En Pere sempre porta jaqueta
                'Pere always wears jacket-FEM'

(11)   a.   Estos pepinos se han conservado en barrica
                'these cucumbers have been preserved in cask-FEM'
        b.   Hay silla para todos
                'there is chair-FEM for everybody'
        c.   Las palabras esdrújulas llevan acento
                'the proparoxytone words bear accent-MASC'

The only possible reading of the bare count nouns in these constructions is that of types of entities, like entries in a dictionary, not tokens.[17] Morpho-phonological wellformedness require the nouns to surface in the unmarked singular but they lack number content, being interpreted as neither singular nor plural. These bare nouns can not intervene in processes of backwards anaphora, which are only possible with grammatically referential expressions.[18] Witness the examples (12) and (13a-b), in Spanish and Catalan respectively, showing that co-reference between the bare noun and an overt or a null pronoun is impossible:

(12)   *Como ya   la$_i$ he   arreglado, podemos   conservar
        as   already it-FEM have.1.SING fixed,   can.1.PLU preserve
        el whisky en barrica$_i$
        the whisky in cask-FEM
        'As I have already fixed it$_i$, we can keep the whisky in cask$_i$'

(13)   a.   *Com que el$_i$ van   contractar, el president
              as   that him-CL go.3.PLU hire,   the president
              porta   escorta$_i$
              carry.3.SING escort-MASC
              'As they are going to hire him$_i$, the president has escort$_i$'

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[16] See Bosque (1996) for a general discussion on the distribution of bare nouns in Spanish.

[17] An anonymous reviewer points out that the interpretation of bare nouns may be conceived as that of an existential based on the kind.

[18] See Vergnaud and Zubizarreta (1992: 601) and references cited there.

    b.   *Si pro_i ha estat repintada,   hi   haurà cadira$_i$ per
        if (it) has been repainted-FEM, there will-be chair-FEM for
        a tothom
        everybody
        'If it has been repainted, there will be chair for everybody'

The bare nouns exemplified in (10) and (11) appear to syntactically function as arguments despite the fact that they lack a determiner. These nominals have the lowest scope and are unable to shift over verbs of propositional attitude, as shown in (14a) below; over negation, as shown in (14b); and over certain time adverbs or adverbial phrases, as shown in (14c). The examples are in Catalan, but the same effect obtains with their Spanish counterparts. The English translations below the glosses are intended to provide the closest interpretation of the expressions with bare nouns:

(14)   a.   *pro* vol   portar maleta
          s/he wants carry suitcase-FEM
          'S/he wants to be a suitcase carrier'
    b.   *pro* no té cotxe
          s/he not has car-MASC
          'S/he is not a car owner'
    c.   *pro* fa   servir ploma   repetidament / moltes vegades
          s/he makes use   pen-FEM repeatedly   / many times
          'S/he is a recurrent pen user'

Even considering the limited distribution of these nominals, the examples question the assumed general non-availability of bare singular count nouns in Romance.[19] The grammaticality of (10) and (11) as well as (14a-c) shows that the claim that nominal expressions can function as syntactic arguments only if they are introduced by the category D, overt or null (see Longobardi, 1994), should be qualified.

    Summarizing, I have suggested that nominals contain a functional category c, headed by the interpretable feature [CLASS] selecting an N complement. This functional feature can parametrically be selected as valued or as unvalued. In the Romance case, [CLASS] has been suggested to be unvalued and non-overt in c. As an unvalued feature, it is a probe. It agrees with, and gets a value from, its valued but non-interpretable correlate [±fem] in the N complement of c. The present proposal is fully consistent with the Uniformity hypothesis (see Cinque, 1999; Chomsky, 2001; Sigurðsson, 2004; among others).

    A possible problem for the present account is posed by languages that do not appear to have a system of noun classification in nominal constructions.

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[19] See Chierchia (1998). Exceptions to this generalization are Brazilian Portuguese and Haitian Creole. See Munn and Schmitt (1999) and Déprez (2005), respectively.

The hypothesis that the interpretable [CLASS] feature in *c* and its correlate in N (if a language selects the latter) may both be phonologically null can not be disregarded. Many languages that apparently lack grammatical gender or noun classifying devices often show a human/non human or an animate/inanimate distinction in their pronominal paradigms. These distinctions should be sensitive to the presence of an abstract feature in the possible linguistic antecedents of the pronouns, given that such variants in a pronominal system may determine whether or not an anaphoric link between a pronoun and a nominal expression is possible.[20]

It has been suggested that classifiers in general appear to feed the expression of counting or measuring devices in the nominal systems.[21] I turn to an exploration of how this relation can be formulated in the present context.

4. GENDER AND NUMBER

This section assesses the distribution of grammatical number and its relation to grammatical gender. Recall that the preceding discussion has assumed a strong version of Uniformity by proposing not only that the hierarchical order of the functional projections is fixed, but that the locus of interpretation of the grammatical features contained in these projections may be invariant and located in the functional layers. Here I claim that the functional projection containing the number feature [NU] cross-linguistically selects and merges with the one hosting [CLASS].

The overt manifestations of grammatical number are known to surface cross-linguistically in a variety of forms and distribution. Let us consider a few examples of this variation. In Romance, number features surface as suffixes on the noun, following gender, as shown in (15).[22] In the Mayan languages, exemplified in (16), number surfaces as an independent lexeme. It precedes noun class, which is also a free item. In this case, both elements are at the left of the N head and the noun is morphologically invariant.[23] As said, number appears morphologically fused with noun class in the Bantu languages, and thus surfaces, as seen in (17). Grammatical number can also surface prosodically. In

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[20] For languages with grammatical number and no overt gender (or noun classes), we could arguably assume that the computational operations are the same, but there is only one possible value for the gender/class feature.

[21] See Croft (1994), who offers evidence from a variety of languages. Doetjes (1996) and Cheng and Syebesma (1999, 2005) make the same claim after analyzing data from several varieties of Chinese. For Japanese, see Muromatsu (1995, 1998), and for several other languages of Southeast Asia, see Simpson (2005).

[22] Grammatical singular is phonologically null both in Spanish and in Catalan. The plural is realized with the morpheme /-s/.

[23] In addition to noun class and plural, cardinal numerals in Jacaltec also show a classifier-like element. Numerals precede the plural lexeme, which in turn precedes the noun classifier. The plural lexeme can be phonologically null for animal referents but is obligatorily overt for humans. Examples (i a-b) are from Zavala (1990: 164):

the Ngiti example (18), the last two syllables are assigned high tones for plural marking:

(15)   a.   libr-*o*   (Spanish)
              book-MASC,SING
        b.   libr-*os*
              book-MASC,PLUR

(16)   a.   *heb'*   *nax*   winax   (Jacaltec, Mayan)[24]
              PL.*human* NCL.*man* man
              '(The) men'
        b.   *hex*   *no7*   tšitam
              PL.*animal* NCL.*animal* pig
              '(The) pigs'

(17)   a.   *ji*-no   (Kiswahili, Bantu)[25]
              NCL:*5*-tooth
        b.   *me*-no
              NCL:*6*-teeth

(18)   a.   màlimò   (Ngiti, Central Sudanic)[26]
              'teacher'
        b.   màlímó
              'teachers'

Let us assume that the abstract structure shown in (19) below is cross-linguistically fixed. The functional category Nu(mber) hosting the number feature [NU] selects and merges with the (sub-)structure [$_c$ CLASS N]. The features [CLASS] and [NU] are always interpreted in their respective functional projection:[27]
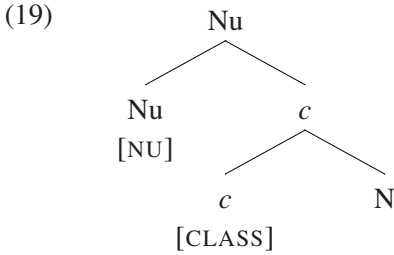

(i)   a.   ka-*waŋ* *heb'*   *nax*   winax   (Jacaltec, Mayan)
              two-*human* PL.*human* NCL.*human* man
              'Two men'
        b.   ka-*k'oŋ*   (*hex*)   *no7*   tšitam
              two.*animal* PL.*animal* NCL.*animal* pig
              'Two pigs'

[24] Examples from Zavala (1990: 164). He reports that nominals without a number lexeme can ambiguously be interpreted as singular or plural, as in the following example: *te7 sila*, lit. 'NCL.*wood* chair', 'The chair(s)'

[25] Examples from Carstens (1991).

[26] From Kutsch Lojenga (1994: 135), cited in Rijkhoff (2004: 151).

[27] See also Heycock & Zamparelli (2005: 223).

(19)

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                    Nu
                  /    \
               Nu        c
              [NU]      /  \
                       c     N
                    [CLASS]
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The overt expression of number and noun class in the Jacaltec (16) and Kiswahili (17) examples follows the basic order (19). In the Mayan case, number and noun class (in that order) are independent lexemes. In Bantu, they are bound and prefixed on the noun. Cyclicity requirements (i.e. the Extension Condition) do not allow us to assume that the post-nominal overt position of number in Romance-type languages obtains from an N head raising operation through the functional heads. The interpretability of this feature also bans any post-syntactic account to explain its distribution, even in languages where grammatical number surfaces prosodically, as in the Ngiti example (18).

The distribution of number can be accounted for if we adopt the parametric account proposed in section 3.1. for gender and noun class. The observed variation with respect to the morpho-phonological distribution of this feature may simply follow from a difference with respect to the syntactic location in which it is valued, not where it is interpreted. The feature [NU], like [CLASS], is always interpretable in the functional projection, but its value may be expressed in the lexical category. Following Pesetsky and Torrego (2004), I have considered that valuation and interpretability are two independent properties of feature instances (see section 3 above). Let us then suppose that, in the Mayan and the Bantu languages, interpretation and valuation obtain in the same syntactic position (i.e. the functional head). In the Romance languages and Ngiti, the two properties of the feature (interpretability and valuation) are distributed in two heads, the functional and the lexical respectively. In Ngiti, the value for the feature surfaces prosodically on N, whereas in Romance the value for [NU] is overtly expressed on the noun as a bound morpheme (the suffix corresponding to [±plur]), as abstractly represented in (20):

(20)   [$_{\text{NuP}}$ [NU] [$_c$ [CLASS] [$_{\text{NP}}$ [N$_{[\pm\text{fem},\pm\text{plur}]}$]]]

If the functional [NU] is unvalued, it can be a probe because only unvalued features can have that property. The abstract syntactic operation Agree between [NU] in the functional projection and its related instance in the lexical N category values the first as [±plur]. As a result of the operation, its non-interpretable correlate in N is deleted for LF interpretation at Spell-Out. The valued but non-interpretable instance of the feature surfaces in N at the morpho-phonological component.

The interpretive contribution of the feature [NU] in syntactic objects like (20), which are bare NuPs, may be associated not with cardinality (i.e. one *versus* more than one entity) but rather with the notion of token of the type named by the sub-structure *c* that Nu selects. Indirect evidence for this suggestion is provided by the interpretation of plural nouns in some contexts. Benincà (1980: 53) points out that the expression of number in bare plurals may be purely formal. Morphological plurality is interpreted not necessarily as multiplicity but rather as the instantiation of a given object type. In the absence of a partitive preposition, bare plurals in Italian, as well as their Catalan or Spanish counterparts, are perfectly compatible with singular referents, as shown in the examples below from Italian (from Benincà, 1980), Catalan and Spanish respectively:

(21)　　a.　　Ho　　　　　Sandra, quindi　ho　　　　　amiche.
　　　　　　　have.1.SING Sandra, therefore have.1.SING friends-FEM
　　　　　　　'I have Sandra, therefore I have friends'
　　　　b.　　Es pot dir que, a la　reunió,　hi　haurà fonòlegs.
　　　　　　　SE can say that, at the meeting, will be　phonologists.
　　　　　　　Vindrà　　　l'Eulàlia.
　　　　　　　Will-come the-Eulàlia
　　　　　　　'One can say that there will be phonologists at the meeting. Eulàlia will come'
　　　　c.　　No digas que aquí no hay sillas.　　　Hay una.
　　　　　　　not say　that here not are chairs-FEM. Is　one-FEM
　　　　　　　'Don't say that there are no chairs. There is one'

A similar phenomenon has been observed with the reading of null subject plural pronouns in Romance which, as is known, can be interpreted as denoting one or more than one individual (see Jaeggli, 1986).[28] The possible pluralization of some mass nouns may also offer some evidence for the "tokenizing" role of grammatical number. Mass nouns have generally been assumed to be inherently singular but some of them can also be pluralized in Spanish and Catalan.[29] Consider, in this respect, the mass plurals in (22a) and (23a) below in Spanish and Catalan respectively. These nouns can not be interpreted as denoting different kinds, different portions or understood measuring units of the named entity, but only instances of it. The (a) sentences do not differ in interpretation in any way from their singular (b) counterparts:

---

[28] As is known, these so-called "arbitrary pronouns" have a limited distribution and interpretation. They can not be internal arguments or derived subjects and can only refer to humans.

[29] Pluralization of mass nouns has been reported to be widespread in Modern Greek when a list or enumeration of mass-denoting nouns occurs (Tsoulas, 2006). In my varieties of Catalan and Spanish, mass pluralization can obtain with nouns like *water, wind, sand, snow, rain, soup, mucus, dirt, smoke* or with a few others. J. Mascaró (p.c.) observes that quite a number of mass nouns tend to be *pluralia tantum* in Catalan.

(22) a. Las   aguas   de la   bahía están
          the-FEM,PLUR waters-FEM,PLUR of the bay   are
          agitadas   hoy
          rough-FEM,PLUR today
          'The waters of the bay are rough today'
      b. El   agua   de la   bahía está
          the-FEM,SING water-FEM,SING of the bay   is
          agitada   hoy
          rough-FEM,SING today
          'The water of the bay is rough today'

(23) a. Fes-me   el favor d' acabar-te   les
          do-me.CLI the favour of finish-you.CLI the-FEM,PLUR
          sopes   del   plat
          soups-FEM of-the dish
          'Do me the favour of finishing up the soups in the dish'
      b. Fes-me   el favor d' acabar-te   la
          do-me.CLI the favour of finish-you.CLI the-FEM,SING
          sopa   del   plat
          soup-FEM of-the dish
          'Do me the favour of finishing up the soup in the dish'

Recapitulating, I have claimed that the functional hierarchy in a nominal construction is Number (Nu) and Class (*c*). The interpretation of the [NU] and [CLASS] features has been proposed to be cross-linguistically located in the functional projections. The pre- or post-nominal distribution of their morpho-phonological exponents reflects a parametric variation with respect to the syntactic location where the features are valued: either at the functional projection or, as their correlates, on the lexical head. It has also been suggested that the [CLASS] feature in the functional category *c* selecting N is related to type denotations. Some evidence has been provided suggesting that the [NU] feature selecting the former appears to furnish the nominal with token readings.

The preceding discussion has focused on NPs, which are always categories that have gender and number. Other types of categories can also have the function of arguments of predication but they lack a grammatical class or a formal gender. They also lack number. We briefly examine them in the next section.

5. GENDERLESS ARGUMENTS

Arguments without grammatical gender are traditionally called "neuters" in Catalan and Spanish. Lack of gender invariably correlates with the absence of grammatical number and hence the impossibility for genderless arguments to participate in any phenomena related to the expression of the number feature.

Quer (2001) and Picallo (2002, 2007) show that coordinated genderless (i.e. neuter) subjects – demonstratives, pronouns or clausal arguments – require the predicate in the default singular and that they can only link neuter pronouns, which are always numberless.[30] As opposed to series of coordinated nominals, summation procedures (which apply to grammatical singulars) can not apply to series of coordinated genderless arguments.[31] Floating quantification is also impossible with coordinated CPs, or neuters in general, a property that can be attributed to the fact that they lack the possibility of being assigned the grammatical plural able to license the floating quantifier (see Picallo, 2002, 2007).

The absence of number in CPs is a grammatical property of these syntactic objects. The states of affairs that coordinated argument CPs may express can be individuated and are not understood as denoting a "massified bulk"; witness the possibility of adverbial licensing in examples like (24), or the compatibility of symmetric or comparative predicates with coordinated CPs in (25) and (26) respectively:

(24)   [[Que la premiessin]   i   [que el   promocionessin]
        that   her awarded-3.PLUR and that him promoted-3.PLUR
        va/*van   tenir lloc simultàniament/amb   poques hores
        go-3-SING/*PLUR take place simultaneously/within a-few   hours
        de diferència
        of difference
        'That they awarded her and that they promoted him took place simul-
        taneously / within a few hours of difference'

---

[30] See also Iatridou and Embick (1997), who exemplify these phenomena in Modern Greek.

[31] Complex NPs or nominalizations corresponding to CP arguments are, of course, gendered and obligatorily require their predicate in the plural under coordination. Plural agreement is required with all coordinated nouns, regardless of whether they are mass or count and irrespectively of the morphological expression of the determiner:

(i)   Agua   y   aceite   no se mezclan   con facilidad
        water-FEM and oil-MASC not CLI mix-PLUR with easiness
        'Water and oil don't mix easily'

(25)   [[Que la   Terra sigui rodona] i   [que la   Terra giri   al
        that   the Earth is   round   and that the Earth moves at-the
        voltant del   Sol]] són dos fets   diferents
        around of-the Sun   are two facts different.PLUR
        'That the Earth is round and that the Earth moves around the Sun are
        two different facts'

(26)   Es incompatible [[que un objeto sea esférico] y   [que sea también
        is incompatible that   an object is   spherical and that is   also
        cúbico]]
        cubic
        'It is incompatible that an object is spherical and that it is also cubic'

The absence of a grammatical categorization mechanism has the effect of blocking the expression of grammatical number, if the latter selects the former as has been claimed. Gender, or formal class attribution, feeds number, which is the grammatical tool with which tokens of a class appear to be named.

6. CONCLUSION

This paper has assessed the possible syntactic function of grammatical gender and its relation with the expression of grammatical number within a Minimalist perspective. Gender inflection has been claimed to be the overt manifestation of an Agreement relation between an interpretable feature in a functional projection and its non-interpretable correlate in the lexical N category. Data from language families other than Romance have briefly been considered in order to test, even in the limited domain of inquiry considered here, a strong version of the Uniformity hypothesis. The Extension Condition, which has also been adopted, imposes severe restrictions on any account of the distribution of the morpho-phonological expression of [CLASS] and grammatical number in a number of languages (i.e. a pre- or post-nominal position). In particular, strict cyclicity bans former accounts of gender and number suffixation in Romance as resulting from head movement. The distribution of these formal features has been accounted for by assuming that the operation of Agreement may apply between instances of features sited in more than one syntactic location while assuming that valuation and interpretation of feature instances are dissociated properties. Interpretation must be universally fixed but the locus of a feature value can be subject to parametric variation.

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