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Feature Sharing and (In)definiteness in the Nominal Domain

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Abstract

In this paper we examine several aspects of the syntax and semantics of the so-called Spanish comparative qualitative binominal noun phrases (henceforth, *c*-QBNP's). Structurally, Spanish *c*-QBNP's involve two nominal/adjectival phrases joined by a linker *de* after predicate inversion (cf. den Dikken 2006). While previous literature has mainly focused on the so-called Definiteness Agreement Effect (Español-Echevarría 1997, 1998), we argue that the syntax of this construction is instead subjected to Specificity agreement, for both phrases must at least be specific rather than definite (cf. Villalba 2007). We further evidence that feature sharing properly explains the licensing of the phi-features involved (cf. Frampton and Gutmann 2000, Pesetsky and Torrego 2007). In addition, the syntax and semantics of Spanish *c*-QBNP's sheds light on the differentiation between syntactic and semantic definiteness. Crosslinguistic data support our analysis.

Feature Sharing and (In)definiteness in the Nominal Domain

Melvin González-Rivera and Manuel Delicado-Cantero*

1 Introduction

In this paper we examine several aspects of the syntax and semantics of the so-called Spanish comparative qualitative binominal noun phrases (henceforth, c-QBNPs). Spanish c-QBNPs have the following syntactic structure: (i) *Def-A/N de Def-N* (1a) or (ii) *Def-A/N de PN* (1b), and involve at some level of abstraction DP-internal predication — i.e., (1a–b) can be roughly paraphrased as (2a–2b) respectively (Español-Echevarría 1997, 1998, Casillas Martínez 2003, den Dikken 2006, Villalba-Bartra-Kaufmann 2010):

- (1) a. el idiota del decano
the idiot of-the dean
'the idiot of the dean'
b. el idiota de Juan
the idiot of John
'the idiot of John'
- (2) a. el decano es (un) idiota
the dean is (an) idiot
'the dean is (an) idiot'
b. Juan es (un) idiota
John is (an) idiot
'Juan is (an) idiot'

There is another construction in Spanish similar to c-QBNPs namely, the attributive QBNP (a-QBNP) clause, which displays the following syntactic pattern: *NP(AP) de NP*:

- (3) un idiota de decano
a idiot of dean
'an idiot of a dean'

It has been claimed that c-QBNP and a-QBNP differ not only in meaning, but also in syntactic structures: while c-QBNP may be analyzed in terms of predicate inversion, a-QBNP is better understood as base-generated with the predicate preceding its subject (García and Méndez 2002, den Dikken 2006, González-Rivera 2009, 2010). Here we focus our attention on Spanish c-QBNPs.

2 Qualitative Binominal Noun Phrases

2.1 a-QBNPs and c-QBNPs

QBNPs come in different flavors: comparative and attributive. Whereas a-QBNPs are headed by an indefinite determiner and require an indefinite bare noun as their second constituent, c-QBNPs are headed by a definite determiner and (normally) contain a definite second constituent. Español-Echevarría (1997, 1998) refers to the former as *Indef-Indef* contexts, while the latter exemplifies case of *Def-Def* contexts:

- (4) a. *un idiota del decano

*The order of the authors is purely arbitrary and does not indicate level of authorship. Both are equally responsible for the paper. We want to express our gratitude to the participants of the 34th Penn Linguistics Colloquium, in particular Andreas Blümel for his comments on German determiners. We thank William Steed for his comments and assistance editing this paper. The usual disclaimers apply.

- a idiot of-the dean
 ‘an idiot of the dean’
- b. *el idiota de decano
 the idiot of dean
 ‘the idiot of dean’

The distinction between both constructions, however, is not merely structural — i.e., there are semantic and syntactic evidence that force us to tease them apart. For example, (2) ascribes a property to its subject in *his capability as a dean*, and not as a human being, whether it is or not the case. In c-QBNPs, on the other hand, the property denoted by the predicate applies directly to an individual that happens to have a profession.¹ From a syntactic standpoint, there is crosslinguistic evidence that supports the a-QBNPs and c-QBNPs distinction (cf. Napoli 1989 for Italian, for instance).

In English, on the other hand, there is a variant of a-QBNPs that has the two noun phrases juxtaposed without the intervention of any lexical item between them; this is not possible in English c-QBNPs — i.e., (6a) cannot be paraphrased as (6b) (González-Rivera 2009, 2010, den Dikken 2006):

- (5) a. an idiot of a governor
 b. an idiot governor
- (6) a. a jewel of a city
 b. *a jewel city

Den Dikken (2006) calls examples like (6a) comparative QBNP because a comparison is established between the subject of the predication and the predicate. (6a) may be interpreted as (7):

- (7) the city is like a jewel

2.2 c-QBNPs: Basic properties

Den Dikken (2006) takes the indefinite article preceding the subject of the predication in (6a) to be a spurious article. His main empirical evidence comes from Dutch, which allows number disagreement between the indefinite article *een* ‘a’ preceding the subject and the subject itself — i.e., the subject can be either singular or plural (den Dikken 2006:188):

- (8) a. die idiot van een doktor
 those idiot of a doctor
 ‘that idiot of a doctor’
- b. die idioten van (een) doktoren
 those idiots of a doctors
 ‘those idiot doctors’

C-QBNPs allow number disagreement between the subject and the whole DP. Consider the following Dutch example (den Dikken 2006:193):

¹Following a neo-Carlsonian approach, we may explain the semantic difference between c-QBNPs and a-QBNPs as follows: Spanish c-QBNPs express properties of total objects, while Spanish a-QBNPs denote properties of partial object. In other words, while the former expresses propositions that are true only in big situations — i.e., world size situations, the latter denotes propositions that may be true in small or localizable situations. Thus, the difference between c-QBNPs and a-QBNPs is that the latter involves two levels of predication. These levels can be represented roughly as in (i), where WS is the set of world size situation, w is the set of possible worlds, and s the set of possible situations.

- (i) a. x is an idiot $\Rightarrow \lambda x \lambda w [w \in WS \wedge x \text{ is an idiot in } w]$
 b. x is an idiot as a dean $\Rightarrow \lambda x \lambda s [x \text{ is an idiot in } s]$

In other words, what the predicate of Spanish a-QBNPs expresses is that the subject or object of predication has a property, and that property is true in small or localizable situations.

- (9) die twee ramp van een feiten
 that two disaster of a facts
 ‘those two disastrous facts’

If this is the case, then the subject of c-QBNPs must be big enough to accommodate a NumP, independent of the whole DP. The NumP, however, is not big enough to accommodate a QP; and in fact this is what den Dikken finds in c-QBNPs — i.e., quantifiers are ruled out from (Germanic) c-QBNPs (den Dikken 2006:196).

Finally, the preposition between the predicate and the subject is not a true preposition — i.e., it behaves as a dummy P or a meaningless element whose presence in the structure is forced by syntactic constraints. Like the verbal copula, this nominal copula can serve as a lexicalization of the RELATOR-head (den Dikken 2006: 212).

Den Dikken (2006:178), among others, has suggested a syntactic derivation for c-QBNPs in which the predicate inverts with its subject in the course of the syntactic derivation, so an empty predicate head can be licensed, which den Dikken assumes to be the predicate-head SIMILAR. This representation gives us the semantics of comparison:

- (10) $[_{RP} [_{village} \text{RELATOR} [_{SIMILAR} \text{jewel}]]]$

Thus, the syntactic derivation for (10) proceeds as follows: first, a functional projection is created by the nominal copula *of* — i.e., a LINKER in den Dikken’s (2006) terms. Then, the RELATOR *a* incorporates to F for checking some formal features; and finally the FP is selected by a nominal functional head:

- (11) $[_{DP} a [_{FP} [_{NumP} \text{jewel}]_j [_{F}^0 \text{LINKER=of+RELATOR=a} [_{RP} [_{NumP} \text{village}] [_{R}^0 \text{t}_i \text{t}_j]]]]]$

This proposal can be summarized as follows: (1) the existence of a spurious indefinite article, (2) the NumP hypothesis, and (3) predicate inversion (González-Rivera to appear, Villalba 2007).

3 Spanish c-QBNPs

Spanish comparative QBNPs have the following structure: *Def-N/A de Def-N*, and involve at some level of abstraction DP-internal predication (cf. (1) and (2) above).

Other restrictions apply in the syntax of Spanish c-QBNPs. As Villalba (2007) points out, the DP subject — that is to say, the second DP in the linear order — must be (normally) specific:

- (12) a. *el gilipollas de alcalde
 the asshole of mayor
 b. *el idiota de aquel médico
 the idiot of that doctor

Regarding the internal syntax of this construction, Villalba (2007) argues, following den Dikken’s Predicate Inversion work, that the underlying structure of a c-QBNP is as reflected in (13): the DP subject *el doctor* ‘the doctor’ stands in a predication relation with the DP predicate *idiota* ‘idiot’:

- (13) $[_{RP} [_{DP} \text{el doctor}] [_{R}' [_{DP} \text{idiota}]]]$

The mediation of the small clause is necessary in order to comply with the Linear Correspondence Axiom (LCA) (Kayne 1994), and is done by means of the Relator head R, a functional head that takes the predicate and its subject as its dependents, with one sitting in the specifier position of the RELATOR PHRASE and the other occupying the RELATOR’s complement position (den Dikken 2006).

Villalba argues further that the predicate inverts around its subject in the course of the syntactic derivation and lands finally in Spec,FocP, where the interpretable ϕ -features of the DP predicate can probe the interpretable ϕ -features of the DP subject, match and agree hold, and valuation of the ϕ -features of the DP predicate takes place. Information structure is responsible for the inversion of the predicate. Finally, the D head, which is the D for the whole construction, is merged and the final DP is constructed (14):

(14) [DP el [FocP [DP imbécil] [Foc' R+Foc(de) [RP [DP el doctor] [R' t_R t_{DP}]]]]]

Once more, the uninterpretable ϕ -features of the D head probe the interpretable ϕ -feature of the DP subject, without the intervention of the inverted predicate, which has become inactive after the Agree operation. Therefore, valuation takes place and the determiner ends up agreeing with the subject and the predicate (Villalba 2007:131).

Villalba crucially argues against den Dikken's analysis of the DP subjects in c-QBNPs projecting only up to NumP. As he shows, in Spanish subject DPs must project above NumP since they admit the presence of Qs, which merge above NumP (cf. Villalba 2007:126–7):

(15) los idiotas de muchos de los decanos
 the idiots of many of the deans
 'the idiots of many deans'

To sum up, Villalba (2007) shows that den Dikken's analysis for Germanic languages cannot be completely extended to Spanish c-QBNPs. According to his analysis, we obtain the following agreement configuration:

(16) el idiota del médico
 'the idiot of the doctor'
 a. Agree 1: Pred/DP in Spec,FocP & DP subject
 [FocP [DP idiota] [FOC' R+Foc=de [RP [DP el médico] [R' t_R t_{DP}]]]]
 b. Agree 2: D head *el* & DP subject
 [DP el [FocP [DP idiota] [Foc' R+Foc(=de) [RP [DP el médico] [R' t_R t_{DP}]]]]]

This agreement between the definite features of both DPs is known as the *definiteness agreement effect* (DAE), a point first made for Spanish by Español-Echevarría (1997, 1998), who claims that an NP headed by a definite D must contain a second definite D — i.e., when a definite determiner appears in initial position, the post-prepositional nominal has to be definite:

(17) a. el tonto del alcalde
 the idiot of-the mayor
 'the idiot of the mayor'
 b. *el tonto de un alcalde
 the idiot of a mayor

This same effect has been noticed in the literature for other languages; cf. Napoli (1989:205) for Italian or Danon (2008a, 2008b) for Hebrew CSNs. The latter work will become relevant later in this paper.

4 The Problems

On the one hand, the *definiteness agreement effect* is quite puzzling because it is not always the case — i.e., a definite article does not show up necessarily in the DP subject position (Villalba 2007:125–126; cf. also Casillas Martínez 2003 and Español-Echevarría 1998):

(18) a. el idiota de vecino (que tengo)
 the idiot of neighbor (that I-have)
 'That stupid neighbor I have'

- b. los idiotas de unos vecinos que tengo
 the idiots of some neighbors that I-have
 ‘Those stupid neighbors I have’

We obtain an “unexpected” configuration [+def] -- [-def]. The semantics still depends on the subject DP, as the semantic interpretation (definite, specific) is controlled by the DP subject.

On the one hand, a syntactic analysis along the lines of Villalba (2007) cannot account for the agreement between the features inside the predicate AP/DP and those of the subject D below because the former do not c-command those of DP subject; thus no Agree should be possible, contrary to fact. We will see in the next section that feature sharing allows for such operation.

5 Solving the Paradoxes

5.1 Feature Sharing and Indirect Agreement

The Minimalist Program distinguishes between valued and unvalued features: valued features are those that possess a value of the feature, while unvalued features are those which await valuation. The Agree operation is conceived as the result of processes which do not necessarily require movement but just a configurational feature valuation/deletion mechanism (Chomsky 2000, 2001):

(19) *Operation Agree*

A probe lacking feature specification searches for a local — i.e. c-commanded — goal (inside its domain) to undergo agreement (Chomsky 2000:101,134, Chomsky 2001:12,15).

(20) *Valuation/Interpretability Biconditional* (Chomsky 2001):

1. Uninterpretable features are unvalued.
2. Interpretable features are valued.
3. Uninterpretable features must be valued and deleted.

Interface requirements mandate the elimination of all uninterpretable features by the end of the derivation (Chomsky 2000:95, Chomsky 2001:12, Chomsky 2007:18).

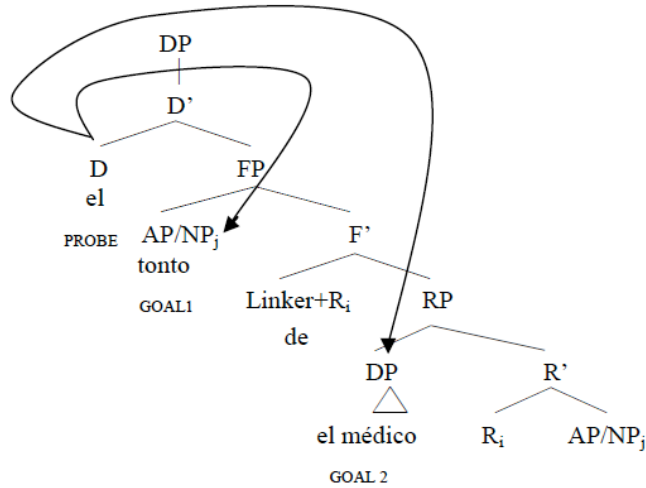
However, recent studies (Frampton and Gutmann 2000, Pesetsky and Torrego 2007) have argued for a notion of agreement consisting of “feature sharing,” reminiscent of agreement as feature unification, common in HPSG (Pollard and Sag 1994). Within the probe-goal theory of the syntactic computation, the operation Agree can be formally defined as follows:

(21) *Agree* (Pesetsky and Torrego 2007:4)

- (i) An unvalued feature F (a probe) on a head H at syntactic location α ($F\alpha$) probes its c-command domain for another instance of F (a goal) at location β ($F\beta$) with which to agree.
- (ii) Replace $F\alpha$ with $F\beta$, so that the same feature is present in both locations.

If a goal is valued for F, replacing the token-value of the probe with the value of the goal results in an instance of valued F substituting for the specification of the unvalued probe. A valued F may now serve as the goal for some ulterior operation of Agree triggered by an unvalued, higher instance of F serving as a new probe. The result is that a single feature F will be shared by several positions, and the process could iterate further.

Crucially, FS allows for indirect agreement without constant c-command. Unvalued probe 1 may probe and find goal 1. If goal 1 is also unvalued, both unvalued features become instances of the very same feature. Once any of the probes later on finds an appropriate c-commanded goal 2, all of the instances of the feature in question will be instantaneously valued, even those for which no c-command relation continues to hold. Consider the following tree for *el tonto del médico* “the stupid of the doctor”:

Figure 1: Feature sharing for ϕ -features.

In the previous tree, first D probes and finds a feasible goal inside AP/NP; both carry unvalued ϕ -features and consequently agree. D probes a second time and finds a suitable goal in the DP subject *el médico*. This DP carries valued features. D agrees with the features of DP subject. Given that there was a previous agree relationship established between D and AP/NP, once D agrees with a goal with valued features — DP subject — the features in AP/NP get automatically valued as well. Notice that at no time in the derivation does the A/N inside AP/NP c-command the DP subject and yet its ϕ -features are indirectly valued. In fact, all these scattered ϕ -features become one and the same.

5.2 Revising the Definiteness Agreement Effect

Contrary to Español-Echevarría (1997, 1998), we found that an upper definite article does not require another one in the lower DP; cf. the examples in (18) above. In such cases, while the external D is indeed definite, the subject DPs are actually indefinite. Thus, we obtain an unexpected configuration of the type [+def] -- [-def], which contradicts the DEA.

However, the “agreement” relation is not totally lost. Note that, while the upper D is definite, the indefinite internal DP determines the final interpretation of the whole QBNP. Given that the lower DPs are indefinites, but clearly specific, their corresponding QBNPs are indefinite, specific as well.

This apparently “incorrect” agreement can be extended to all QBNPs in reality. As indicated by Villalba (2007:129), Spanish c-QBNPs require specificity rather than definiteness. In agreement with Lyons (1999) and, in particular, von Heusinger (2002), we assume that indefinites and definites can both be specific and unspecific. Consider the following contexts:

- (22) a. A: ¿Quién te ha llamado al móvil?
 ‘Who called your cell?’
 B: El tonto del vecino
 The idiot of-the neighbor
 ‘That stupid neighbor’
 b. A: ¿Quién te ha llamado al móvil?
 ‘Who called your cell?’
 B: El tonto de (un) vecino que tengo
 The idiot of (a) neighbor that I-have
 ‘That stupid neighbor I have’

In (22a), *El tonto del vecino* is semantically interpreted as [+def], [+spec]; both the speaker and the hearer can locate the referent, which is unique or inclusive (von Heusinger 2002). In (22b), on

supported by Leu's (2008) decomposition of possessive determiner such as *mein* ('my') in a silent possessive morpheme [POSS], a person morpheme *m-*, and an indefinite article *-ein* (Leu 2008:150):

(25) [POSS] + [m] + *ein*

Again, while semantically definite in principle, the possessive contains a (morpho-)syntactic indefinite. Therefore, *semantic* definiteness need not correspond with *syntactic* definiteness.

The preceding discussion sheds light on the syntax of Spanish C-QBNPs, in that it solves the paradox: if syntactic and semantic definiteness need not go hand in hand, then we can account for the fact that an external definite D can nevertheless be overridden by an internal indefinite DP.

Let us observe how the derivation for *El tonto del médico* would proceed. First, the internal DP — the DP subject — contains an N that moves up to Num. The D probes and values its ϕ -features against those in N. D carries two syntactic and semantic features: [+definite] and [+specificity]:

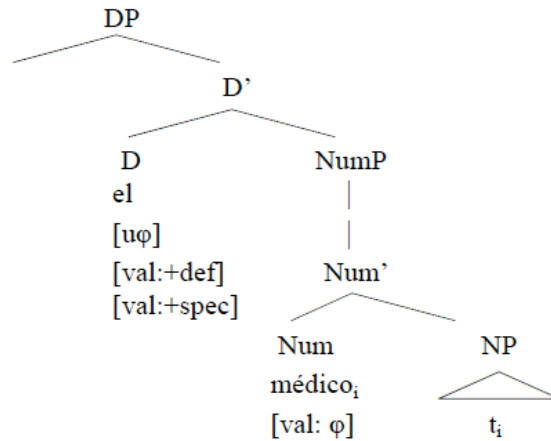


Figure 2: [def] [spec] features inside the DP subject.

As mentioned above, [+spec] is the relevant feature. Thanks to Specificity spreading/agreement, [+spec] from the embedded DP (the DP subject) is shared by the higher D, thus accounting for the definite and specific syntactic and, in this case, semantic interpretation of the c-QBNP:

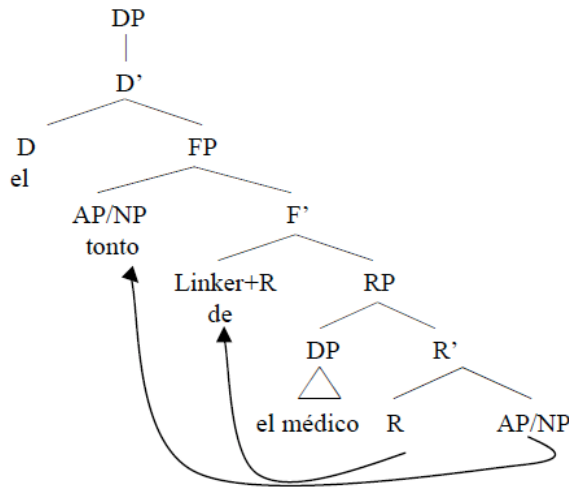


Figure 3: *El tonto del médico* ('That idiot of a doctor').

Features are only interpreted once since there is only one referent (Alexiadou et al. 2007:73); that is to say, double valuation but one interpretation.

At the same time, we also showed that syntactically overt [+def] does not necessarily correlate with semantic [+def], which is exactly what we find in *El tonto de vecino que tengo*. Consider the following tree:

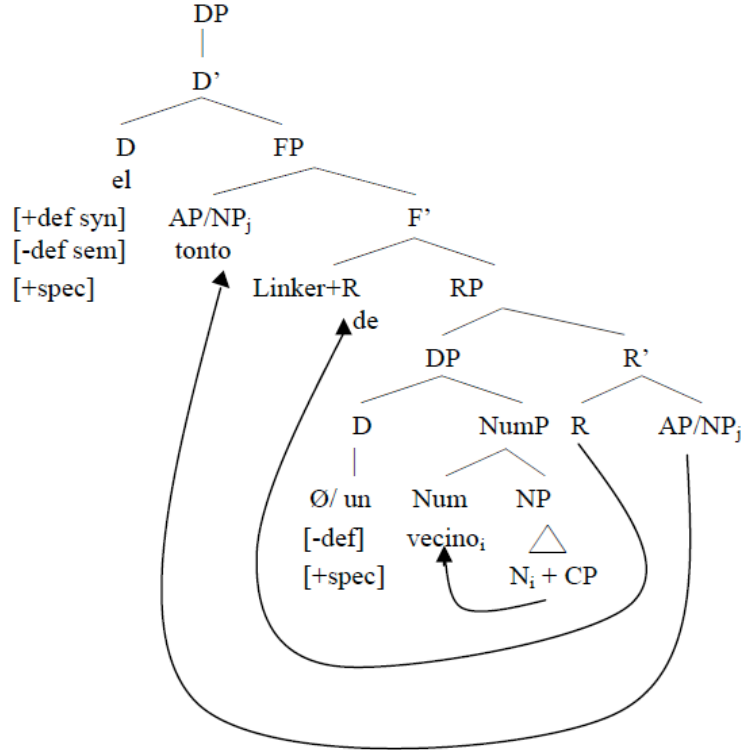


Figure 4: *El tonto de (un) vecino que tengo* ('That stupid neighbor I have').

In this case, the syntactic and semantic indefiniteness of the internal DP spread up to the whole construction. While the outer D is syntactically [+def], it nevertheless does not carry a semantic definite feature, similarly to the Hebrew example (23c) above. Both D's do, however, agree in [+specificity].

6 Conclusion

In this paper, we have analyzed the syntax of Spanish c-QBNPs with regards to its internal syntax and its semantics. On the syntactic side, we have indicated that feature sharing is required in order to fully account for the syntax of Spanish c-QBNPs. Furthermore, we have argued for a modification of the (traditional) *DEA* in terms of Specificity spread/agreement.

Our paper also sheds light on the dissociation between syntactic and semantic definite features, which finds crosslinguistic support in Hebrew and German. At the same time, our research unveils syntactic similarities between Spanish c-QBNPs and Hebrew CS's.

Further research is necessary, in particular in trying to account for the mandatory presence of a syntactically definite article for the whole construction, even in cases where there is no definite semantic interpretation.

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