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Chapter 11

Generalizing over quantitative and qualitative constructions*

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1. Introduction

Quantitative (1a) and qualitative (1b) constructions share a syntactic structure of the type (Det) N1 de NP2:

(1)		(Det) N1	de	NP2	
	a.	Beaucoup	de	livres	*Quantitative*
		a-lot	of	books	
	b.	Ton phénomène	de	fille	*Qualitative*
		your phenomenon	of	daughter	

The syntax of these constructions has received a lot of attention in recent years (den Dikken 1995, 1998; Español-Echevarría 1996; Hulk and Tellier 1999, 2000; Doetjes 1997). However, very little work has concentrated on the relation between both constructions. Milner (1978) had already observed that quantitative and qualitative constructions share the same syntactic structure (see also Ruwet 1982). However, the X′ framework of the late seventies did not allow a fully explicit implementation of this claim: the identical syntactic structure proposed could not account for various properties of quantitative and qualitative constructions. Interestingly, most research since the late seventies has focused either on quantitative or on qualitative constructions, without taking their common properties into consideration. We will argue that the parallelism between qualitative and quantitative constructions is even stronger than previously suspected.

2. The generalization

2.1 Two agreement patterns: 'pure degree' vs comparison

In both quantitative and qualitative constructions, agreement can be triggered by the element preceding *de* or by the element following *de*.

(2) *Quantitative*
   a. Beaucoup de livres sont/*est tombé(s).
      a lot of books are/is fallen
   b. Une montagne de livres *sont/est tombée
      a mountain of books are/is fallen

(3) *Qualitative* (cf. Hulk and Tellier 1999)
   a. Ton phénomène de fille est
      your phenomenon.MASC of daughter.FEM is
      distrait*(e).
      absent-minded.FEM/*MASC
   b. Ce bijou d'église romane a été reconstruit(*e).
      that jewel.MASC of roman church.FEM was rebuilt.MASC/*FEM

For quantitative constructions, this difference in agreement correlates with the interpretive nature of the quantitative element. In (2a), *beaucoup* 'a lot' has completely lost its original lexical meaning and indicates quantity of high degree. In (2b), by contrast, *montagne* 'a mountain' still retains part of its lexical meaning in that its relation with the quantified element can be paraphrased in terms of comparison. The interpretive difference between (2a) and (2b) can be brought out by a contrast in terms of paraphrasability:

(4) *Comparative paraphrases of quantity*
   a. The quantity of books is such that it resembles a mountain.
   b. *The quantity of books is such that it resembles a lot.

This difference between *beaucoup* 'a lot' and *une montagne* 'a mountain' correlates to some extent with the contexts in which they can be used: The use of *montagne* 'mountain' as a quantitative expression is much more selective with respect to its context than *beaucoup* 'a lot' is.

(5) a. *Il y a une montagne d'eau dans la rue.
      there is a mountain of water in the street

b. Une véritable montagne d'eau a déferlé sur les pêcheurs.
'A true mountain of water bore down on the fishermen.'

These examples show that the comparative interpretation of *montagne* as a great quantity has to be supported by the entire context, precisely because it still retains aspects of its original meaning. By contrast, the quantifier *beaucoup* has completely lost its original meaning which is 'a good strike'. The contextual support required for *montagne* 'mountain' is not necessary for *beaucoup* 'much', as the latter is just an expression of pure degree.

Let us now turn our attention to qualitative constructions. Hulk and Tellier (1997) observe that there is a difference in agreement between (3a) and (3b). Closer scrutiny of the data reveals that we are in fact dealing with a contrast that is strikingly similar to the one displayed in (2ab). In (3a), *ton phénomène* has completely lost its original lexical meaning: it only contributes a strongly positive or negative evaluation of *fille* 'daughter', and as such expresses high/low degree of quality. In (3b), *bijou* still retains part of its lexical meaning. Once again, the difference between what we term the 'pure degree' reading of *phénomène* 'phenomenon' in (3a) and the 'comparative' reading of *bijou* 'jewel' in (3b) can be captured by a difference in paraphrasability:

(6) *Comparative paraphrases of quality*
a. The quality of the church is such that it resembles a jewel.
b. *The quality of your daughter is such that she resembles a phenomenon.

Interestingly, both in 'comparatively paraphrasable' (2b) and (3b), the quantifying or qualifying noun which retains some of its lexical meaning determines agreement. In (2a) and (3a), on the other hand, the non-paraphrasable 'pure degree' expressions of quantity or quality correlate with agreement of the NP following *de*.

The descriptive generalization covering agreement in both quantitative and qualitative constructions can be formulated as follows:

The Quantitative/qualitative Agreement Principle (QAP)
1. In Quantitative/qualitative constructions, the quantified/qualified noun determines agreement if the quantifier/qualifier has a 'pure degree' interpretation of qua(nt/l)ity.
2. The quantifier/qualifier determines agreement iff the relation between the quantified/qualified noun and the quantifier/qualifier is para-

phrasable in terms of a comparison in which the quantifier/qualifier keeps its lexical interpretation.

In the remainder of this chapter, it will be argued that the QAP can be derived from the syntactic structure of the DP.

2.2 Variation in agreement

It has been observed by Hulk and Tellier (1999) that agreement judgements are not always clearcut. In (8), taken from Hulk and Tellier (1999), the qualifier *bijou* is compatible with both types of agreement:

(8) *Qualification*

a. Ce bijou d'église romane a été reconstruit(*e).
that jewel.MASC of roman church.FEM was rebuilt.MASC/*FEM

b. Ce bijou de Marie est absolument
that jewel.MASC of Marie.FEM is absolutely
exquis*(e).
marvelous.FEM/*MASC

Interestingly, agreement varies with the degree of comparison that is possible between qualifier and the qualified NP. While the church in (8a) can be said to be like a jewel, it is hard to maintain in the same way that *Marie* is like a jewel without losing the lexical interpretation of *jewel*. In (8b), the use of *bijou* 'jewel' thus only involves a highly positive evaluation of *Marie*. In our analysis, then, agreement with *Marie* in (8b) is not due to animacy, as for Hulk and Tellier (1999), but simply to the fact that a qualitative comparison between animate and inanimate entities is much harder to interpret as a true comparison, favoring a 'pure degree' reading. These examples show that in a context favoring the comparison reading, the 'pure degree' reading is excluded, while a 'pure degree' reading can be obtained in a context where the comparison reading is excluded.

Variation also exists in the quantificational domain. Consider for instance (9):

(9) *Quantification*

a. Une foule d'étudiants est/(*)sont dans le couloir.[1]
a crowd of students is/*are in the hallway

b. Une foule d'étudiants se sont/*s'est succédé.
a crowd of students have.PL/*SG come in one after the other

c. Une foule de problèmes se sont/*s'est produit*(s).
a crowd of problems have.PL/*SG occurred
'A host of problems have occurred.'

In (9a), the context forces a reading in which the students form a crowd. In this context agreement with the quantifier is obligatory. In the other two examples, the lexical interpretation of *foule* 'crowd' is excluded by the context. In (9b), the distributive nature of the predicate forces a distributive reading on the subject which is incompatible with the 'mass' interpretation of crowd, thus forcing a reading of crowd as a 'pure degree' quantifier. In (9c), the noun *problème* 'problem' is incompatible with the notion of crowd, as the lexical meaning of crowd involves animacy. As a result, crowd can only receive the 'pure degree' reading in this context. In the remainder of this chapter, we will try to show that cases exhibiting variation in fact correspond to two different syntactic structures. We will argue that cases where agreement is determined by the qualifier or quantifier possess a syntactic structure that is radically different from the syntactic structure underlying cases where agreement is with the qualified or quantified noun.

3. Deriving 'comparative' and 'pure degree' qua(nt/l)ification

3.1 The structure of det N1 de NP2

We will assume that the (derived) syntactic structure of *Det N1 de NP2* is as follows, with the nature of XP/YP to be determined later:

(10) $[_{XP}\ [_{DP}$ Det N1 $]$ de $[_{YP}$ NP2 $]]$
une montagne de livres
ton phénomène de fille

This means that both the DPs preceding and following *de* are constituents (See also the appendix). For qualitative constructions, this structure goes against that argued for by den Dikken (1995, 1998). Following Kayne (1994), den Dikken (1995, 1998) proposes a structure for qualitative constructions in which Det is generated in a DP outside of a CP headed by *de* as in (11). In this structure, qualitative constructions are uniformly derived by predicate inversion, with movement of NP1 to Spec, FP, and incorporation of the head of XP into *de*/*of*.

(11) Den Dikken (1995, 1998)

$[_{DP}$ D	$[_{FP}$ NP1	*de*/*of*+X	$[_{XP}$ NP2 t_X t_{NP1}]]]
ce	bijou	d'	église romane
ton	phénomène	de	fille
that	idiot	of + a	doctor

However, Milner (1978) offers a good argument in favor of the idea that the string preceding *de* forms a constituent. Milner (1978) presents contrasts of the following type:

(12) *'Pure degree' qualification*

a. Elle avait acheté quelques merveilles de robes et de souliers rouges qui lui allaient à ravir.
'She had bought some marvels of dresses and (of) red shoes which fit her like a glove.'

b. *Elle avait acheté quelques merveilles de robes et splendeurs de souliers rouges qui lui allaient à ravir.
'She had bought some marvels of dresses and splendors of red shoes which fit her like a glove.'

(13) *Comparative qualification*

a. Nous avons visité plusieurs bijoux d'abbayes médiévales et d'églises romanes.
'We have visited several jewels of medieval abbeys and of roman churches.'

b. *Nous avons visité plusieurs bijoux d'abbayes médiévales et chefs-d'œuvre d'églises romanes.
'We have visited several jewels of medieval abbeys and masterpieces of roman churches.'

Milner (1978) observes that *Det N1* can be followed by a coordinated structure of *de NP2s*, but that Det alone cannot be followed by a coordinated structure of qualified *N1 de NP2s*, as attested by (12b-13b). We observe that the same is true for quantitative constructions:

(14) *'Pure degree' quantification*

a. Une foule de fautes et d'erreurs stylistiques.
'A large amount of mistakes and stylistic errors.'

b. *Une foule de fautes et masse d'erreurs stylistiques.
'A large amount of mistakes and loads of stylistic errors.'

(15) *Comparative quantification*
  a. Des montagnes de livres et de papiers.
     'Mountains of books and of papers'
  b. *Des montagnes de livres et tas de papiers.
     'Mountains of books and heaps of paper.'

If one were to assume with den Dikken (1995/1998) that the determiner of the quantifier/qualifier is in a projection of its own outside of FP, the question arises as to why this determiner cannot have coordinated FPs in its complement. The contrast observed by Milner (1978) strongly suggests that the material preceding *de* forms a constituent in the classical sense.

3.2 'Comparatives' vs. 'pure degree': a different configuration

We argue that quantitative and qualitative constructions share the same syntactic configurations. The 'comparative' constructions (viz. (2b) and (3b)) are analyzed along the lines of the 'predicate inversion' analyses proposed by Kayne (1994) among others for possessive and qualitative constructions. In (16) and (17), the nouns *voiture* and *bijou* are extracted from a clausal projection introduced by *de*:

(16) la $[_{CP}\ [_{NP}$ voiture$]_j$ **de** $[_{IP}\ [_{NP}$ Jean$]$ I° $[e]_j \ldots$ (Kayne 1994)
     the car of Jean

(17) ce $[_{CP}\ [_{NP}$ bijou$]_j$ **de** $[_{IP}\ [_{NP}$ église romane$]$ I° $[e]_j \ldots$
     that jewel of roman church

This allows Kayne (1994) to analyse these DPs in the same way as relative clauses:

(18) the $[_{CP}\ [_{NP}$ picture$]$ **that** $[_{IP}$ Bill saw $[e]]]$ (Kayne 1994)

Relative clauses in (18) and the DP constructions in (16)–(17) share the presence of a sentential structure including a C° (Kayne's D^0/P^0) element. C^0 *de* can be viewed as the head of a tenseless CP.

We want to integrate Kayne's insight on the relation between *DP de DP* constructions and relative clauses. We assume a structure similar to that of (17) for all 'comparative' constructions, with the difference that the determiner is generated as part of the quantifier/qualifier. Predicative inversion can be taken as a syntactic reflex of the paraphrasability of these constructions in terms of comparison. The idea here is that the semantic interpretation of these constructions can be read off directly from their syntactic structure: C^0 *de*

contains an operator that is underspecified for quality or quantity, and the predicative properties of the small clause are responsible for the relation of comparison between the qua(nt/l)ifying and the quantified/qualified noun. Predicate inversion thus creates tenseless relatives.

(19) *'Comparative' quantification/qualification* (cf. 4b)

a. $[_{CP}\ [_{DP}$ ce bijou $]$ **de** $[_{SC}\ [_{NP}$ église romane$]$ $t_{ce\ bijou}\ ]$
that jewel of roman church

b. $[_{CP}\ [_{DP}$ une montagne$]$ **de** $[_{SC}\ [_{NP}$ livres$]$ $t_{une\ montagne}\ ]$
a mountain of books

In all of these cases, the NP which has been moved into the Specifier of C^0 *de/that* determines the agreement properties of the DP as a whole. It can be assumed that C^0 *de* carries agreement features. Its Spec–Head relation with the qualifier ensures that the entire CP carries the features of the qualifier. As a result, the quantifying/qualifying noun in comparative qua(nt/l)ification structures determines agreement. We thus derive the generalization in (4b) from shared properties of the 'comparative' construction (3b)–(5b) and possessive/relative constructions.[2]

By contrast, we claim that the 'pure degree' constructions (viz. (2a) and (3a)) do not involve 'predicate inversion'. This lack of inversion will be shown to directly correlate with lack of agreement with the quantifying/qualifying noun: all and only 'inverted' quantifier/qualifiers trigger agreement. We assume that 'pure degree' constructions have a syntactic structure containing an (adverbial) functional projection expressing Evaluation in the sense of Cinque (1999). The quantifying/qualifying noun is base-generated in Spec, EvalP. It assumes the interpretation of 'pure degree' associated with $Eval^0$, losing the rest of its lexical meaning. Importantly, the EvalP modifies a DP in this case, not a CP as in comparative constructions.

(20) *'Pure degree' quantification/qualification* (cf. 4a)

a. $[_{EvalP}$ ce phénomène Eval° $[_{DP}$ ___ **de** $[_{NP}$ fille $]]]$
that phenomenon of girl

b. $[_{EvalP}$ beaucoup Eval° $[_{DP}$ ___ **de** $[_{NP}$ livres $]]]$
a lot of books

This structure for 'pure degree' quantification/qualification allows us to derive their syntactic and semantic properties. Syntactically, the agreement properties of the DP as a whole are determined by the quantified/qualified noun, since the quantifier/qualifier occupies an adverbial position. This means that the

head of the adverbial projection will agree with the quantified/qualified noun in its complement. As a result, the entire structure will bear the features of the quantified/qualified noun, which thus determines agreement. This derives the generalization in (4a). From a semantic point of view, the structure in (20) must be read as an evaluation in terms of high degree over the qualified noun. In the quantitative domain, 'pure degree' is translated as high quantity, while in the qualitative domain 'pure degree' is interpreted as a strongly positive or negative evaluation. The absence of a syntactic predicative relation between the quantifier/qualifier and the quantified/qualified noun accounts for the absence of a comparative relation between them. This neatly accounts for the fact that the 'pure degree' constructions do not allow for a comparative paraphrase. One particularly clear case in point involves a structure such as (21), for which Hulk and Tellier (1999) observed that the qualifier cannot function as the predicate of the qualified noun. The same is true in the quantificational domain, as shown in (22).

(21) a. Cette sapristi de bonne femme
that.FEM good grief of woman.FEM
b. *Cette bonne femme est (une) sapristi
that woman is (a) good grief

(22) a. Beaucoup de livres/sable
a lot of books/sand
b. *Les livres sont beaucoup/*le sable est beaucoup
the books are many/ the sand is much

In our account, the contrasts in (21) and (22) can be taken as proof that (21a–22a) is not derived via predicate inversion from an underlying structure involving a form of predication as in (21b–22b). This analysis entails that two entirely different underlying structures are assigned to the cases exhibiting agreement variation in (23a) and (24a).

(23) a. Une foule d'étudiants est/*sont dans le couloir. (cf. (11a))
'A crowd of students is/*are in the hallway.'
b. Les étudiants constituent une foule.
'The students constitute a crowd.'

(24) a. Une foule de problèmes se sont/*s'est produit*(s). (cf. 11c)
a crowd of problems have.PL/*SG occurred
'A host of problems have occurred'

b. *Les problèmes constituent une foule.
'The problems constitute a crowd.'

In (23a), *foule* 'crowd' is in a comparative construction and retains its lexical meaning, as attested by (23b). The underlying structure of (23a) therefore is that of a relative clause, and involves predicate inversion. In (24a), *foule* 'crowd' is in a construction in which its original meaning is lost, as indicated by (24b). Only expressing 'pure degree', *foule* 'crowd' is hosted by the Specifier of an an adverbial EvalP which modifies a DP.

Although both structures share a Det N1 de NP2 structure on the surface, their underlying structure is nevertheless radically different: *de* is a relative clause marker in the comparative construction, but it is a D° in the 'pure degree' construction. The element *de* also functions in other contexts as a complementizer and a determiner, always with an in(de)finite interpretation. In this, *de* can be considered the indefinite counterpart of English *that*, which functions both as a complementizer of finite clauses and a definite determiner.

(25)	a.	Jean essaie de venir 'Jean tries to come.'	C	infinite
	b.	ce bijou d'église romane 'that jewel of a roman church'	C/ relative clause	infinite
	c.	Jean n'a pas lu de livres 'Jean hasn't read any books'	D	indefinite
	d.	beaucoup de livres 'a lot of books'	D	indefinite
(26)	a.	John thinks that Mary comes	C	finite
	b.	the book that he has read	C/ relative clause	finite
	c.	that book demonstrative	D	definite

In the comparative construction then, *de* can be viewed as the complementizer of a nonfinite relative clause. In the 'pure degree' construction, *de* is an indefinite D^0 selected by EvalP. We propose that the indefinite D^0 indicates that the identity and quantity of the qualified noun are not specified. The modification of the indefinite NP by EvalP, which provides quantification/qualification, 'fills in' the identity or quantity of the qualified noun. The idea that *de* introduces an unidentified or unquantified NP which is licensed by adverbial modifier is hardly controversial: the same mechanism applies in the verbal domain, where quantificational adverbs license indefinite DPs (cf.

Doetjes 1997). We therefore analyze the licensing of the indefinite DPs in (27) and (28) in exactly the same way.

(27) *Adverb outside of DP*
   a. Pierre n'a pas lu *(de) livres.
      Pierre NEG.has not read of books
      'Pierre hasn't read any books.'
   b. Marie a beaucoup lu *(de) livres.
      Marie has a-lot read of books
      'Marie read a lot of books.'

(28) *Adverb in EvalP*
   a. énormément *(de) livres/une foule *(de) problèmes
      enormously of books/a crowd of problems
      'a huge amount of books/a host of problems.'
   b. ce phénomène *(de) Jeanne
      that phenomenon of Jeanne

Summarizing, in the analysis advocated here, the syntactic structures for comparative constructions and 'pure degree' constructions are substantially different: comparative constructions involve a relative clause structure involving CP, while 'pure degree' constructions involve a DP structure. The properties of both comparative and 'pure degree' constructions as they have been analyzed here can be summarized as in Table 1.

Table 1.

	Properties	Examples
Comparative	– predicate inversion – agreement with the quantifier/ qualifier – share structural and agreement properties with relative clauses	**Quantitative** Une montagne de livres **Qualitative** Ce bijou d'église romane
Evaluative/'Pure degree'	– no predicate inversion – agreement with the quantified/ qualified noun – quantifier/qualifier base generated in Spec, EvalP – shares properties with adverbial projections	**Quantitative** Beaucoup de livres **Qualitative** Ton phénomène de fille

4. Internal vs external agreement

In the recent literature much attention has been devoted to so called mismatches between internal and external agreement in qualifier constructions (cf. Hulk and Tellier 1999 and 2000). By internal agreement we mean agreement within the nominal domain, and by external agreement agreement outside of the complex DP with a verb or adjective. So far we have only been concerned with external agreement. One can speak of a mismatch in cases where the internal agreement showing up on the determiner differs from external agreement.

In this section, we will show that the approach adopted here can predict where mismatches occur. As it turns out there are some interesting differences between quantifier and qualifier constructions, which we will account for by making use of independent properties of the quantifier/qualifiers in both constructions.

Let us then evaluate the predictions of the analysis presented here for comparative and 'pure degree' constructions. The external agreement of comparative constructions is triggered by the quantifying/qualifying noun, as predicted by the relative clause structure. As far as internal agreement is concerned, the determiner of the quantifying/qualifying noun agrees with this noun, since both are moved as a single constituent from the predicative position.

(29) *Qualification*
   a. Ce bijou d'église romane a été reconstruit(*e)
      that.MASC jewel.MASC of roman church.FEM was rebuilt.MASC/*FEM
   b. Ce chef-d'oeuvre de fresque, Michelange l'a peint(*e) dans des conditions difficiles
      that masterpiece.MASC of fresco.FEM, M. it painted.MASC/*FEM under difficult circumstances

(30) *Quantification*
   a. Une foule d'étudiants est/*sont dans le couloir.
      'A crowd of students is/*are in the hallway.'
   b. Une montagne de livres *sont/est tombée.
      a mountain of books are/ is fallen

As the examples show, there is never a mismatch between internal and external agreement in the comparison construction, as predicted.

In the pure degree cases, external agreement is determined by the quantified/qualified noun. With respect to internal agreement, one would expect that agreement on the determiner is triggered by the quantifying/qualifying noun with which it forms a constituent. As a result, there is a 'mismatch' between internal and external agreement. The determiner agrees with the quantifier/qualifier, while external agreement is triggered by NP2, the quantified/qualified noun:

(31) *Qualification*
  a. Cette saloperie de vent est ennuyeux.
     That.FEM dirt.FEM of wind.MASC is annoying.MASC
  b. Ton phénomène de fille est distraite.
     your.MASC phenomenon.MASC of daughter.FEM is absent-minded.FEM

(32) *Quantification*
  a. Une foule de problèmes se sont/*s'est produit*(s).
     a crowd of problems have.PL/*SG occurred
     'A host of problems have occurred.'
  b. Un tas de fautes ont été corrigées.
     a heap of mistakes were/*was corrected
     'A lot of mistakes were corrected.'

It has been shown, however, that in some cases the agreement on the determiner is triggered by NP2, the qualified noun (Hœybye 1944: 278; Imbs 1951; Milner 1978; Hulk and Tellier 1999, 2000):

(33) *Internal agreement of the determiner with the qualified noun*
  a. Cette grande diable de fille
     this.FEM tall.FEM devil.MASC of girl.FEM
     'This tall devil of a girl.'
  b. Ces sacré nom de Prussiens ont attaqué Paris.
     those.PL holy.SG name.SG of Prussians.PL have.PL attacked Paris
     'Those damned Prussians have attacked Paris.'

(34) *Choice of internal agreement*
  a. Ce/cette putain de policier est
     that.MASC/FEM whore.FEM of policeman.MASC is
     intelligent(*e).
     intelligent.MASC/*FEM
     'That damned policeman.'

b. Ce/cette canaille de gamin est très
that.MASC/FEM scoundrel.FEM of boy.MASC is very
malin/*maligne.
smart.MASC/*FEM

As Hulk and Tellier (1999) observe, the determiner can be either masculine or feminine in these cases because the noun can either be used as an invective/swearword or as a normal noun. Following in essence Milner (1978), they make the assumption that invectives and swearwords are nouns without phi-features, and as such cannot determine agreement. As a result, invectives/swearwords cannot determine the gender and number features of the determiners and adjectives preceding them.

In the analysis advocated here, we will also make use of the idea that invectives/swearwords are nouns without phi-features.[3] Implementing this insight into our analysis, we have to recall that the gender and number features of Eval^0 are set by the features of the qualified noun. The qualifying noun and Eval^0 are in a Spec–Head relation. This Spec–Head relation does not result in agreement in cases where the qualifying noun is fully specified for gender and number: the features of Eval^0 are already determined by the qualified noun, and the qualifying noun determines the features in its extended projection. As Spec–Head agreement only applies when it needs to, i.e. when underspecified features are present, no Spec–Head agreement occurs in this case. This situation can be represented as follows:

(35) $[_{\text{EvalP}}$ [Cette canaille] Eval° $[_{\text{DP}}$ __ **de** $[_{\text{NP}}$ gamin]]]]
$[_{\text{D}}$ **FEM, SG**] $[_{\text{N}}$ **FEM, SG**] $[_{\text{Ev}}$ **MASC, SG**] $[_{\text{N}}$ **MASC, SG**]
that scoundrel of boy

However, if a featureless invective NP is inserted in the qualifying DP, the D heading this DP remains underspecified, since its gender cannot be determined by the featureless invective. However, the underspecified determiner is contained in a DP that is in a Spec–Head relation with Eval^0, which carries the gender and number features of the qualified noun. In this case, then, due to Spec–Head agreement of the featureless DP with Eval^0, the gender and number features of the determiner of the featureless qualifier will be determined by Eval^0, and thus indirectly by the qualified noun. This situation can be represented as follows:

(36) $[_{\text{EvalP}}$ [**Ce** canaille] Eval° $[_{\text{DP}}$ __ **de** $[_{\text{NP}}$ gamin]]]]
$[_{\text{D}}$ **MASC, SG**] $[_{\text{N}}$] $[_{\text{Ev}}$ **MASC, SG**] $[_{\text{N}}$ **MASC, SG**]

(37) [$_{EvalP}$ [Cette grande diable] Eval° [$_{DP}$ __ **de** [$_{NP}$ fille]]]]
[$_{D}$ **FEM, SG**] [$_{A}$ **FEM, SG**] [$_{N}$] [$_{Ev}$ **FEM, SG**] [$_{N}$ **FEM, SG**]
that tall devil of girl

Notice that under this account, there are no real feature conflicts at all, as there are in the approach of Hulk and Tellier (1999). These authors make use of functional heads to transmit phi-features within the constructions. They introduce special mechanisms to cope with feature conflicts: features cannot be copied onto a functional head if they conflict. In the analysis presented here, no such mechanisms apply. The only principle needed is the idea that Spec–Head agreement only applies when needed, i.e. when underspecified features are present.

Cases such as in (35)–(36), with a qualifier which can be interpreted either as an invective or as normal noun with 'pure degree' interpretation, can have both agreement patterns: if the noun is interpreted as an invective, the determiner agrees indirectly with the qualified noun, otherwise it agrees with the qualifier, as in all other cases.

Another instance of agreement between the qualified noun and the qualifier in Spec, EvalP involves number agreement as in (38)–(39):

(38) [$_{EvalP}$ [Ces sacré nom] Eval° [$_{DP}$ __ **de** [$_{NP}$ Prussiens]]]]
[$_{D}$ **PL**] [$_{A}$] [$_{N}$] [$_{Ev}$ MASC, **PL**] [$_{N}$ MASC, **PL**]
those holy name of Prussians

(39) a. Ces animaux/*cet animal de bacchantes sont
those animals.MASC/that animal of Bacchants.FEM are
belles.
beautiful.FEM

b. [$_{EvalP°}$ [Ces animaux] Eval° [$_{DP}$ _ **de** [$_{NP}$ Bacchantes]]]]
[$_{D}$ MASC, **PL**] [$_{N}$ MASC, **PL**] [$_{Ev}$ **FEM, PL**] [$_{N}$ **FEM, PL**]

We propose that the qualifying noun is inserted with underspecified number features. The underspecified number features of the qualifier are fixed by Spec–Head agreement with the features of Eval. Only underspecified features are filled in. If a noun does not have any feature specification at all, as is the case of invectives/swearwords, there will be only number agreement on the (underspecified) determiner, but not on the (featureless) invective, as shown by (38), where *sacré nom* 'holy name' is singular, but the determiner *ces* 'these' is plural.

Interestingly, in the 'pure degree' quantificational cases we do not find gender or number agreement of the determiner and/or N1 with the quantified noun:

(40) a. un*(e) foule/ des foules de problèmes.MASC.PL
a.FEM/*MASC lot/ (indef.PL) lots of problems
b. un(*e) tas/ des tas d' inspiration
a.MASC/*FEM lot/ (indef.PL) lots of inspiration.FEM.SG

The contrast between (39a) on the one hand and (40a) on the other shows that a plural qualified noun forces the use of a plural qualifier, while a plural quantified noun does not. At first sight, this difference is not predicted by the configurations assigned to these constructions in our analysis. However, the difference between qualificational and quantificational constructions in this regard can be independently motivated. Part of the explanation is easy. Quantificational nouns always have features, and therefore always determine the gender of the determiner accompanying them. There are no counterparts of invectives/swearwords in the quantificational domain. The absence of obligatory number agreement is more difficult to explain. Indeed, since Eval° inherits the features of the quantified noun, we expect that Spec–Head agreement in EvalP will provide the quantifier with number features, contrary to fact.

Within the logic of our analysis, this suggests that the quantifier bears fixed number features when it is inserted in Spec, EvalP. We suggest that there is a relation between the fixation of Number in the quantificational domain and the relation between number and quantification in general. While number features on a quantifier inserted in Spec, EvalP are fixed, number features on a qualifier inserted in Spec, EvalP are not. This difference correlates with a further difference between quantity and quality. Quantity is a property of a set of individuals, while quality can be a property of each individual in a set. In example (39a), each Bacchant is negatively qualified. In (40a), on the other hand, the set of problems has the property of being large; nothing is said about the individual problems. We propose that the number features of the quantifier need to be fixed in order to avoid a distributive reading, which would be triggered by agreement.

Nevertheless, quantificational 'pure degree' constructions do exhibit particular patterns of 'external' agreement. Consider the following:

(41) a. Des masses de sable sont évacuées/*est évacué.
vast quantities of sand are/*is evacuated

b. Des trésors d'ingéniosité ont été déployés/*a été déployé
treasures of ingenuity have/*has been engaged

These cases must be viewed as 'Evaluative/pure degree' constructions, since they are not paraphrasable in terms of comparison:

(42) a. *Cette quantité de sable ressemble à des masses.
'That quantity of sand resembles masses.'
b. *Cette quantité d'ingéniosité ressemble à des trésors.
'That quantity of ingenuity resembles a treasure.'

Nevertheless, agreement in these cases clearly is with the quantifier, a hallmark of the comparative construction. The exceptional behavior of these 'pure degree' constructions can be explained as follows. Following Doetjes (1997, to appear), we assume that mass nouns such as *sable* 'sand' and *ingéniosité* 'ingenuity' do not have a lexical specification for number. As a result, we end up with a configuration for these cases where Eval° cannot inherit a number feature from the quantified nouns *sable* 'sand' and *ingéniosité* 'ingenuity':

(43) $[_{\text{EvalP°}}$ [Des masses] Eval° $[_{\text{DP}}$ ___ de $[_{\text{NP}}$ sable]]]]
[FEM, PL] *$[_{\text{Ev}}$ MASC,] $[_{\text{N}}$ MASC,] $[_{\text{Ev}}$ **FEM, PL**]

(44) $[_{\text{EvalP°}}$ [Des trésors] Eval° $[_{\text{DP}}$ ___ de $[_{\text{NP}}$ ingéniosité]]]]
$[_{\text{D}}$ MASC, PL] *$[_{\text{Ev}}$ FEM,] $[_{\text{N}}$ FEM,] $[_{\text{Ev}}$ **MASC, PL**]

At best, Eval^0 can inherit a gender feature from the quantified noun. At the same time however, Eval^0 is in a Spec–Head relation with an NP that has a full feature specification for both number and gender. Let us now make the natural assumption that feature specifications cannot be 'mixed' in Eval°: noun feature specifications have to be taken over in full, or not at all. If we now assume furthermore that the agreement features of Eval^0 will agree with the fullest feature specification in its context, Eval^0 will agree with the quantifying NP in its specifier, and not with the underspecified quantified noun.

5. Conclusion

In this chapter, we have formulated a descriptive generalization regarding agreement in both quantificational and qualificational constructions, the QAP (cf. 4): quantificational/qualificational constructions exhibit two agreement patterns depending on the way the quantifier/qualifier is interpreted with

respect to the quantified/qualified noun. When the quantifier/qualifier has a 'pure degree' interpretation, external agreement is triggered by the quantified/qualified noun. By contrast, a comparative interpretation involves external agreement triggered by the quantifier/qualifier.

We have argued that this generalization can be derived if two radically different syntactic structures are assumed for comparative quantificational/qualificational constructions on the one hand, and 'pure degree' quantificational/qualificational constructions on the other. Comparative quantificational/qualificational constructions involve predicate inversion and the structure of a relative clause, thus triggering external agreement with the inverted quantifier/qualifier. 'Pure degree' quantificational/qualificational constructions involve a DP structure without predicate inversion, topped of with an adverbial EvalP. These trigger external agreement with the quantified/qualified noun.

Internal agreement, i.e. agreement inside the qualificational constructions, depends on the nature of the qualifier. The first determiner in these constructions agrees with the qualifier, unless the qualifier lacks phi-features. This observation can be derived from the application of Spec–Head agreement with $Eval^0$. In quantificational 'pure degree' constructions internal agreement is determined by the quantifier because there are no quantificational counterpart of swearwords. While in in qualificational pure degree constructions, number agreement obtains between the qualifying and qualified noun, quantificational constructions require number to be fixed on the quantifier in order to obtain a quantificational relation.

Notes

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1. It appears that in Canadian French (Yves Roberge, p.c.) plural agreement is possible in the example (9a). This suggests that in Canadian French, the 'pure degree' reading of *foule* 'crowd' is more readily available. This might be due to a lexical process of grammaticalization of the same kind that affected the grammaticalization of *beaucoup*, originally meaning *un beau coup* 'a good strike', as a 'pure degree' expression.

2. Nothing hinges on the particulars of the Kaynian analysis: the essential insight we adopt for the 'comparative' construction is that it has the structure and therefore also the agreement properties of relative clauses.

3. This idea allows us to understand Milner's (1978) observation that constructions as in (i), with non-nominal exclamatives, are ungrammatical.

(i) *ce zut de livre
that chucks of book
(ii) *cette parbleu de voiture
that by Jove of car

Qualificational constructions require nominal qualifiers. Although *sapristi* 'damn' looks like an exception in this regard, it is wortwhile to point out that it derives diachronically from the noun *sacristie* 'sacristy'. Arguably then, *sapristi* still retains a specification for N, but no phi-features.

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