

Comparison and Coordination

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0. Introduction*

In this paper, we will analyze the relation between coordination structures and operators. For concreteness, we will study those coordination configurations only possible when an operator of a certain sort is present. For instance, constituents coordinated by the Spanish coordinator *ni* 'nor' require a negative operator *no* 'not' to be present, as the contrast between (1a) and (1b) shows:

- (1) a. Juan *no* comió manzanas *ni* peras.
Juan not eat-past-3sg. apples nor pears.
'Juan did not eat apples nor pears'.
b. *Juan comió manzanas *ni* peras.

Throughout the article we will use examples with the Spanish comparative *que* 'than', which, in some specific contexts, we will consider to introduce a coordinate constituent dependent on the presence of the operator *más* 'more'. In section 1, we will give some arguments supporting the idea that *que* actually involves coordination. This section distinguishes two types of *más-que* determiners depending on the number of properties subcategorized for. Thus, *más-que*₁ projects a property into a set of pairs of properties, and *más-que*₂ projects a pair of properties either into a set of single properties or into a set of pairs of properties. This split will have some consequences in the syntax. These consequences are analyzed in section 2, where we formulate some *ad hoc* principles (a c-command constraint and two locality constraints) which will try to capture the relevant aspects concerning the relations between *más* and *que*. Section 3 is devoted to derive those *ad hoc* principles from just one independently motivated principle. Three facts will be crucial in order to do that: first, the syntactic evidence in favor of the conclusion that *que*, in *más*₁ contexts, is obligatorily coordinating two sentences, whereas, in *más* contexts, it is coordinating either two sentences or merely the two restrictors subcategorized by *más*; second, the notion of "absorption" (cf. Higginbotham and May 1981); third, Pesetsky's (1982)

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proposal on ellipsis in coordination structures. These three facts will allow us to propose ECP as the relevant principle underlying the phenomena under discussion. The aim of section 4 is to find out some evidence in favor of the formation of complex operators through absorption in these comparatives. We suggest that some special Spanish comparatives exhibiting subdeletion and object preposing are actually involving the movement of two operators, which gives support to the idea that absorption of several constituents is taking place. First, we will analyze one of such movements, the one undergone by an operator of the category QP. We argue that, for a sentence to be grammatical, the movement of just QP (without any kind of Pied-Piping) is required in contexts involving ellipsis. But, since a further constituent seems to be adjacent to the QP in subdeletion comparatives with object preposing, it is necessary to propose that there has been absorption of two independently moving operators in these cases. This is the second part of section 4, where we try to capture the difference between Spanish and English as far as object preposing superlatives and comparatives is concerned. That is, the fact that superlatives exhibiting object preposing exist/do not exist in Spanish/English will be related to the fact that subdeletion comparatives with object preposing exist/do not exist in those languages either. So, the conditions under which object preposing is possible in superlatives will also be attributed to the structure of the subdeletion comparatives with object preposing. This amounts to saying that such comparatives do not exhibit coordination, which will be shown by using the arguments which were built in section 1 to prove the coordinate structure of subdeletion comparatives without object preposing.

1. Comparison as Coordination

In this section we will give some arguments in favor of considering coordination as a possible structure in the domain of comparative sentences. The first subsection focusses on Keenan's (1987) arguments, but with the aim of arriving at slightly different conclusions. The second subsection offers some data suggesting that coordination underlies the comparison sentences under discussion.

1.1. *Two types of más-que*

Keenan (1987) makes two remarks about the status of English *more-than* in those cases where it combines two common noun phrases, that is to say, in NPs like *more students than teachers*:

- (2) a. although such noun phrases are coordinated, *than* is not a coordinator;
- b. *more-than* is a two-place determiner (that is, a Det₂).

Throughout the article, Keenan makes use of the notion *conservativity*, which imposes a strong condition on the possible Det denotations a child must choose from in learning the meanings associated with Det's. Keenan considers Det's to denote a function *f* that associates a set of properties with another property (the one denoted by the restrictor N' that Det modifies). For example, the function denoted by *every*

associates with a property p (for example, *dog*) the set of all those properties q such that every individual that is a dog must also share them (*quadruped*, and so on).

A test to know whether Det's are conservative or not is the following:

- (3) A Det₁ (a one-place Det) d is semantically *conservative* iff for all N's P and Q , (dPs) are Qs if and only if (dPs) are both Ps and Qs .

Every, for example, is conservative, since (4a) has the same truth values as (4b):

- (4) a. Every student is a vegetarian.
b. Every student is a student and a vegetarian.

Keenan claims that *more-than* is also conservative if it is analyzed as a two-place Det. So, in order to know whether (5) is true, it has to be known whether the number of students who are vegetarian is greater than the number of teachers who are vegetarian. We need know nothing concerning individuals who fail to be either students or teachers. (3) gives rise to (6):

- (5) More students than teachers are vegetarian.
(6) More students are students and vegetarian than teachers are teachers and vegetarian.

As a result, Keenan needs to propose that both *students* and *teachers* in the NP with Det *more than* are heads of such an NP, in order to satisfy the conservativity of Det, since it is the head of NP that imposes the domain of predication. He rejects structures such as (7a, b) for comparative heads, and proposes (7'a, b):

- (7) a. NP_[Det1][more students than]_{N'}[_N[teachers]]]
b. NP_[Det1][more ... than teachers]_{N'}[_N[teachers]]]
(7') a. NP_[Det2][more than]_{N'}[_N[students]]]_{N'}[_N[teachers]]]
b. NP_[Det2][more than]_X[_{N'}[_N[students]]]_{N'}[_N[teachers]]]

(7a, b) shows only one head in the NP, which wrongly predicts that (5) and (8) are equivalent:

- (8) More students than teachers are both students and vegetarian.

Furthermore, Keenan considers *more-than* to be a lexical item that subcategorizes for two common nouns. Therefore, he rejects Napoli's (1983) hypothesis assigning *than* the category *coordinator*, and considers *than* to take part of Det. However, a closer look at comparative and coordinate sentences will lead us to conclude not just that the coordinating status of *than* can be preserved (along the lines of Napoli 1983) but also that *more-than* can be not just a two-place Det, but also a one-place Det.

Indeed, Keenan pays attention to those cases of comparatives where *more-than* is a function that takes two properties as arguments (in (5), *students* and *teachers*). Let us now analyze those cases, not taken into account by Keenan, where the restrictor is one-headed:

- (9) Más estudiantes son músicos que vegetarianos.
 more students are musicians than vegetarian.
 'More students are musicians than vegetarian.'

In (9), as in (5), there is a copulative clause with a subject and a predicate. Whereas in (5) both *más* and *que* take part of the subject, in (9) *que* seems to take part of the predicate.

As said above, Keenan considers *more-than* to be a lexical item that subcategorizes for two common nouns, in analogy with verbs such as *give*, that subcategorize for two arguments. This leads Keenan to reject Napoli's hypothesis assigning *than* the category of coordinator, and to consider it to take part of Det. However, (9) shows that such a treatment cannot be fully satisfactory.

Two phenomena are relevant in (9). On the one hand, *más* only takes one argument (*estudiantes*). On the other hand, *que* is present in a position out of the NP headed by this argument. If *que* were generated in the same position as *más*, it would be a problem to explain how it could reach the position between *músicos* and *vegetarianos*.

Let us assume Napoli's proposal that *than* is a coordinator. Keenan points out that this would mean that *than* is generated under N', hence giving rise to cases of overgeneration. For example, why should (10) not be possible?:

- (10) *Every student than teacher.

However, I will suggest that overgeneration does not exist if the coordinator *than* is considered to be a polarity item, so that *more* is required to be present. The Spanish coordinator *ni* behaves in a similar way, since it requires a negative operator to be present, as shown in (1) above, which we reproduce again:

- (1) a. Juan *no* comió manzanas *ni* peras.
 Juan not eat-past-3sg apples nor pears.
 'Juan did nt eat apples nor pears'.
 b. *Juan comió manzanas *ni* peras.

(10) is ungrammatical because *than* requires the presence of the operator *more*. We think that this polarity relation accounts for the dependence between *more* and *than*, so as to make it a discontinuous constituent while preserving the idea that *than* is a coordinator.

Therefore, it will be possible to think that, in (5), *than* coordinates the N *students* and the N *teachers*, and that, in (9), it coordinates the AP *músicos* and the AP *vegetarianos*. This is why, in the first case, *más/more* operates on one property. In the first case, the discontinuous function *más-que/more-than* projects a pair of properties on a set of single properties, whereas in the latter case it projects a single property (*p*) on a set of pairs of properties, that is to say, every pair of properties ($q_1 q_2$) such that the subset of individuals of *p* that share q_1 is greater than the subset of individuals of *p* that share q_2 . To be brief, we will call the former instance of *más-que* *más-que*₂, and the latter *más-que*₁.

1.2. Subdeletion

In section 1.1. we have proposed that there are two types of *más-que*: *más-que*₁ is a function which projects a single property on a set of pairs of properties, and *más-que*₂ is a function which projects a pair of properties on a set of single properties. However, notice that (11) shows that *más-que*₂ can project a pair of properties (*manzanas* and *peras*) on a set of pairs of properties (in this case, the property of *being bought by Juan* and the property of *being sold by Pedro*).

- (11) Juan compró más manzanas que Pedro vendió peras.
 Juan bought more apples than Pedro sold pears.
 'Juan bought more apples than Pedro sold pears'.

This asymmetry shows that the crucial contrast between *más-que*₁ and *más-que*₂ simply relies on the number of restrictors taken by *más*. *Que* is merely the element which determines, in each case, whether the range of the function is constituted either by single properties or by pairs of properties. Cases such as (11), that is, classic comparatives with subdeletion, are related to comparatives such as (5) by the fact that, in both cases, *más-que*₂ plays a role, but they are identical to examples such as (9) as far as the range determined by *que* is concerned, the only difference being the category of the constituents coordinated by *que*, that is, two AP's in (9) (12a) and two sentences in (11) (12b) (for the sake of clarity, throughout the article we will use a prelinearized representation of coordinate structures):

- (12) a. $IP[más\ estudiantes\ son\ AP[músicos]]$
 que
 $AP[vegetarianos]]$
 b. $IP[Juan\ compró\ más\ manzanas]$
 que
 $IP[Pedro\ vendió\ peras]$

Some phenomena concerning these subdeletion cases in Spanish reveal that it is a coordination of two sentences that is at work here. These phenomena are listed in the following subsections.

1.2.1. If the NP introduced by *más* is inside a PP, the sentence is ungrammatical:

- (13) *Pedro vió a Bogart en más películas que Luis leyó libros.
 Pedro saw Bogart in more films than Luis read books.
 'Pedro saw Bogart in more films than Luis read books'.

The ungrammaticality is the same as in ordinary cases of coordination with gapping. For example, (14) (with gapping) cannot be an answer to a question such as 'What did Pedro and Luis do in Spain?':

- (14) Pedro visitó a sus amigos en Cuenca y Luis *(visitó) Burgos.
 Pedro visited his friends in Cuenca and Luis visited Burgos.
 'P. visited his friends in Cuenca and Luis visited Burgos'.

Notice that no problem concerning recoverability arises in (14), since it is just the verb that is missing in the second coordinate.

1.2.2. The restrictors cannot be in a more deeply embedded clause, while keeping *que* as a coordinator of the two main clauses:

- (15) a. *Juan compró más manzanas que Pedro dijo que Luis vendió
 Juan bought more apples than Pedro said that Luis sold
 peras.
 pears.
 'J. bought more apples than P. said that L. sold pears'.
 b. IP[J. compró NP[más N[manzanas]]]
 que
 IP[P. dijo CP[que Luis vendió N[peras]]]

This is also the case in examples of coordination with gapping:

- (16) a. *J. compró manzanas y P. dice que L. peras.
 J. bought apples and P. says that L. pears.
 'J. bought apples and P. says that L. pears'.
 b. IP[J. compró NP[manzanas]]
 y
 IP[P. dice CP[que L. NP[peras]]]

1.2.3. Comparatives with subdeletion are sensitive to Across-the-Board (ATB) phenomena (17), just as in the case of coordinate sentences (18):

- (17) a. A quién compró Pedro más manzanas que vendió Juan peras?
 whom bought Pedro more apples than sold Juan pears?
 'Whom did Pedro buy more apples to than John sold pears to?'
 b. *A quién compró Pedro más manzanas que vendió Juan peras a Luis?
 'Whom did Pedro buy more apples to than Juan sold pears to Luis?'
 (18) a. A quién compró Pedro manzanas y vendió Juan peras?
 'Whom did Pedro buy manzanas to and Juan sold pears to?'
 b. *A quién compró P. manzanas y vendió J. peras a Luis?
 'Whom did P. buy manzanas to and J. sold pears to L.?'

1.2.4. Jackendoff (1971) distinguishes between Gapping (19) and Conjunction Reduction (20) in the following way: in Gapping sentences, it is the verb that is deleted (19a), whereas in Conjunction Reduction sentences it is the right side (19b) or the left side (19c) of the sentence that is deleted:

- (19) a. Peter bought potatoes and Luis (bought) pears.
 b. Juan bought (postcards) and Luis sold postcards.
 c. Juan bought apples and (Juan bought) pears.

So, (20) is ungrammatical, since, according to Jackendoff, there are no rules deleting something which is neither the verb nor the left/right side of the sentence:

- (20) *Juan sent a present to Luis in the summer and Pedro gave a book in the winter.

These constraints are mirrored in comparative sentences:

- (21) a. J. compró más manzanas que P. (compró) peras.
 J. bought more apples than P. pears.
 'J. bought more apples than P. pears'.
 b. Más chicos compraron (postales) que chicas vendieron
 More boys bought (postcards) than girls sold
 postales.
 postcards.
 'More boys bought than girls sold postcards'.
 c. Juan envió más regalos a Luis en verano que Pedro *(le)
 Juan sent more presents to Luis in summer than Pedro to him
 dió libros en invierno.
 gave books in winter.
 'Juan sent more presents to Luis in the summer than Pedro gave him books in the winter'.

1.2.5. We have said the relevant difference between *más-que*₁ and *más-que*₂ is the number of arguments subcategorized by *más*: one in the former case, two in the latter. So, if coordination is at work in subdeletion sentences, we now derive the ungrammaticality of (22a), whose prelinearized representation (22b) makes clear that *más*₂ is actually subcategorizing for three restrictors:

- (22) a. *Juan compró más manzanas que Luis vendió peras y José
 Juan bought more apples than Luis sold pears and José
 comió bananas.
 ate bananas.
 'Juan bought more apples than Luis sold pears and José ate bananas'.
 b. IP[Juan bought NP[more N'[apples]]]
 than
 IP[Luis sold N'[pears]]
 and
 IP[José ate N'[bananas]]

1.2.6. The coordination hypothesis also accounts for the ungrammaticality of (23a). The restrictors play different roles in each coordinate sentence: *mujeres* is the agent of an intransitive verb, its external argument, whereas *hombres* is the internal argument of an accusative verb:

- (23) a. * Más mujeres trabajaron que el ejército reclutó hombres.
 more women worked than the army recruited men
 'More women worked than the army recruited men'.

- b. IP[
 than
 IP[the army recruited
 NP[more N[women]] worked]
 N[men]]]

Assuming that the restrictors have to raise by QR at LF, these examples can be considered to be instances of ATB asymmetries, which affect coordinate sentences in general:

- (24) *Quién trabajaba y Pedro vió?
 who worked and Pedro saw?
 'Who worked and Peter saw?'

1.2.7. Let us now consider sentence (25a), whose S-structure is (25b):

- (25) a. *La retirada de más soldados por Francia que los USA
 the withdrawal of more soldiers by France than the USA
 retiraron marines fue un tema controvertido.
 withdrew marines was a topic controversial.
 lit: 'The withdrawal of more soldiers by France than the USA
 withdrew marines was a controversial topic'.
 b. NP[la retirada de NP[más N[soldados]] por F.]
 que
 IP[los USA retiraron N[marines]]
 fue un tema controvertido.

In (25b), the constraint which says that only two identical constituents can be coordinated (cf. Williams 1981) is violated, since, in this case, the constituents are an NP and an IP.

1.2.8. The use of subjunctive mood is very common in Spanish comparative clauses where it is apparent that subordination at SS is at work (in (26a), the preposition *de* introduces a clause headed by *las que*, a wh-element), but this is not the case in the comparative clauses studied here (26b):

- (26) a. Juan compró más manzanas de las que Luis haya
 Juan bought more apples than what Luis have-subj.
 podido comprar.
 can-past. participle buy
 'Juan bought more apples than Luis could buy'.
 b. *Juan ha comprado más manzanas que Luis haya vendido
 Juan has bought more apples than Luis have-subj. sold
 peras.
 pears
 'J. bought more apples than L. bought pears'.

The unavailability of modality contrasts between clauses is commonly related to coordination, as (27) shows:

2.2 *The locality constraints*

Consider now (32a, b), which are instances of *más-que*:

- (32) a. Viajé con más dólares que marcos.
 I travelled with more dollars than marks
 'I travelled with more dollars than marks'.
 b. Viajé con más dolares que con marcos.

If polarity relations involved *c*-command at SS, it would be easy to account for the contrast in (32a, b): in (32a), *más* *c*-commands *que* (33a), but not in (32b) (33b):

- (33) a. NP[_{Spec}[más]_{N'} [N[dólares]]]
 que
 N[marcos]
 b. PP[P[con]_{NP} [_{Spec}[más] N'[dólares]]]
 que
 PP[P[con]_{NP} [N'[marcos]]]

These structures also show why such examples cannot be instances of *más-que*₁: in both cases, *más* subcategorizes for *dólares* and *marcos*, that is to say, it operates on two properties.

However, in the last subsection we have seen that *c*-command at SS is not a requirement for sentences with *más-que*₁. The following examples show that this is also not required for sentences with *más-que*₂:

- (34) a. Juan compró más manzanas que Luis vendió peras.
 Juan bought more apples than L. sold pears.
 'John bought more apples than Luis sold pears'.
 b. IP[Juan compró NP[_{Spec}[más] N'[manzanas]]
 que
 IP[Luis vendió N'[peras]]

Notice that the situation in (34) is almost the same as in (32b). In (34) there is an occurrence of *más-que*₂, since *más* is subcategorizing for two properties (*manzanas* and *peras*), and *que* is coordinating two constituents that contain the ones referring to the properties. Therefore, *más* is not *c*-commanding *que* at SS. However, the ungrammaticality arises again if the properties subcategorized by *más* are more deeply embedded, as in (35):

- (35) a. *Viajé con más dólares que viajé con marcos.
 'I travelled with more dollars than I travelled with marks'.
 b. IP[viajé PP[P[con]_{NP} [más] N'[dólares]]]
 que
 IP[viajé PP[P[con]_{NP} [N'[marcos]]]

The problem has not only to do with the occurrence of a PP node; in (36), it is the presence of an NP projection that seems to be responsible for the ungrammaticality:

- (36) a. *Juan conoce un chico más alto que conoce un chico bajo.
 Juan knows a boy more tall than knows a boy small
 'Juan knows a taller boy than he knows a small boy'.
 b. IP[Juan conoce NP[un chico AP [Spec[*más*] A'[alto]]
 que
 IP[pro conoce NP[un chico AP[A'[bajo]]]]

These facts seem to be independent of whether or not *más* c-commands *que* at SS, since in (32b), (34), (35) and (36) *más* does not c-command *que*, and, nevertheless, there is a sharp difference in grammaticality between (34) and the other examples. Moreover, in all these examples the principles (30a, b) are fulfilled, that is to say, *más* is c-commanding *que* at LF:

- (37) a. (32b) IP[*más*_i IP[*viajé* PP[p[con] NP[e_i N'[dólares]]]
 que
 PP[p[con] NP[N'[marcos]]]
 b. (34) IP[*más*_i IP[J. compró NP[e_i N'[manzanas]]]
 que
 IP[pro compró N'[peras]]
 c. (35) IP[*más*_i IP[*viajé* PP[p[con] NP[e_i N'[dólares]]]
 que
 IP[*viajé* PP[p[con] NP[N'[marcos]]]]
 d. (36) IP[*más*_i IP[J. conoce NP[un chico AP[e_i A'[alto]]]
 que
 IP[pro conoce NP[un chico AP[A'[bajo]]]]

However, we observe a sharp difference between (37b) and (37a, c, d). In (37a, c and d), the relation between *que* and the restrictors is established through boundaries that share the property of disallowing extraction of wh-elements in Spanish. In (37a, c), the offending boundary is PP, whereas in (37d) there is a combination of boundaries, NP and AP. (38a, b) show that these boundaries do not allow wh-movement in Spanish:

- (38) a. Quién_i te casaste PP[con e_i]]?
 who you married with
 'Who did you marry?'
 b. De quién_i conociste NP[un chico AP[muy orgulloso e_i]]
 of who you knew a boy very proud
 lit: 'Who did you know a boy very proud of?'

As a consequence, we can propose the following (merely descriptive) principle:

- (39) *Que* and the restrictors introduced by *más*₂ cannot be separated by a boundary or combination of boundaries which do not allow wh-extraction.

- (45) De quién has visto más films?
lit: 'By whom did you see more films?'

Moreover, we also predict that, in English, where *wh*-extraction from inside certain PP's is possible (46), a sentence equivalent to (40a) can be correct (47a), unlike in Spanish (47b):

- (46) Who did you give the book to?
(47) a. More boys gave a book to J. than L.
b. *más chicos dieron un libro a J. que L.

3. The reduction of the constraints to independent principles

3.1. *The reduction of the locality principles to ECP*

In this section, we will try to refine the principles introduced so far, namely, (39) for *más-que*₁ and (42) for *más-que*₂. We will propose that they can both be integrated into a more general principle concerning coordinate constructions. This will be a piece of evidence for our hypothesis that the sentences under discussion are actually cases of coordination.

3.1.1. *Constituents coordinated by que*

Let us consider (48):

- (48) Juan dio un libro a Pedro.
Juan gave a book to Pedro.
'Juan gave a book to Pedro'.

We can say that this is the unmarked order of the Spanish sentence, with the direct object *un libro* preceding the indirect object *a Pedro*. However, the opposite order is also correct in Spanish:

- (49) Juan dio a Pedro un libro.

Now, we "convert" (49) into a sentence with *más-que*₁:

- (50) a. Juan dio a más chicos un libro que un lápiz.
Juan gave to more boys a book than a pencil.
'Juan gave more boys a book than a pencil'.
b. $_{IP}$ [Juan dio $_{PP}$ [a más chicos] $_{NP}$ [un libro]]
que
 $_{NP}$ [un lápiz]

In (50b), *que* is coordinating two NPs. That is, the structure would be like the one in (51b), corresponding to the sentence (51a):

- (51) a. Juan dio a Pedro un libro y un lápiz.
'Juan gave Pedro a book and a pencil'.
b. $_{IP}$ [Juan dio $_{PP}$ [a Pedro] $_{NP}$ [un libro]]
y
 $_{NP}$ [un lápiz]

holds just for the constituents referring to the properties subcategorized by *más*₂ (in (61), the N' *marcos*), and not to the remnant constituent in the ellipsis context (in (61), *con marcos*). In fact, there can be no ellipsis context and, nevertheless, the reference to the status of "major constituent" holds, as in (35) (repeated below):

- (35) a. * Viajé con más dólares que viajé con marcos.
 'I travelled with more dollars than I travelled with marks'.
 b. IP[viajé_{PP}[p[con] NP[Spec[más] N'[dólares]]]
 que
 IP[viajé_{PP}[p[con] NP[N'[marcos]]]]

So, it seems that we are dealing with a phenomenon not specifically related to comparatives, but to coordinate constructions in general. This phenomenon shows up in the requirement of "being a major constituent" within the coordinate structures. The problem now is to find out which theoretical principle underlies such a requirement. It seems that, under Pesetsky's (1982) view of coordinate constructions, ECP turns out to be such a principle.

Pesetsky, following suggestions by Sag (1976), proposes that the correspondents in a coordinate structure (62a) move to Comp at LF (62b), just as *wh*-in-situ constituents in an interrogative sentence do (63):

- (62) a. John bought the book, and Mary, the record.
 b. CP[John_i the book_j ; IP[e_i bought e_j]]
 and
 CP[Mary_k the record_m [e_k bought e_m]]
 (63) a. Who bought what?
 b. CP[who_i what_j ; IP[e_i bought e_j]]

Notice that, in each case, the two constituents moved at LF undergo absorption (cf. Higginbotham and May 1981), that is, they are independent operators which come to form a single *n*-ary (in this case, binary) operator. Pesetsky offers several arguments in favor of his movement hypothesis. Let us then assume that the correspondents have also to move in the coordinate comparatives. This immediately allows us to cover the facts for which (42) was postulated. Indeed, the LF representations of (40a) and (41a) will no longer be (59a, b), but rather (64a, b):

- (64) a. IP[más_i NP[R.]_k IP[...PP[con NP[e_i amigos]] PP[p[en] e_k]]
 que
 IP[NP[P.]_m e_m]]
 b. IP[más_i NP[de Ch.]_j IP[e_i chicas vieron NP[el film e_j]]
 que
 IP[NP[de K.]_m e_m]]

In both sentences there has been Preposition Stranding, a movement precluded in Spanish. By contrast, in English, where Preposition Stranding is possible, movement will take place (47). (44) can be ruled out on the same grounds, the specific NP precluding the extraction of constituents from inside.

As far as principle (39) is concerned, it can also be derived from the perspective just adopted. We have said that correspondents in coordinate structures have to undergo movement at LF when clausal coordination is involved, since they are correspondents. Thus, the LF of (35a) will no longer be (37c), but rather (65):

$$(65) \text{ IP}[\textit{m\acute{a}s}_i \text{ N}'[\textit{d\acute{o}lares}]_j \text{ IP}[\textit{viaj\acute{e}} \text{ PP}[\textit{con NP}[\textit{e}_i \text{ e}_j]]]] \\ \text{que} \\ \text{IP}[\text{ N}'[\textit{marcos}]_m \text{ IP}[\textit{viaj\acute{e}} \text{ PP}[\textit{con NP}[\textit{e}_m]]]]]$$

Once more, the example is ruled out because Preposition Stranding does not exist in Spanish. In (32a) there is no problem, since no clausal coordination is involved. In (32b) the problem is just the same as in (35a) (that similar examples are also ruled out in English can be due to the fact that, in this case, it is not the movement of a constituent NP that leaves the preposition stranded, as happens in normal cases in English, but the movement of N'). On the other hand, the ungrammaticality of (36a) arises because of the presence of an NP-boundary, which does not allow extraction. By contrast, (34a) is correct because *peras* did not cross any problematic boundary while adjoining to IP.

Therefore, (39) and (42) can be substituted by the ECP, hence no special principle being necessary. All we have to accept is Pesetsky's (1982) proposal that correspondents in coordinate structures have to raise at LF.

3.2. The reduction of the c-command constraint to Absorption

Let us now consider the constraint (30b), which was proposed in section 2.1. The main motivation for (30b) was example (29a), repeated below:

- (29) a. * Juan dijo que t_ú eres m_{ás} listo a Jos_é que a Luis.
 Juan said that you are more clever to Jos_é than to Luis.
 'Juan said that you are cleverer to J. than to L.'

Once QR affects *más* (according to (30a), which is not even a principle, but rather an instance of the logical requirement which holds of every quantifier at LF) as well as the correspondents of the coordination (according to the conclusions of the last section), the LF of (29a) will be (66):

$$(66) \text{ IP}[\text{PP}[\textit{a J.}]_k \text{ IP}[\textit{J} \text{ dijo}_{\text{CP}}[\textit{que IP}[\textit{m\acute{a}s}_i \text{ IP}[\dots \text{AP}[\textit{e}_i \text{ listo}]]]]] \text{ e}_k]] \\ \text{que} \\ \text{IP}[\text{PP}[\textit{a L.}]_m \text{ IP}[\textit{viaj\acute{e}} \text{ PP}[\textit{con NP}[\textit{e}_m]]]]]$$

The problem in (66) is likely to be the following. In the last sections, we have said that absorption holds of the correspondents of coordination, in such a way that they all gather in order to give rise to an n-ary operator. However, nothing has been said thus far about the relation between these correspondents and the quantifier *más*, which also underwent QR at LF. It is likely to be the case that the correspondents have to also meet *más* at LF as a part of the absorption process. The resulting cluster will turn out to be essential for the interpretation of comparative sentences. So, (66) will be ungrammatical due to the fact that the correspondents cannot gather

más at LF, since *más* could only raise to the IP corresponding to the most deeply embedded clause.

This hypothesis also accounts for the ungrammaticality of (67a), whose LF is given in (67b):

- (67) a. Más chicos dijeron que L. compró un libro que una pluma.
 more boys said that L. bought a book than a pen.
 'More boys said that L. bought a book than a pen'.
 b. $IP[más_i IP[e_i \text{ chicos} \dots \text{que}_{IP} [NP[\text{un libro}]_j IP[L \dots e_j]]]]$
 que
 $IP[\dots NP[\text{una pluma}]_k e_k]]]$

In (67), the operator *más* is adjoined to the main IP, but the correspondents of the coordination could only reach the most deeply embedded IP, hence the formation of the comparative complex operator at LF is impossible. Notice, by the way, that (67b) is a clear counterexample to (30b), since *más* is c-commanding *que* at LF and, nevertheless, the sentence is ungrammatical, no other principle being likely to be violated (indeed, QR of the correspondents at LF fully meets ECP requirements).

Let us now consider (68a), whose LF is (68b):

- (68) a. * Más ingleses vieron ese film en Londres que franceses dijeron
 more English saw that film in London than French said
 que Pedro lo vio en Madrid.
 that Pedro it saw in Madrid.
 'More English saw that film in London than French said that Pedro saw it in Madrid'.
 b. $IP[más_i N[\text{ingleses}]_j PP[\text{en L.}]_k IP[e_i e_j \dots e_k]]$
 que
 $IP[N[\text{franceses}]_m IP[e_m \dots IP[PP[\text{en M.}]_n IP[\dots e_n]]]]$

This sentence is ungrammatical under the reading according to which just the restrictors and the locatives are relevant in the formation of the amounts under comparison (reading represented by (68b)). The reason is that, under such an interpretation, the PP *en Madrid* could not reach the main IP by QR in order to form a complex operator together with the other single operators staying there. Of course, (68a) is grammatical under the reading where the whole VP, and not just the locative complements, are relevant for the formation of the complex amount operator. This last reading is represented in (69), where QR affects the VP's of both main clauses:

- (69) $IP[más_i \text{ ingleses}_i VP[\text{vieron ese film en L.}]_k IP[e_i e_j e_k]]$
 que
 $IP[\text{franceses}_m VP[\text{dijeron que P. lo vio en M.}]_n IP[e_m e_n]]$

This is also the case in an example like (70), where ellipsis of the most deeply embedded IP forces the reading (68b):

(70) * Más ingleses vieron ese film en Londres que franceses dijeron que Pedro en Manchester.

'More English saw that film in L. than French said that P. in M'.

Again, notice that, in (68) as well as in (70), no problem arises concerning (30b).²

4. Some evidence for the operator "más-correspondents" at LF

In the following sections we give some support to the claim, made in previous sections, that, at LF, a constituent such as *más peras* splits in a certain way, that is, the quantifier (*más*) raises independently from the restrictor (*peras*), which also raises when a correspondent is present in a coordination configuration.

In section 4.1. we give some arguments related to Preposition Stranding in Spanish. The relevant data force a situation where *más* has to raise alone at LF. Section 4.2. focusses on an apparently paradoxal paradigm, which will only be clarified under the view that *más* raises in the main clause, leaving behind the restrictor. Such a paradigm contains some examples where, at first glance, it seems that a movement of quantifier and restrictor together is taking place at SS, as an overt manifestation of a process which takes place at LF in other languages. However, thanks to evidence provided by superlatives, these apparent counterexamples are analyzed as actually involving independent movement of the bare quantifier, plus a later adjunction of the restrictor to it. No movement of the whole NP is at work. Hence they can be considered as a new instance of overt absorption between quantifier and restrictor. The advantages of such an analysis will be more evident not only when taking into account superlative sentences, but also the contrasts between English and Spanish in relation to these phenomena.

4.1. Independent movement of quantifier *más*

Thus far, we have been talking about *más*-movement at LF, but we have not yet given any argument to prefer this hypothesis to one saying that what actually raises at LF is the constituent formed by *más* plus the restrictor. Here, we will argue that *más* moves independently of the restrictors. This will be the first step for us to be able to show that at LF the formation of a complex operator *más*-correspondents takes place.

Let us first consider the following example:

(71) Juan vio ese film en *más cines de los que te piensas*
 Juan saw that film in more cinemas than what you think
 'J. saw that film in more cinemas than you think'.

We will focus on the italicized clause. Two possible categories can be assigned to the wh-element *los que*: QP or NP. Assuming that the right category is NP, the LF

(2) We think that the representation assigned to the sentences in this section could be compatible with the logical structures proposed by Heim (1985) for superlatives and phrasal comparatives in the following sense: the comparative operator (*más*) as well as the compared items are placed to the left of the whole sentence.

of the underlined sentence (once reconstruction of the Null Complement Anaphor (NCA) has taken place) will be (72):

(72) $de_{NP}[\underline{los\ que}]_i te\ piensas_{IP}[J. ha\ visto\ ese\ film_{PP}[en\ e_i]]$

However, notice that (72) is a case of Preposition Stranding at LF. This should be definitely ruled out in Spanish, as the ungrammaticality of examples such as (40a) (whose structure is (64a)) shows:

(40) a. * *Estuve con más amigos en Roma que Paris.*

(64) a. $IP[más_i\ NP[R.]_k\ IP[\dots_{PP}[con\ NP[e_i\ amigos]]_{PP}[p[en\ e_k]]]]$
 que
 $IP[NP[P.]_m\ e_m]]$

Therefore, we should assume that the category of the *wh*-element in (71) is QP, that is, it corresponds to a quantifier in the Spec position of an NP. Thus, the LF of (71) will be (73):

(73) $IP[QP[más]_i\ IP[J. vio\ ese\ film_{PP}[en\ NP[e_i\ cines]]]]\ de_{QP}[\underline{los\ que}]_i\ tú\ te\ piensas_{IP}[J. ha\ visto\ ese\ film_{PP}[en\ NP[e_i\ cines]]]]$

The relevant aspect of (73) is the following. Since *los que* is a QP, it has to bind a QP-variable at LF once reconstruction of the NCA takes place. Thus, since it is the main clause that has to be copied in the NCA, *más* has to undergo QR in order to provide the reconstruction process with a QP-variable which will be bound by *los que* in the embedded clause. It cannot be the whole constituent *más cines* that raises at LF, since this would create an NP-variable, which could not be bound by the QP *los que*. One of the consequences of all these processes is that no Preposition Stranding takes place at LF.³

4.2. Overt Absorption in Spanish

Comparatives such as (71) have nothing to do with the comparatives which we have studied thus far, and which we have assigned a coordinate structure to. (71) is rather a relative clause introduced by *las que*, and we can well agree with Bresnan (1973) on the idea that such clauses are complements of *más*. Thus, in these comparatives *más* is the only constituent that raises at LF, since there are no such things as "correspondents". In the following subsections we will show that this fact accounts for the following asymmetry between the paradigms in (74a, b, c) and (75a, b, c):

(74) a. *Juan compró más manzanas de las que compró Luis.*
 Juan bought more apples than what bought Luis.
 'Juan bought more apples than Luis bought'.

(3) Of course, we would have now to face the problem of why a configuration such as the one in (73) is not possible at SS. This possibility can be precluded if we assume that the Left-Branch Condition derives from the requirement that an empty category be head-governed, and the assumption that such a requirement holds at PF (cf. Aoun, Hornstein, Lightfoot and Weinberg 1987).

- b. Juan compró más manzanas de las que se piensa María que
 Juan bought more apples than what thinks María that
 compró Luis.
 bought Luis.
 'J. bought more apples than M. thinks that L. bought'.
- c. Juan compró más manzanas de las que se piensa María.
 Juan bought more apples than what thinks María.
 'J. bought more apples than M. thinks'.
- (75) a. Juan compró más manzanas que peras compró Luis.
 Juan bought more apples than pears bought Luis.
 'J. bought more apples than Luis bought pears'.
- b. Juan compró más manzanas que peras se piensa María que
 Juan bought more apples than pears thinks María that
 compró Luis.
 bought Luis.
 'J. bought more apples than M. thinks that L. bought pears'.
- c. * Juan compró más manzanas que peras se piensa María.
 Juan bought more apples than pears thinks María.
 lit: 'J. bought more apples than pears M. thinks'.

4.2.1. Examples in (74)

Example (74c) can be accounted for by recalling the account given of (71). Thus, (74a, b) will also be instances of NCA. In these cases, the NCA will have the category NP, and will appear immediately to the right of the verb *comprar*. Since *más* raised at LF, the reconstruction of the NCA will give rise to the configuration in (76), where the QP operator *las que* binds a QP variable:

(76) $las\ que_i \dots NP[QP[e_i]_N[manzanas]]$

4.2.2. (75) are not instances of coordination

As far as the examples in (75) are concerned, we will first give some arguments supporting the idea that, in spite of the fact that they seem to be identical to coordinate sentences such as (11) (with the only particularity that the object constituent has been preposed, perhaps by topicalization), the structure underlying (75a), for example, is actually the same as in (74a), that is, there is no coordination, but rather a relative construction. Some of the arguments given in section 1.2 to show that (11) is a coordinate structure will allow us to show now that coordination does not underlie (75a). We proceed to briefly offer the relevant data related to each of the arguments.

4.2.2.1. Unlike (13), (77), where *libros* is preposed, is grammatical:

(77) Pedro vio a Bogart en más películas que libros leyó Luis.

4.2.2.2. Unlike (15), in (78) the second restrictor can be generated in a more deeply embedded context before being raised:

(78) Juan compró más manzanas que peras dijo Pedro que vendió Luis.

4.2.2.3. Unlike (17b), (79) is not sensitive to ATB phenomena:

(79) A quién compró Pedro más manzanas que peras vendió Juan a Luis?

4.2.2.4. Unlike (22a), where *más* is subcategorizing for three restrictors, (80) is grammatical, since we are saying that these embedded clauses are actually complements of *más*, so an infinite amount of them can be coordinated.

(80) Juan compró más manzanas que peras vendió Luis y bananas comió José.

4.2.2.5. Unlike (23a), the fact that the restrictors play different roles in each sentence does not lead to ungrammaticality in (81):

(81) Más mujeres trabajaron que hombres reclutó el ejército.

4.2.2.6. In contrast to what happens in (25), the fact that the comparative clause appears embedded in an NP in (82) does not lead to ungrammaticality:

(82) La retirada de más soldados por Francia que marines retiraron los USA fue un tema controvertido.

4.2.2.7. The use of subjunctive mood in (83) is possible, unlike what happens in (26b):

(83) Juan ha comprado más manzanas que peras haya podido vender Luis.

4.2.2.8. (84) seems to suggest that sentences like (75a) accept gapping, just as (21a) does:

(84) Juan compró más manzanas que peras Pedro.

However, several facts suggest that (84) is just like (21a), but with the subject inverted:

(85) Juan compró más manzanas que (compró) peras Pedro.

4.2.2.8.1. Like (17b), those sentences are sensitive to ATB:

(86) * Quién compró más manzanas que peras Luis?
 who bought more apples than pears Luis
 'Who bought more apples than Luis pears?'

4.2.2.8.2. The fact the two restrictors play different roles in each clause is relevant in these sentences:

(87) * Más chicos vieron a Juan que chicas Pedro.
 more boys saw Juan than girls Pedro
 'More boys saw Juan than Pedro girls'.

4.2.2.8.3. These sentences cannot appear inside an NP, as was the case in (23a):

(88) *La retirada de más soldados por Francia que marines los USA fue un tema controvertido.

4.2.3. (75) are instances of relativization

Thus far, we have shown that (75) drastically differs from (11). In this section we argue that the structure which actually underlies (75) is the same as in relative constructions. In other words, the structure of (75a) is the same as the one in (74a). It is on these grounds that we can take the examples in (74)-(75) as evidence of an asymmetry. Indeed, several arguments suggest that the constituent which introduces these comparatives is similar to the wh-element *cuantos* 'whatever', which introduces Spanish amount free relatives. In the following sections we will offer those arguments. Notice that each argument allows us to also discard a possible topicalization-based account of (75).

4.2.3.1. In Spanish, there is a difference between indefinite NP's (89) and bare NP's (90):

- (89) Yo no he comprado un libro. (90) Yo no he comprado libros
 I not have bought a book 'I did not buy books'.
 'I did not buy a book'.

This difference shows up as a difference in quantifier scope. (89) has the following readings:

- (91) a. —Ex, x=libro, yo he comprado x.
 b. Ex, x=libro, —yo he comprado x.

However, in the case of bare NP's, there is no ambiguity. (90) has only the interpretation (91a). The interpretation where the existential quantifier has wide scope over negation is not possible.

Lees pointed out that it is impossible for a negative element to appear within the second member of a comparative:

- (92) *I know him better than she doesn't.

This is also true in Spanish:

- (93) *Luis compró más manzanas que Pedro no vendió peras.
 Luis bought more apples than Pedro not sold pears.
 'L. bought more apples than P. didn't sell pears'.

(93) contrasts with (94), where there is no negative operator

- (94) Luis compró más manzanas que Pedro vendió peras.
 'Luis bought more apples than Pedro sold pears'.

Notice that, in (93) and (94), *peras* is in postverbal position, unlike the comparatives in (75).

Probably, (93) is ungrammatical because a comparison is made between constituents that do not have identical referential status: some apples exist, and they have been bought, unlike the pears, that lack a referential index.

Negative operators are possible in comparatives where *peras* occurs in preverbal position:

- (95) Luis compró más manzanas que peras no vendió Pedro.
lit: 'Luis bought more apples than Pedro did not sell pears'.

In this case, *manzanas* and *peras* have identical referential status, since *peras*, occurring in a more prominent syntactic position, receives wide scope over the negation. This is what happens in amount free relatives, as illustrated in (96):

- (96) A mí me gustarán cuantos films no detestes tú.
I will like whatever films not hate you
'I will like whatever films you will not hate'.

In (96), the high syntactic position of *cuantos* gives rise to its wide scope over the negative operator. Assuming that *cuantos* is in the Spec of CP, we could then conclude that in (95) (as well as in (75)) there is also a quantifier phrase which occurs in such a position, unlike in (93) (and (94)). Such a quantifier phrase would be an empty operator which introduces a free relative.

Notice that a topicalization-based account would not be satisfactory, since a bare NP in a topicalized position has no referential status when a negative operator is present. Thus, the only reading available for (97) is one of the sort of (91a):

- (97) Libros yo no he comprado.
'Books I didn't buy'.

4.2.3.2. Rivero (1980) discusses the contrast between (98) and (99):

- (98) *¿Qué preguntas quién tiene?
what you wonder who has
lit: 'What do you wonder who has?'
- (99) Dinero, preguntan quién tiene.
money, they wonder who has
'Money, they wonder who has'.

She deduces from this contrast that topicalization does not entail wh-movement. However this construction can be accounted for, the fact is that the presence of a wh-element in the Spec of a more deeply embedded CP gives rise to ungrammaticality:

- (100) * Juan compró más manzanas que peras preguntaste tú por qué
Juan bought more apples than pears wondered you why bought
compró Luis.
Luis.
lit: 'Juan bought more apples than you wondered why Luis bought
apples'.

Thus, (100) behaves like (98) (wh-element), not like (99) (topicalization). As expected, amount free relatives behave like (98) and (100):

- (101) * Me gustaron cuantos invitados te preguntabas por qué vinieron.
 I liked whatever guests you wondered why came
 lit: 'I liked whatever guests you wondered why came'.

4.2.3.3. Topicalization does not trigger V-Preposing (102), whereas the movement of *peras* in (75) does; this is also the case in amount free relatives (103):

- (102) Libros María suele comprar.
 books María uses to buy
 'Books, María uses to buy'.
- (103) a. ?? Compré cuantos libros Luis vendía.
 I bought whatever books Luis sold
 'I bought whatever books Luis sold'.
 b. Compré cuantos libros vendía Luis.

4.2.3.4. Campos (1986) analyzes certain examples where an emphatic *sí* can preserve the relation between an empty operator (Op) (Chomsky 1982) and the variable it binds, despite an intervening complex NP:

- (104) question: Quién trajo cerveza a la fiesta?
 who brought beer to the party
 'Who brought beer to the party?'
 answer: a. * No conozco al chico que trajo.
 don't know the boy who brought
 'I don't know the man who brought'.
 b. Conozco al chico que *sí* trajo.
 'I know the boy who *sí* brought'.

Topicalization exhibits the same phenomenon:

- (105) a. * Cerveza, no conozco al chico que trajo.
 beer not know the boy who brought
 'Beer, I don't know the boy who brought',
 b. Cerveza, conozco al chico que *sí* trajo.
 'Beer, I know the boy who *sí* brought'.

However, *sí* does not improve a complex NP constraint in cases such as (75), and, as expected, the same happens in amount free relatives (107):

- (106) * Compraste más café que cerveza conozco al chico que
 you bought more coffee than beer I know the boy who
sí trajo.
 brought
 lit: 'You brought more coffee than beer I know the boy that *sí*
 brought'.
- (107) * Compré cuantos libros conozco al chico que *sí* compró.
 I bought whatever books you know the boy who bought
 lit: 'I bought whatever books you know the boy that *sí* bought'.

4.2.3.5. Chomsky (1982) proposes the following parasitic gaps (PG) licensing principle:

(108) A PG is licensed by a variable that does not c-command it.

In (109), an amount free relative, (108) is satisfied:

(109) Recuperé cuantos libros tiró Juan tras haber leído.
I recovered whatever books threw down Juan after have read.
'I recovered whatever books J. threw down after having read'.

In the comparatives under discussion, the variable licensing parasitic gap also shows up, probably because wh-movement took place, as in amount free relatives:

(110) Luis compró más manzanas que libros tiró Juan tras
Luis bought more apples than books threw down Juan after
haber leído.
have read
'Luis bought more apples than Juan threw books down after having read them'.

By contrast, topicalization does not allow a parasitic gap to occur:

(111) *Libros, Juan tiró tras haber comprado.
Books, Juan threw down after have bought
'Books, Juan threw down after having bought them'.

4.2.3.6. Object preposing in (75) could be related to object preposing in Spanish superlative sentences (112b):

(112) a. Pedro es el que compró más peras.
Pedro is who bought most pears
'It is Peter that bought the most pears'.
b. Pedro es el que más peras compró.

The fact that English lacks sentences similar to (75a) and (112b) supports this connection between (75a) and (112b). Indeed, were (75a) and (112b) just instances of wh-movement, sentences like (113a, b) should be grammatical, which is not true:

(113) a. * Juan bought more apples than apples Luis bought.
b. * It is Pedro that most pears bought.

Therefore, properties of (112) could help us to find out properties of (75a).

First, notice that a wh-operator is required for a superlative to be possible (there is another interpretation for (114a) which does not concern us here):

(114) a. * Juan compró más peras. b. ¿Quién compró más peras?
'Juan bought more pears'. who bought more pears
'Who bought the most pears?'

For (114a) to be correct, it is necessary to introduce what seems to be a wh-operator in situ (italicized in (115)). This operator can agree in gender and number features with the subject, just as the ordinary relative operator *el que* does:

- (115) Ellas/Juan compraron/ó *las que* / *el que* más peras.
 they-fem. who-fem.pl. who-masc.sg.
 'They/Juan bought the most pears'.

However, a second requirement exists for object preposing to take place: the wh-element which triggers the preposing is the one which shows up in relatives (112b), not the interrogative one (116):

- (116) *¿Quién más peras compró?
 who more pears bought
 'Who bought the most pears?'

Movement of *más peras* in (112b) to the position occupied by the relative operator could be considered as an instance of absorption: *más peras* has to form a cluster together with the relative wh-operator, and such cluster is a binary operator binding two variables at the same time. The ungrammaticality of (116) suggests that such an absorption process can take place only when the wh-operator is generated in situ, as seems to be the case in Spanish relatives, where resumptive pronouns are always possible (117a) and verb preposing never takes place (117b):

- (117) a. Un chico al que le vi a menudo.
 A boy who him saw often.
 'A boy that I often saw'.
 b. Un chico al que Juan vio a menudo.
 'A boy whom Juan often saw'.

A third requirement for object preposing to take place in superlatives is suggested in (118):

- (118) a. Era a Felipe a quien más ciudadanos admiraban.
 was Felipe whom most citizens admired
 'It was Felipe that the most citizens admired'.
 b. Es a Felipe a quien más ciudadanos quiere el PSOE que admiren.
 is Felipe whom most citizens wants the PSOE that admire
 lit: 'It is Felipe that the PSOE wants that the most citizens admire'.
 c. * Es el PSOE el que más ciudadanos quiere que admiren a Felipe.
 is the PSOE who most citizens wants that admire Felipe
 lit: 'It is the PSOE that wants that the most citizens admire Felipe'.

In (118b), the wh-element of the Pseudocleft moves from the object position of a more deeply embedded sentence. The *más*-constituent moves from the subject position. In (118c), the *más*-constituent moves as in (118b), but the original position of the wh-element is in the higher clause. The fact that this sentence is ungrammatical suggests that movement of a *más*-constituent to a higher clause is only possible when adjunction to a wh-element in the Spec of its own CP is done. The *más*-constituent cannot raise by itself directly to the higher clause for the same reason why movement of quantifiers at LF is limited to the sentence where they appear at SS (recall that we are considering these overt movements to be an SS reflect of something

which is commonly at work at LF). Therefore, we consider the steps of the derivation of (118b) to be the following (the symbol “+” stands for “adjunction”, that is, the step where absorption is taking place):

- (119) a. ...quiere_{CP}[wh_i IP_{[NP[más...]]}; admiren pro_i]
 b. ...quiere_{CP}[wh_iNP[más...]]_i[e_j admiren pro_i]
 c. CP[wh_iNP[más...]]_iIP[...quiere_{CP}[IP[e_j admiren pro_i]]

(119a) means that the wh-element is generated in the Spec of the lower CP (recall that the possibility of base-generating wh-elements in relatives accounts for the contrast between (112b) and (116), as well as for the ungrammaticality of (113a, b)), binding a pro in object position. Next, the *más*-constituent adjoins to the wh-element, just as it happens in (112b). Finally, the complex constituent raises to the Spec of the higher clause.

In (118c), the formation of the complex operator is not possible, since the wh-element is too far away from the *más* constituent.

In case we decide not to front the *más*-constituent, there will still be a contrast between those sentences where the wh-element is a clausemate of the *más*-constituent and those where it belongs to a higher clause:

- (120) a. Es a Felipe a quien quiere el PSOE que admiren más ciudadanos.
 b. *Es el PSOE el que quiere que más ciudadanos admiren a Felipe.

The reason for this is that, at the LF of (120a), the *más*-constituent can adjoin to the trace left by the wh-element in the Spec of the lower CP, thus giving rise to the complex operator necessary for the interpretation of the superlative, whereas at the LF of (120b), no trace of the wh-element is available in that position. Thus, a sentence like (121a) is also ungrammatical, unlike (121b):

- (121) a. *¿Quién quiere que más ciudadanos admiren a Felipe?
 ‘Who wants that the most citizens admire Felipe?’
 b. ¿A quién quiere el PSOE que admiren más ciudadanos?
 ‘Whom does the PSOE want that the most citizens admire?’

Summarizing, the analysis of object preposing in superlatives allows us to find some properties which can be relevant for the analysis of the structure underlying comparatives such as (75a):

- (122) a. a wh-operator is needed (evidence in (114)).
 b. the wh-operator must be base-generated in an A²-position, which is only possible in relatives (evidence in (112b)/(116)).
 c. the *más*-constituent has to adjoin to the wh-operator, which must then be locally related to it, since it cannot perform long movement (evidence in (119)-(120)).

We can then propose the structure (123) for the comparative clause in (75a):

- (123) que_{CP}[OP_iNP[peras]_j IP[compró Luis NP[e_i e_j]]]

Op is a wh-operator which introduces a relative clause. Then, no relevant difference exists between (74a) and (75a). The two cases are instances of relative clauses.

4.2.4. The ungrammaticality of (75c)

In the last sections we have arrived at the following conclusions:

- (124) a. *más* raises independently at LF in (74) (section 4.1.).
 b. (75) are not coordinate sentences, but instances of the structures underlying (74) (sections 4.2.2. and 4.2.3.).

We can then conclude that, in (75c), what raises at LF in the main clause is *más* (the restrictor does not raise, since no coordination is at work). Then, the LF of (75c), namely (125), tells us now why this sentence is ungrammatical:

- (125) $CP_{IP}[QP[más]_i IP[Juan compró_{NP}[QP[e]_i N[manzanas]]]] que$
 $CP[QP[Op]_k N[peras]_m IP[se piensa María_{IP}[Juan compró_{NP}[QP[e]_k$
 $N[manzanas]]]]]$

Notice that, after reconstruction, *Op* correctly binds its own variable (a sloppy copy of the variable in the main clause has taken place). However, the problem of vacuous quantification is still not solved, since no variable has been copied for *peras* to bind. Had both *más* and *manzanas* raised at LF, the sentence should be grammatical, since a variable of category N^t (the one corresponding to *manzanas* in the main clause) could have been reconstructed at LF for *peras* to bind. Lastly, it is important to keep in mind that the object preposing in (75a,b) is not an indication that a similar raising is affecting the restrictor in the main clause at LF, but rather it illustrates the overt absorption phenomenon in Spanish, which also takes place in superlatives.

References

- Aoun, J., N. Hornstein, D. Lightfoot and A. Weinberg, 1987, "Two Types of Locality", *LI* 18, 537-577.
 Bresnan, J., 1973, "Syntax of the Comparative Clauses in English", *LI* 4, 275-343.
 Campos, H., 1986, "Indefinite Object Drop", *LI* 17, 354-358.
 Chao, W., 1987, *On Ellipsis*, Doctoral Dissertation, University of Massachusetts.
 Chomsky, N., 1981, *Lectures on Government and Binding*, Foris, Dordrecht.
 ———, 1982, *Some Concepts and Consequences of the Theory of Government and Binding*, MIT Press, Cambridge.
 Heim, I., 1985, "Notes on Comparatives and Related Matters", Ms. University of Texas, Austin.
 Higginbotham, J., and R. May, 1981, "Questions, Quantifiers and Crossing", *The Linguistic Review* 1, 41-80.
 Jackendof, R., 1971, "Gapping and Related Rules", *LI* 2, 21-36.
 Keenan, E., 1987, "Multiply-Headed Noun Phrases", *LI* 18, 481-490.
 May, R., 1985, *Logical Form. Its Structure and Derivation*, MIT Press, Cambridge, Massachusetts.
 Napoli, D. J., 1983, "Comparative Ellipsis: A Phrase Structure Analysis", *LI* 14, 675-694.
 Pesetsky, D., 1982, *Paths and Categories*, Doctoral Dissertation, MIT.
 Rivero, M. L., 1980, "On Left-Dislocation and Topicalization in Spanish", *LI* 11, 363-394.
 Sag, I., 1976, *Deletion and Logical Form*, Doctoral Dissertation, MIT.
 Williams, E., 1981, "Transformationless Grammar", *LI* 14, 423-446.