

# A'-DEPENDENCIES IN SPANISH AND BASQUE

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University of Connecticut, 2004

This dissertation offers a study of A'-dependencies in Spanish and Basque. More specifically, I analyze wh-movement, its interaction with Focus and Topic and the adjacency requirement between wh-phrases and the verb. In order to offer an analysis of these phenomena, I explore the following topics: in situ questions in Spanish, (multiple) question formation in Basque, and comparative subdeletion phenomena in Spanish.

In chapter 2 I provide an account of the behavior of wh-in-situ questions in Spanish. The analysis pursued in the chapter reveals that the distribution of in situ wh-phrases is governed by phonological properties. More precisely, in situ wh-phrases in Spanish need to appear last within their intonational phrase. This generalization captures the behavior of all in situ wh-phrases in this language.

In chapter 3 I discuss the strategies Basque employs to formulate a multiple wh-question. I show that in the in situ strategy no wh-phrase remains in situ in the structure: the postverbal wh-phrase raises overtly to check a topic feature. I offer an analysis for Multiple Wh-fronting structures in which the wh-phrase closer to the verb is focalized and the rest of the wh-phrases are topicalized. I propose that Basque has a head with two features: Attract-all-discourse and Attract-1Topic (cf. Bošković 1999, 2002). Under this analysis, all wh-phrases bearing focus or topic are moved to the front of the sentence.

Furthermore, the highest wh-phrase must move first. The fact that only one wh-phrase is focalized follows from the adjacency requirement of a PF verbal affix.

In chapter 4 I examine the role of contrastive focus in comparative subdeletion constructions in Spanish. Spanish allows Comparative Subdeletion under the two following circumstances: obligatory verb gapping and word order alteration of the elements in the comparative clause (“Inversion Strategy”). I capture the Spanish data by appealing to the claim that there is a strong focus feature requirement in the “Inversion Strategy”. I claim that the NP containing the quantity term must undergo overt movement to check a strong focus feature. If the feature is not checked, the derivation can still be rescued by deleting the strong feature in PF.

A'-Dependencies in Spanish and Basque

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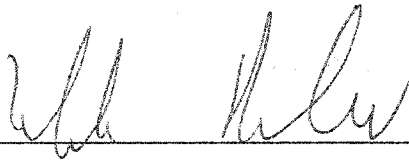
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A'-Dependencies in Spanish and Basque

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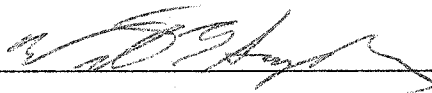
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## TABLE OF CONTENTS

### Chapter 1: Introduction

1.1. Background .....	1
1.2. Outline .....	4

### Chapter 2: Wh-in-situ in Spanish

2.1. Introduction .....	8
2.2. French wh-in-situ .....	9
2.3. Wh-in-situ in Spanish .....	13
2.3.1. Jiménez (1997).....	13
2.3.2. Uribe-Etxebarria (2002) .....	16
2.3.2.1. Data and analysis .....	16
2.3.2.2. More arguments and counterarguments .....	24
2.4. Zubizarreta (1998) .....	38
2.5. Stjepanović (1999, 2003) .....	50
2.6. The analysis .....	57
2.7. Cross-linguistic comparison: Spanish, French and English .....	74
2.7.1. French .....	74
2.7.2. English .....	78
2.8. Conclusions .....	84

## **Chapter 3: Multiple questions in Basque**

3.1. Introduction .....	85
3.2. Theoretical background .....	87
3.2.1. Focus .....	87
3.2.2. Superiority .....	89
3.2.3. Interpretation of questions .....	94
3.4. Basque .....	98
3.5. Focus in Basque .....	99
3.5.1. Word order .....	99
3.5.2. Focus .....	101
3.6. The wh-in-situ strategy .....	108
3.6.1. Predictions .....	111
3.6.2. Landing sites .....	116
3.6.3. Derivation .....	123
3.7. Multiple Wh-Fronting .....	125
3.7.1. Predictions .....	127
3.7.2. Derivation .....	130
3.7.3. Three wh-phrases .....	137
3.8. Long-distance contexts .....	142
3.9. Concluding remarks .....	143

## **Chapter 4: Comparative Subdeletion in Spanish**

4.1. Introduction .....	146
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4.2. Comparative Subdeletion: General assumptions .....	147
4.3. Snyder (1995) .....	151
4.4. Comparative Subdeletion constructions in Spanish .....	152
4.4.1. The data .....	152
4.4.2. Previous analyses .....	157
4.5. The “Inversion Strategy” .....	159
4.5.1. On verb movement .....	159
4.5.2. Focus and landing sites .....	162
4.5.3. More on the subject position .....	171
4.6. The “Obligatory Gapping Strategy” .....	175
4.6.1. Motivating the analysis .....	178
4.6.1.1. Subjects as Topics .....	178
4.6.1.2. AgrSP-deletion and XP .....	181
4.6.1.3. Heavy NP Shift of the object .....	191
4.6.1.4. A prediction .....	194
4.7. An extension: Comparative Deletion .....	195
4.8. Conclusion .....	200
<b>References</b> .....	201



## CHAPTER 1: INTRODUCTION

### 1.1 Background

The main goal of my dissertation is to offer a study of A'-dependencies in Spanish and Basque. More specifically, I analyze wh-movement, its interaction with focus (both new information focus and contrastive focus) and the adjacency requirement between wh-phrases and the verb. In order to offer an analysis of these phenomena, I explore the following topics: in situ questions in Spanish, (multiple) question formation in Basque and comparative subdeletion phenomena in Spanish.

It is well known that languages differ with respect to question formation. In some languages such as English, wh-words move to the front of the sentence (cf. (1)). In contrast, Chinese-type languages leave wh-words in situ, as in (2). There are other languages such as French where both strategies are available. That is, wh-words can appear in sentence-initial position as in (3a) or they can stay in situ, as in (3b). Finally, all wh-words front in Bulgarian-type languages (see (4)):

(1) What did John buy  $t_{\text{what}}$ ?

(2) John mai-le shenme?

John bought what

(3) a. Qu'a acheté John?

what has bought John

‘What has John bought?’

b. John a     acheté quoi?

(4)     a. Koj kakvo e kupil?

           who what   is bought

           ‘Who bought what?’

b.   \*Kakvo koj e kupil?

Regardless of the strategy employed, there is a close connection between question formation and focus. Let us take the example below. As (5a) indicates, the question is asking about the object(s) that John bought. As the answer to the question makes clear, the object bought by John was ‘a car’. ‘A car’ in (5b) is the new information provided by the answer, that is, the non-presupposed part of the answer. This is commonly known as new information focus or presentational focus in Kiss’s (1998) terminology. Note that the new information focus in the question in (5a) is the wh-word itself.

(4)     a. What did John buy?

b. John bought a car

In chapter 2, I will explore in detail the idea that wh-words, more specifically in situ wh-words, are associated with new information focus.

There is another type of focus known as contrastive focus or identificational focus. As Kiss (1998) puts it, identificational focus expresses exhaustive identification and occupies the specifier of a functional projection in focus movement languages. The

kind of languages Kiss is referring to are languages like Hungarian, where contrastively focused elements move overtly to a specific syntactic position (for Hungarian, this position is a position immediately adjacent to the verb). Other languages which fall under this category are Somali, Chadic, Aghem, Basque, Serbo-Croatian, to name just a few. As attested by Horvath (1986), languages which move contrastively focused elements to a specific syntactic position also move *wh*-phrases to that very same position. The conclusion Horvath reaches is that *wh*-phrases are inherently focused in this kind of languages. In chapter 3 I will precisely explore this idea with respect to Basque, where *wh*-phrases are also considered to be intrinsically focal. In a more indirect way, the role of contrastive focus will be also explored in chapter 4, where I investigate comparative subdeletion in Spanish.

The study of focus has a long tradition which takes us back to Chomsky (1955). After that Jackendoff (1972) and Chomsky (1976) explored this phenomenon in more depth. It is not until Guéron (1980) that a distinction was made between contrastive and non-contrastive focus. The interest in this subject has continued and has been reflected in several collections of papers such as Kiss (1995) and Rebuschi and Tuller (1999).

When talking about focus, researchers also make reference to the notion of Topic or theme. Focus and Topic/theme are taken to be opposite communicative functions. Whereas new information focus is the non-presupposed part of the sentence, the topic/theme is taken to be the old information or presupposed part. If we go back to our example in (5), the old information part in both the question and the answer is 'John' and 'buy'. With the recent interest in discourse-configurational languages (see Kiss 1995, for example), the semantic and syntactic properties of topics/themes have attracted a great

deal of attention. Basque is one language which has been described as focus/topic prominent. In chapter 3 I will explore these notions and their interactions. Whereas it is standardly assumed that Basque wh-phrases are inherently focused, I will also argue that some wh-phrases in Basque are topicalized. Here I will become more precise with respect to the notion of Topic. In the discussion above, I defined Topic as old information. I basically correlated Topic with 'theme'. In my study of Basque wh-movement, I will be mainly concerned with the syntactic operation of topicalization. It is important to bear in mind that topicalized elements denote old information, but not every element denoting old information is topicalized. In (5) 'John' and 'ate' are themes in the sense of old information. However, these two elements are not topicalized in the syntactic sense.

## **1.2 Outline**

In chapter 2, I explore the behavior of wh-in-situ constructions in Spanish. The main idea to be pursued is that the phonological properties of in situ wh-phrases in Spanish determine their distribution. That is, in situ wh-phrases need to appear last within their intonational phrase. If this requirement is not met, the resulting output turns out to be ungrammatical. I will show that the behavior of all in situ wh-phrases in Spanish can be explained by appealing to Zubizarreta's (1998) formulation of the Nuclear Stress Rule (NSR) and Stjepanović's (1999, 2003) system where stress assignment and the Copy Theory of movement (Chomsky, 1993) interact. The proposed analysis can also account for cross-linguistic variation. I will present an account of the different behavior of wh-phrases-in-situ in Spanish, English, and French. More precisely, in situ wh-phrases in French exhibit a different syntax depending on the presence or absence of a wh-phrase in

Spec CP. In contrast, Spanish and English in situ wh-phrases have the same syntax regardless of the presence of an additional wh-phrase in Spec CP. Interestingly, the wh-in-situ phenomenon is not the same in these two languages either. Spanish and English in situ wh-phrases crucially differ in their prosodic properties. Whereas Spanish in situ wh-phrases need to be last within their intonational phrase, this is clearly not the case in English.

In chapter 3, I study (multiple) question formation in Basque. Spanish and Basque can both leave wh-phrases in situ in multiple question constructions. However, Basque differs from Spanish in that all wh-phrases can also be fronted to the sentence initial position. Regarding the former strategy, I show that not all wh-phrases that appear to be in situ should be analyzed in the same way (cf. Bošković, 2002). In particular, I argue that Spanish and Basque wh-phrases in situ should be treated differently. One difference between Spanish and Basque is that Basque in situ wh-phrases are D-linked and appear to be located quite high in the structure. That is, they don't appear last within their own intonational phrase. I capture this behavior by suggesting that in situ wh-phrases in Basque need to undergo overt movement to check a topic feature. In other words, they are not really in situ. With respect to the Multiple Wh-Fronting (MWF) strategy I show that Basque is different from Slavic in that Basque exhibits a Topic-Topic-Focus Verb pattern. Note that Slavic wh-phrases front for focus purposes. I appeal to Bošković's (1999, 2002) Attract 1F/Attract-all F system and I suggest that Basque is an Attract-all-discourse language. Attract all-F ensures that all elements with the relevant feature will be fronted. In this sense, all elements which are discourse-related in Basque (i.e. Topic and Focus) will be attracted to sentence-initial position. This finding is quite interesting

since it contributes to establish a typology of MWF languages. As shown by Bošković, Slavic languages are Attract-all-Focus languages. Now, we have Basque which is an Attract-All-Discourse language. It remains to be seen whether there is a language where all and only topicalized wh-phrases are fronted to the beginning of the sentence.

In chapter 4, I examine the role of contrastive focus in Spanish. In chapter 1, I only focused on new information focus and its interaction with question formation. In the present chapter I investigate a different kind of focus and its interaction with Comparative Subdeletion. I show that Spanish does not allow Comparative Subdeletion in the same way English does. However, Spanish allows Comparative Subdeletion under the two following circumstances: obligatory gapping of the verb (i.e. the “Obligatory Gapping Strategy”) and word order alteration of the elements in the comparative clause (i.e. the “Inversion Strategy”).

I capture the Spanish data by appealing to the claim that there is a strong focus feature requirement in the “Inversion Strategy”. Based on this, I claim that the NP containing the quantity term must undergo overt movement to check a strong focus feature. If the feature is not checked, the derivation can still be rescued by deleting the strong feature in PF. This is precisely what happens in the “Obligatory Gapping Strategy”. A strong focus feature is deleted in PF and the DO undergoes Heavy NP-Shift and thus escapes the deletion site. Once the strong feature is erased from the derivation, the emerging sentence is grammatical. My analysis is reminiscent of Lasnik’s (1995) analysis of pseudogapping in which the derivation can be salvaged either by pied-piping or by deletion of the offending strong feature.

The analysis proposed in this chapter proves successful in capturing not only Comparative Subdeletion in Spanish but also Comparative Deletion constructions.

## CHAPTER 2: WH-IN-SITU IN SPANISH

### 2.1 Introduction

The goal of this chapter is to provide an account of the behavior of wh-in-situ questions in Spanish. The analysis to be pursued argues that the distribution of in situ wh-phrases is governed by phonological properties. More precisely, in situ wh-phrases in Spanish need to appear last within their intonational phrase. This generalization will capture the behavior of all in situ wh-phrases in this language.

The chapter is organized as follows. First, I will discuss wh-in-situ in French. This will serve as the starting point in our investigation of the wh-in-situ phenomenon in Spanish. As it will become clear below, in contrast to French, in situ wh-phrases in Spanish are allowed in a surprisingly broad variety of contexts. Second, I will introduce two previous approaches to the phenomenon under consideration (i.e. Jiménez (1997) and Uribe-Etxebarria (2002)). I will raise problems for both studies and conclude that they fail to explain the defining properties of Spanish wh-in-situ questions. Third, I will pursue the idea that the phonological properties of these questions determine their behavior and distribution. In order to formalize this idea, I will take Zubizarreta's (1998) formulation of the stress assignment algorithm as the starting point. Then, I will adopt Stjepanović's (1999, 2003) system, in which stress assignment and the Copy Theory of movement interact. Stjepanović's system is largely based on Zubizarreta's work but it is more principled. I will argue that the outcome of the account to be proposed is more satisfactory than previous accounts. It not only overcomes previous problems but it also accounts for all wh-in-situ constructions in Spanish in a unified way. Finally, I will draw



a cross-linguistic comparison between *wh-in-situ* in Spanish, French and English. It turns out that the differences between the three languages can be explained by appealing to syntactic as well as phonological differences among the three languages. The last section of the chapter offers the concluding remarks.

## 2.2 French *wh-in-situ*

Languages exhibit different patterns when it comes to question formation. There are languages where *wh*-words move overtly to Spec CP. This would be English, as shown in (1).<sup>1</sup> There are languages where *wh*-words stay in situ, as in Chinese (cf. (2)). Finally, languages such as French exhibit a mixed pattern. That is, French exhibits the movement pattern (cf. (3a)) and the non-movement pattern, as shown in (3b)).<sup>2</sup> In the rest of this section, I will concentrate on languages of the latter type.<sup>3</sup>

(1) What did John buy  $t_{\text{what}}$ ?

(2) John mai-le shenme?

John bought what

(3) a. Qu'a acheté John?

what has bought John

b. John a acheté quoi?

---

<sup>1</sup> I will change this assumption in section 2.7.2.

<sup>2</sup> As Bošković (2002) points out, French is not a mere combination of English and Chinese. If this were the case, French would exhibit the same range of possibilities with respect to *wh-in-situ* as Chinese does.

Boeckx (2003) (see also Chang (1997), Cheng and Rooryck (2000), Obenauer (1994), among others) notes that there is a semantic difference between (3a) and (3b). He illustrates this difference with the following situation. Suppose John went out on a Saturday. Normally, he goes shopping that day. Even if we assumed that John went out shopping, we wouldn't be able to utter (3b) in this context (note that (3a) would be fine). (3b) would become acceptable if we knew that John indeed bought something when he went out shopping on Saturday. This requirement is not necessary for the fronting strategy in (3a).

As mentioned in footnote 1, French *wh-in-situ* has a very limited distribution. More specifically, the *wh-in-situ* strategy is only allowed in short-distance questions ((1) above is a representative example). As noted in Bošković (1998a), this strategy is disallowed in long-distance contexts (cf. (4a-b)), embedded questions (cf. (4c-d)), and overt C questions (cf. (4e-f)): <sup>4,5</sup>

- (4) a. Qu'a dit Peter que John a acheté?  
           what has said Peter that John has bought  
       b. \*Peter a dit que John a acheté quoi?  
       c. Peter a demandé qui tu as vu  
           Peter has asked whom you have seen

---

However, this is not the case. The distribution of French *wh-in-situ* is very limited, as will become clear below. For an in depth discussion of these facts, see Bošković (1998, 2000).

<sup>3</sup> The French data comes from Boeckx (2003), Bošković (1998a) and Chang (1997).

<sup>4</sup> Let me clarify that (4b-d-f) are grammatical as echo-questions. I have starred the examples since the questions are not well-formed as true, non-echo questions. The same observation applies to the examples in (5).

<sup>5</sup> As Bošković (1998a) observes, overt C questions are not acceptable in all dialects of French.

d. \*Peter a demandé tu as vu qui

e. Qui que tu as vu?

whom C you have seen

'Who did you see?

f. \*Que tu as vu qui?

Furthermore, wh-in-situ questions in French are subject to intervention effects. Thus, Chang (1997) observes that quantificational elements such as universal quantifiers, negation, modals, quantificational adverbs and negative quantifiers have a blocking effect on these kinds of questions:

(5) a. \*Tous les étudiants ont rencontré qui?

all the students have met who

b. \*Il n'a pas rencontré qui?

he hasn't met who

c. \*Il peut rencontrer qui?

he can meet who

d. \*Il admire toujours qui?

He admires always who

e. \*Personne n'admire qui?

nobody not-admires who

There are several accounts of the behavior and distribution of *wh*-in-situ constructions in French. For instance, Bošković (1998a, 2000) notes that in Chomsky's (1995) system, it is possible to insert an element with a strong feature in LF as long as this element is phonologically null. According to Bošković, C with a strong +*wh*-feature is inserted in the LF of (3b). Overt *wh*-movement does not take place in this case because its trigger (i.e. strong +*wh* C) is not present overtly in the structure. As Bošković argues, the LF insertion of the strong +*wh* C triggers LF *wh*-movement to check the relevant strong feature. The indirect question in (4d) is ungrammatical because it involves merger in an embedded position. (4f) is ruled out because the complementizer 'que' is not phonologically null. Let us now focus on the ungrammatical long-distance context in (4b). By comparing (3b) with (4b), Bošković reaches the following conclusion: French LF *wh*-movement is clause-bounded. In fact he argues that (4b) is ruled out due to a violation of locality restrictions on movement. Following Chomsky (1995), Bošković argues that LF movement involves feature movement, i.e. head movement, which is known to be more local than phrasal movement, and attributes the ungrammaticality of (4b) to the intervention effect of the C 'que' on the LF feature movement to the matrix C (see Bošković (1998a) for details of the analysis). The intervention effects displayed in (5) offer further support for the locality of LF *wh*-movement (see Boeckx (2003) for an extension of Bošković's (1998a) account of (4b) to (5)). Quantificational elements block the LF movement of the in-situ *wh*-element.

Other approaches to the French *wh*-in-situ phenomenon include Boeckx (2003), Chang (1997), Cheng and Rooryck (2000), Munaro et al (2001), Obenauer (1994),

Sportiche (1998), and Vergnaud and Zubizarreta (2002), to name just a few. I refer the reader to the sources for the specifics of each proposal.

## 2.3 Wh-in-situ in Spanish

### 2.3.1 Jiménez (1997)

As first observed by Jiménez (1997), Spanish is a language that exhibits a mixed pattern of the French type. Wh-words in Spanish can be fronted, as in (6a), or they can stay in situ, as in (6b):<sup>6, 7</sup>

- (6) a. Qué compró Juan?  
          what bought John  
          ‘what did John buy?’  
      b. [Y] Juan compró qué?  
          and John bought what

According to Jiménez’s analysis, in situ wh-phrases in Spanish do not move in LF. They are licensed through unselective binding.

Let me note that there is no complete parallelism between French wh-in-situ and Spanish wh-in-situ. For example, native speakers of French utter sentences such as (3b) pretty frequently without the need of a previous context. In contrast, Spanish wh-in-situ

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<sup>6</sup> Note that the conjunction ‘y’ (and) is inserted between square brackets in the wh-in-situ example. When I elicited the judgments from my informants, I gave them a previous context. The conjunction ‘y’ was used to offer a smooth transition between the context itself and the wh-in-situ question. ‘Y’ is in square brackets not only to indicate that its presence in the sentence is optional but also to indicate that there was a previous context. I will discuss a concrete example in the main text that will clarify the relevance of the point made in this footnote.

<sup>7</sup> The Spanish data come from Jiménez (1997) and Uribe-Etxebarria (2002), unless noted otherwise.

questions are best when contextualization of some sort is involved. Jiménez exemplifies this point by offering the following situation:

A: Mi madre, Juan y yo fuimos a la tienda a comprar huevos, leche y café. Mi madre compró los huevos.

‘My mother, John and I went to the store to buy eggs, milk and coffee. My mother bought the eggs’

B: Y Juan compró qué?

and John bought what

‘and what did John buy?’

A: Juan compró la leche. Yo me encargué del café.

‘John bought the milk. I took care of the coffee’

As Jiménez explains, there is a fundamental difference between a fronted wh-question (cf. (6a)) and an in-situ one (cf. (6b)): the presupposition carried by each question is different. According to her, (6b) could not be uttered in a context where there is no specific list like the one given in the situation above. To be more precise, (6b) would not be appropriate if the list ‘huevos, leche, café/eggs, milk, coffee’ was missing in the situation.<sup>8</sup> For her, the difference between (6a) and (6b) reduces to a difference in presupposition. When the wh-word appears fronted, the values assigned to the variable introduced by the wh-word come from the set of individuals E. When the wh-word

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<sup>8</sup> Note that this is different from French wh-in-situ questions. Recall that in French, the discourse participants need to know that something was bought, the presence of an explicit list is not required.

appears in situ, the value of the variable is assigned from a restricted set (i.e. the specific shopping list in the situation above).

Some comments are in order. According to my judgment (and the judgment of my informants), (6b) is felicitous with or without a concrete shopping list. That is, (6b) can be uttered even if we don't know that Juan, my mother and I went to the store to specifically buy 'eggs, milk and coffee'. This casts some doubt on the presupposition difference Jiménez makes use of to account for the data. Moreover, Héctor Campos, in a personal communication to Jiménez (see her footnote 18), claims that it is not always necessary to have such a particular context in mind when using a wh-in-situ question in Spanish. He provides the following example:

A: Chao, chao. Me voy.

bye, bye      CL leave-I

'Bye, bye. I'm leaving.'

B: Vale. Te vas con quién?

OK   CL go with who

'OK. Who are you leaving with?'

We agree that the example provided by Héctor Campos is perfectly grammatical. To what extent we need a context or not or what kind of information the context needs to provide is not an issue I will attempt to resolve here. One thing remains clear, though. Wh-in-situ

questions in Spanish are not used as frequently as in French.<sup>9</sup> Based on all these issues, let me make some methodological remarks that will be relevant for the rest of the chapter. In all the Spanish examples used below, my informants (myself included) were given a short context to make the in situ question sound more plausible. In some of the cases, the presence of a context didn't seem that relevant. In spite of this, a context was provided throughout to prevent possible interfering factors.

## 2.3.2 Uribe-Etxebarria (2002)

### 2.3.2.1 Data and analysis

In the previous section, we noted some potential problems for Jiménez's empirical claim. Uribe-Etxebarria (2002) also points to the following syntactic properties of Spanish wh-in-situ that do not find an account in Jiménez's work. One property of wh-in-situ

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<sup>9</sup> To the best of my knowledge, there are no statistical analyses comparing the usage of this construction between the two languages. Viviane Déprez informs me that at least certain types of in situ questions in French come very naturally. She gives me the following examples:

Context: Two persons are discussing one of the participant's brother future visit but no date was mentioned.

- (i) Au fait, il vient quand ton frère?  
by-the-way he comes when your brother  
'By the way, when is your brother coming?'

Context: People are discussing summer vacation plans.

- (ii) Et toi tu vas où pour tes vacances?  
and you you are-going where for your holidays  
'And where are you going for your holidays?'
- (iii) Et toi tu fais quoi pour tes vacances?  
and you you are-doing what for your holidays  
'And what are you doing for your holidays?'
- (iv) Et toi tu parts avec qui cet été?  
and you you are-leaving with whom this summer  
'And who are you leaving with this summer?'

In Spanish these kinds of questions wouldn't come so naturally and would be used much less frequently than in French.



questions in Spanish is that they do not have a neutral order. This point is not obvious in an example such as (6b) above since there is only an object following the verb. However, if we consider the more complex example in (7), and we compare it with its declarative counterpart in (8), one immediately notices that the word order of the elements is non-neutral in the latter example. To be more precise, under the neutral word order, the IO ‘a María’ (to Mary) follows the verb ‘invité’ (invited) and precedes the PP ‘a mi fiesta’ (to my party). In the in-situ question, this word order doesn’t obtain. As can be observed in (7), the PP immediately follows the verb and precedes the IO wh-word ‘a quién’.

(7) [Y] tú invitaste a tu fiesta a quién?  
and you invited to your party to who

(8) Yo invité a María a mi fiesta  
I invited to Mary to my party

(9) and (10) illustrate the same point. Whereas ‘de payaso/de terciopelo’ (as a clown/in velvet) follows the verb and precedes the PP ‘para la fiesta’ (for the party) in the neutral word order, this is not the case in the wh-in-situ construction. As shown in (9), the adverbial wh-word appears after the verb and the PP ‘para la fiesta’.

(9) [Y] tú te vas a vestir para la fiesta cómo?  
and you CL are-going to dress for the party how  
‘And how are you going to dress up for the party?’

(10) Yo me voy a vestir de payaso/de terciopelo para la fiesta.

I CL am-going to dress as clown/ of velvet for the party

Another property of Spanish wh-in-situ questions noted by Uribe-Etxebarria, which is related to the one discussed above, is that the wh-word needs to obey the Sentence Final Requirement (SFR), that is, the wh-word needs to appear in final position. If this is not the case, the sentence becomes considerably degraded.

(11) a. [Y] Sergio llegó en bicicleta cuándo?

and Sergio arrived by bike when

b. \*/?? [Y] Sergio llegó cuándo en bicicleta?

(12) a. [Y] tú le diste la guitarra a quién?

and you CL gave the guitar to who

b. \*/?? [Y] tú le diste a quién la guitarra?

Uribe-Etxebarria notes that curiously enough, the ungrammatical sentences in the b. examples become grammatical if there is a pause immediately following the wh-word:

(13) [Y] Sergio llegó cuándo # en bicicleta?

and Sergio arrived when by bike

(14) [Y] tú le diste a quién # la guitarra?

and you CL gave to who the guitar

Uribe-Etxebarria also points out that in contrast to French, in-situ questions in Spanish are not limited to short-distance contexts. As shown in (15), the in situ strategy is available in long-distance contexts as well.

(15) a. [Y] tú crees que vendrá quién?

and you think that will-come who

‘And who do you think will come?’

b. [Y] Pedro ha dicho que Juan ha comprado qué?

and Peter has said that John has bought what

‘And what did Peter say that John bought?’

c. [Y] tu padre cree que Leire admira a quién?

and your father thinks that Leire admires to who

‘And who does your father think that Leire admires?’

Furthermore, Spanish does not exhibit intervention effects of the French type. As shown below, the wh-in-situ strategy is allowed in the presence of universal quantifiers, negation, modals, quantificational adverbs and negative quantifiers.

(16) a. [Y] todo el mundo admiraba a quién?

and everybody admired to who

- b. [Y] tu padre no vió a quién?  
and your father not saw to who
- c. [Y] Pedro puede entrevistar a quién?  
and Peter can interview to who
- d. [Y] tu padre siempre ha admirado a quién?  
and your father always has admired to who
- e. [Y] nadie admiraba a quién?  
and nobody admired to who

In summary, Spanish wh-in-situ questions exhibit a non-neutral word order and the wh-element has to appear in final position. Moreover, they are allowed in long-distance contexts and they don't show intervention effects.<sup>10</sup> Even leaving the semantic and pragmatic differences aside, it is clear that Spanish is very different from French with respect to the mechanisms underlying wh-in-situ question formation.<sup>11</sup> The analyses proposed for the French data cannot be extended to the Spanish data in a straightforward

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<sup>10</sup> I will not consider indirect questions in Spanish since they exhibit different properties from those of French. As can be observed below, fronted wh-phrases in Spanish appear after C, that is, they don't move all the way to Spec CP. This is different from French (cf. (4c), repeated as (ii.a), where the wh-phrase is located in Spec CP. Uriagereka (1988) considers these cases and suggests that C in Spanish takes FP as its complement. In (ia), the wh-phrase would be located in the Spec of FP. On the other hand, Suñer proposes that Spanish indirect questions contain a recursive CP. Note that the wh-phrases cannot stay in situ in these examples (see (ib)), not even under the echo reading. This fact is extremely surprising given that in situ wh-phrases are allowed in all other contexts. I leave discussion of indirect questions in Spanish for future research.

- (i) a. Pedro ha preguntado que a quién has visto  
Peter has asked that to who have-you seen
- b. \*Pedro ha preguntado que has visto a quién
- (ii) a. Peter a demandé qui tu as vu  
Peter has asked whom you have seen
- b. \*Peter a demandé tu as vu qui

<sup>11</sup> Uribe-Etxebarria also mentions some properties of the left-periphery of Spanish wh-in-situ questions that will not be of relevance here. I refer the reader to Uribe-Etxebarria (2002) for the details.

manner. The obvious question is: How can we account for wh-in-situ questions in Spanish?

Uribe-Etxebarria notices all these problems and proposes the following account: Spanish wh-in-situ questions have a complex syntax and involve two movement operations. First of all, the wh-word moves to Spec CP overtly. Then, the non-interrogative material (i.e. the remnant IP) moves over the displaced wh-word. She summarizes her proposal schematically as follows:

$$X \text{ wh-phrase } Y \rightarrow X \text{ } Y \text{ wh-phrase } t_{WH} \text{ } t_Y$$

According to her proposal, the underlying order for the question is X, wh-phrase, Y. This would be the neutral word order of the elements. In order to derive the SFR imposed on the wh-phrases, the syntactic processes represented on the left-hand side of the arrow need to take place. That is, the wh-phrase moves to Spec CP and then the Y element moves over the already displaced wh-phrase. If these two movement operations occur, we can go from the 'X wh-phrase Y' order to the 'X Y wh-phrase' order. Regarding the final landing site of the displaced non-interrogative material, Uribe-Etxebarria is not very explicit with respect to this issue. She suggests that the landing site is a topic-like position, which she labels XP.

To illustrate, let us go through some of the data presented above to see how the analysis works. The most basic example is (6b), repeated as (17):

(17) [Y] Juan compró qué?

and John bought what

According to Uribe-Etxebarria's analysis, 'qué' moves to Spec CP overtly, and then the non-interrogative material (i.e. the remnant IP) '[Y] Juan compró' moves over 'qué' to land in a position higher than Spec CP, namely XP. The derivation is given below (irrelevant details are omitted):

- 1) [IP Juan compró qué]
- 2) [CP qué<sub>i</sub> [IP Juan compró t<sub>i</sub> ]]
- 3) [XP [IP Juan compró t<sub>i</sub> ]<sub>j</sub> [CP qué t<sub>j</sub> ]]

A more interesting example is the non-neutral word order in (7), repeated as (18):

(18) [Y] tú invitaste a tu fiesta a quién?

and you invited to your party to who

The derivation for the example is provided below:

- 1) [IP tú invitaste a quién a tu fiesta]
- 2) [CP a quién<sub>i</sub> [IP tu invitaste t<sub>i</sub> a tu fiesta]]
- 3) [XP [IP tu invitaste t<sub>i</sub> a tu fiesta]<sub>j</sub> [CP a quién<sub>i</sub> t<sub>j</sub> ]]

As the derivation makes clear, ‘a quién’ starts in its neutral position, that is, the position following the verb ‘invitaste’ and preceding the PP ‘a tu fiesta’. The wh-phrase moves to Spec CP and then the IP remnant ‘tu invitaste a tu fiesta’ moves to XP generating the correct word order in (18). Given the existence of these two movement operations (i.e. step 2 and 3), one can go from the neutral word order in step 1 to the non-neutral word order represented in step 3. As a consequence, the wh-phrase appears in sentence final position and hence conforms to the requirements of the SFR.

Long-distance cases are derived in a parallel fashion, as shown below:<sup>12, 13</sup>

- (19) a. [Y] tú crees que vendrá quién?

and you think that will-come who

‘And who do you think will come?’

- b. Quién crees que vendrá?

who think-you that will-come

‘Who do you think will come?’

- 1) [IP tú crees [CP que vendrá quién]]
- 2) [CP quién<sub>i</sub> [IP tú crees [CP que vendrá t<sub>i</sub> ]]]
- 3) [XP [[IP tú crees [CP que vendrá t<sub>i</sub> ]]]<sub>j</sub> [CP quién<sub>i</sub> t<sub>j</sub> ]]

<sup>12</sup> Long-distance cases are discussed in detail in Etxepare and Uribe-Etxebarria (2002).

<sup>13</sup> Note that movement of a wh-phrase across a clausal boundary is fine in Spanish (cf. (19b), as predicted by Uribe-Etxebarria.

For the sake of completeness, I also provide the derivation for the intervention effect cases. I randomly chose example (16b) (repeated as (20a)) as a representative case. Note that overt wh-movement over negation is in principle possible.

(20) a. [Y] tu padre no vió a quién?

and your father not saw to who

‘And your father didn’t see who?’

b. A quién no vió tu padre?

to who not saw your father

‘Who didn’t your father see?’

1) [IP tu padre no vió a quién ]

2) [CP a quién<sub>i</sub> [IP tu padre no vió t<sub>i</sub> ]]

3) [XP [IP tu padre no vió t<sub>i</sub> ]<sub>j</sub> [CP a quién<sub>i</sub> t<sub>j</sub> ]]

### 2.3.2.2 More arguments and counterarguments

Uribe-Etxebarria claims that overt movement of the wh-phrase to Spec CP is necessary based on two pieces of evidence: pied-piping and right dislocation. Based on this evidence, she rejects an analysis where the wh-phrase stays in situ and the rest of the material moves to the left of the wh-phrase. Below, I will argue that the wh-in-situ analysis is on the right track. First, let us explore the arguments to determine whether the evidence really points to the 2 step syntactic analysis argued for by Uribe-Etxebarria.



Uribe-Etxebarria's first argument comes from pied-piping facts. Ormazabal (1992) notes that the elements that can appear within a NP in Spanish exhibit a great freedom of word order. (21a) and (21b) illustrate this point:

- (21) a. El cuadro [de las Meninas] [de Velázquez]  
           the painting of the Meninas of Velazquez  
       b. El cuadro [de Velázquez] [de las Meninas]

As the example makes clear, the PP's 'de las Meninas' and 'de Velázquez' can appear in any order. Ormazabal further notes that in some cases, Spanish allows pied-piping of the entire DP containing the wh-element to Spec CP:

- (22) [DP El retrato [de quién]]<sub>i</sub> ha dicho Juan que vieras t<sub>i</sub> en el museo?  
           the portrait of who has said John that see-you at the museum  
           'Who told you Juan to see the portrait of at the museum?'

When this strategy is used the wh-element needs to appear last within the NP, as shown in (23):

- (23) a. [La estatua t<sub>obj</sub> [en el jardín]<sub>adv</sub> [de qué diosa]<sub>obj</sub> ]<sub>i</sub> te ha dicho Juan que había  
           the statue in the garden of what goddess CL has said John that had  
           reconocido t<sub>i</sub>  
           recognized

- b. \*[La estatua [de qué diosa]<sub>obj</sub> [en el jardín]<sub>adv</sub>]<sub>i</sub> te ha dicho Juan que había  
 the statue of what goddess in the garden CL has said Juan that had  
 reconocido t<sub>i</sub>  
 recognized

(23b) shows that when the wh-phrase ‘de qué diosa’ appears in its neutral position, that is, immediately after the head noun ‘estatua’, the example is ruled out. The structure becomes grammatical once the wh-phrase appears as the rightmost element within the NP (cf. (23a)). Note that (23a) is grammatical even though the word order is non-neutral.

Uribe-Etxebarria notes that the requirement imposed on the wh-phrases in the pied-piping cases is very similar to the requirement exhibited by the wh-phrases in the wh-in-situ construction. To be more precise, in both cases the wh-phrase needs to appear in a final position.

Uribe-Etxebarria mentions additional examples of this type, involving pied-piping and relative clauses. As (24) shows, pied-piping is only triggered if the wh-element is in the rightmost position within the wh-clause. If this is not the case, we get an ungrammatical result:

- (24) a. [El hombre que mató ayer a quién] crees que es el responsable?  
 the man that killed yesterday to who think-you that is the responsible (one)  
 b. \*[El hombre que mató a quién ayer] crees que es el responsable?  
 the man that killed to who yesterday think-you that is the responsible (one)

The last example Uribe-Etxebarria discusses involves pied-piping constructions in PP contexts. The same generalization holds. If the *wh*-phrase appears last within the PP, pied-piping is possible, as in (25a) and (25c). If the *wh*-phrase is non-final, as in the b. example below, pied-piping cannot take place:

- (25) a. [De Irún hasta dónde] fuisteis ayer?  
           from Irún (up) to where went-you(pl) yesterday
- b. \*[Desde dónde hasta Irún] fuisteis ayer?  
           from where (up) to Irún went-you(pl) yesterday
- c. [Hasta Irún desde dónde] fuisteis ayer?

Based on the examples in (23)-(25), Uribe-Etxebarria constructs the following line of argumentation. First of all, she states that *wh*-elements need to undergo A'-movement in order for pied-piping to take place. As discussed above, the *wh*-phrases in (23)-(25) are able to trigger pied-piping. Therefore, given Uribe-Etxebarria's suggestion, it follows that these *wh*-phrases are not really in situ but in an A'-spec position. Uribe-Etxebarria's argument proceeds as follows: "since the internal structure of the constituent containing the *wh*-in-situ and the requirement that it must meet are very similar in the cases involving pied-piping and the cases of *wh*-in-situ and moreover, constituents that contain a *wh*-in-situ can piedpipe, I propose a unified account of these constructions" (p. 232). The unified analysis Uribe-Etxebarria is referring to is the one I have spelled out previously. Let me remind the reader of the schematic representation Uribe-Etxebarria is arguing for:

$$X \text{ wh-phrase } Y \rightarrow X \text{ } Y \text{ wh-phrase } t_{WH} \text{ } t_Y$$

While the observation that there is a parallelism between wh-in-situ and pied-piping cases seems to be correct, the idea of a unified analysis is not so straightforward. According to Uribe-Etxebarria, in all the cases discussed above there is overt movement of the wh-word to Spec CP. As is well-known, Spec CP is a clausal interrogative position, that is, we need a clause for it. If this is correct, Spec CP cannot be present in the NP or PP by definition.

Based on this argument, I will claim that we cannot account for the wh-in-situ and the pied-piping cases by appealing to overt movement of the wh-word to Spec CP. A unified analysis along these lines is not possible. As I will show in section 2.6, one can account for all the examples in question in a much simpler and truly unified way if one takes into account the phonological properties of wh-phrases in these constructions. I will spell out the details of the account in section 2.6.

Let us review Uribe-Etxebarria's second piece of evidence: Right Dislocation. In section 2.3.2.1, we mentioned that the SFR can be overcome if there is a pause between the wh-word and the following material. For instance, (26a) below is ungrammatical because the wh-phrase 'dónde' is not in final position. But, if there is a pause after the wh-phrase, the sentence is acceptable again (cf. (26b)). I also provide the context Uribe-Etxebarria gives for the example:

(26) A: Qué de cosas!

what of things

'How many things!'

B: Sí. Ayer        estuvimos de compras. Maddi compró la revista en Jakintza.

Yes. Yesterday went-we of shopping Maddi bought the journal in Jakintza

A:     a. \*[Y] tú compraste dónde el libro?

         and you bought    where the book

       b. [Y] tú compraste dónde # el libro?

As can be observed in the example, the grammatical (26b) displays a non-neutral word order in the sense that the locative immediately follows the verb, preceding the DO. Under normal circumstances, DOs follow the verb and precede the locative, as in the response of speaker B (“Maddi compró el libro en Jakintza”/Mary bought the book in Jakintza). In order to explain this behavior, Uribe-Etxebarria adopts Kayne’s (1994) Linear Correspondence Axiom and reaches the conclusion that the locative wh-word ‘dónde’ has undergone movement to the left of the DO ‘el libro’. This approach receives further support from Cecchetto’s (1999) and Villalba’s (2000) analysis of right dislocation, in which right-dislocated elements are hierarchically lower than the material to their left. For Uribe-Etxebarria, this is further evidence that wh-in-situ elements undergo overt movement in the constructions under discussion. A schematic representation of the proposal is offered below:

[ wh [ dislocated element     $t_{wh}$  ] ]

Uribe-Etxebarria proposes that in all the examples, the in situ element is moving overtly to the same position, whether right dislocation is involved or not. That is, the

existence of (26b) indicates that wh-phrases move overtly not only in (26b) but also in examples such as (27):

(27) [Y] tu padre compró qué?

and your father bought what

My main criticism of Uribe-Etxebarria's argument is that there is no reason why the analysis she proposes for (26b) should be extended to examples of the type in (27). Recall that the existence of the right dislocated structures in (26b) is the basis of her argument for the overt movement of wh-phrases to Spec CP in all in situ structures. According to Cecchetto (1999) and Villalba (2000), examples involving right dislocation involve some additional projections in the tree. For Cecchetto, the right-dislocated element lands in the Spec of TopP (this projection is located between FocP and AgrOP), which is preceded in the tree by FocP and IP (in this order). Villalba also assumes that there is an extra projection for right dislocated elements. He names the projection IntTopP. This projection appears between IP and vP. As can be observed, these additional projections are specific to right-dislocated structures. The structure of these sentences doesn't tell us anything about the structure of the sentences without right dislocation. Even if it told us something, it wouldn't tell us that the structure of right-dislocated sentences is identical to the structure of sentences without right dislocation. If that were the case, it would mean that any element in the sentence would precede TopP/IntTopP even in those cases where right dislocation was not taken place in the sentence. This is

clearly a non-desirable result. I conclude from this that we cannot extend the conclusion based on (26b) to (27).

There is another problem with Uribe-Etxebarria's piece of evidence. If *wh*-in-situ moves to Spec of CP, and this is followed by IP remnant fronting, how can a right-dislocated element follow the *wh*-phrase after remnant IP-fronting? Since the landing site of right-dislocation is within IP, remnant IP-fronting should move the right-dislocated element too. If this is correct, Uribe-Etxebarria's motivation for overt movement of the *wh*-phrase disappears.

The two pieces of evidence Uribe-Etxebarria offers for the overt movement of the *wh*-phrase to Spec CP do not seem to work. Regarding the pied-piping argument, she attempts to establish a unified analysis for phenomena that cannot be unified under her account. As for the right dislocation data, she does not consider the possibility that right-dislocated structures and non-right-dislocated structures could actually have different structures. There is no reason why the analysis she suggests for right dislocation should extend to sentences without right dislocation. Furthermore, it is not clear how right-dislocation could happen at all under Uribe-Etxebarria's analysis.

Let me provide additional arguments against Uribe-Etxebarria's analysis. If we assume that *wh*-words move overtly to Spec CP and the non-interrogative material moves to XP, the prediction here is that a *wh*-in-situ within an island should be bad under Uribe-Etxebarria's analysis. This prediction is not confirmed by the data, as shown by the examples below:

(28) a. Te has enamorado del hombre que vive con quién?

You have fallen-in-love of-the man who lives with who

‘Who have you fallen in love with the man that lives with?’

b. \*Con quién te has enamorado del hombre que vive?

(29) a. Te preguntas dónde vive el hombre que mató a quién?

CL wonder where lives the man that killed to who

‘To who do you wonder where the man that kill lives?’

b. \*A quién te preguntas dónde vive el hombre que mató?

If we adopt Uribe-Etxebarria’s analysis, the a. and b. examples in (28) and (29) should have the same grammatical status since overt movement to Spec CP out of an island occurs in both cases. However, (28a) and (29a) are fine but their overt movement counterparts are not. This implies that there is no overt movement to Spec CP in the a. examples. If that were the case, these sentences should be ungrammatical, contrary to fact. The relevant steps of the derivation are provided below. When the wh-words in the a. examples move overtly to Spec CP, we run into trouble. Note that this step corresponds exactly to the ungrammatical examples in b. From this evidence, I conclude that wh-in-situ elements are not moving to Spec CP in the overt syntax:


(28a) → 1) Te has enamorado del hombre que vive con quién

2) [<sub>CP</sub> Con quién<sub>i</sub> [<sub>IP</sub> te has enamorado del hombre que vive t<sub>i</sub>]]



= (28b)



- (29a) → 1) Te preguntas dónde vive el hombre que mató a quién
- 2) [<sub>CP</sub> A quién<sub>i</sub> [<sub>IP</sub> te preguntas dónde vive el hombre que mató t<sub>i</sub> ]]
- 
- = (29b)

Another problem with Uribe-Etxebarria's analysis is that it runs into trouble once we examine constructions with two wh-phrases in situ. A sentence such as (30a) is possible in Spanish. As shown in the example, both 'qué' and 'a quién' can appear in postverbal position, subject to the SFR:

- (30) a. [E] Iván le pidió qué a quién?  
and Ivan CL asked what to who  
'And what did Ivan ask to who?'
- b. \*[E] Iván le pidió que a quién el otro día?  
and Ivan CL asked what to who the other day
- c. \*[E] Iván le pidió qué el otro día a quién?
- d. [E] Iván le pidió que a quién # el otro día?
- e. ?[E] Iván le pidió qué # el otro día # a quién?

If we adopt a two-step derivation, we would obtain the following (I only represent the first step. The second step is irrelevant for the purposes of my argumentation):

- 1) Iván le pidió qué a quién

- 2) [CP A quién<sub>i</sub> qué<sub>j</sub> [IP Ivan le pidió t<sub>i</sub> t<sub>j</sub> ]]<sup>14</sup>

What step 2 is telling us is that Spanish is like Bulgarian, that is, a Multiple-Wh-Fronting language. Note that this derivation is forced on (30a). (30b-e) indicate that both wh-phrases are subject to the SFR. Under Uribe-Etxebarria's analysis, this implies that both wh-phrases are located in Spec CP. Of course, this is a wrong prediction. In Spanish, the most common way to express the Bulgarian sentence in (31) is as in (32a), with one wh-phrase in Spec CP and the other one in situ. Crucially, the Multiple-Wh-Fronting pattern in (32b) (see also step 2 above) is ruled out in Spanish.

- (31) Kogo kakvo e pital Ivan?

who-dat what-acc is asked Ivan

'Who did Ivan ask what?'

- (32) a. \*¿A quién qué le compró Iván?

to who what CL bought Ivan

- b. ¿A quién le compró Iván (el) qué?

to who CL bought Iván (the) what

Uribe-Etxebarria addresses the Multiple-Wh-Fronting problem in a similar context. The relevant example is provided below:

<sup>14</sup> The order in which the wh-phrases move to Spec CP is irrelevant. Whether the IO precedes the DO, or vice versa, the same problem remains.

(33) Quién dijo qué a quién?

who said what to who

According to Uribe-Etxebarria this example is not a problem for her analysis. She explicitly mentions that Multiple-Wh-Fronting is not available in Spanish. Based on this, she concludes that only one wh-phrase needs to move overtly to check the strong +wh-feature of C. The derivation she considers for (33) goes as follows:

1) Quién dijo qué a quién

2) [<sub>CP</sub> A quién<sub>i</sub> [<sub>IP</sub> quién dijo qué t<sub>i</sub> ]]

3) [<sub>XP</sub> [<sub>IP</sub> quién dijo qué t<sub>i</sub> ]<sub>j</sub>] [<sub>CP</sub> a quién<sub>i</sub> t<sub>j</sub> ]

She argues that there is no way to generate sentence (33) in this way since step 2) is not allowed in Spanish: it is an ungrammatical sentence. The conclusion here is that the two-step movement derivation cannot be applied to (33). As Uribe-Etxebarria states, (33) is derived as a regular interrogative. That is, 'quién' (who) moves to Spec CP and the two remaining wh-phrases stay in situ, licensed via unselective binding.

Suppose this line of reasoning is correct. Let us examine another construction where the two-step movement analysis wouldn't work (i.e. a sentence very similar to (33) above). The relevant example is (34):

(34) Quién compró qué?

who bought what

Derivation for (34):

- 1) Quién compró qué
- 2) [<sub>CP</sub> qué<sub>i</sub> [<sub>IP</sub> quién compró t<sub>i</sub> ]] → problematic step

Recall that Uribe-Etxebarria would analyze (34) as a regular interrogative with ‘quién’ in Spec CP and ‘qué’ in its base-generated position. Now, let us examine a more complex example involving two wh-phrases and a verb taking two complements. The example is provided in (35). A surprising result emerges from the data. (35) would be analyzed as a regular interrogative by Uribe-Etxebarria. If this is the case, why does the in-situ wh-phrase need to obey the SFR? To put it clearer, (35a) is ungrammatical because ‘qué cosa’ is not in final position. (35b) is fine because the wh-phrase appears at the end of the sentence (note that the word order in (35b) is non-neutral). Even though Uribe-Etxebarria rejects her 2-step derivation for examples in (33)-(35), the evidence in (35) indicates that she really needs her derivation in these cases, too.

(35) a. \*Quién puso qué cosa sobre la mesa?

who put what thing on the table

b. Quién puso sobre la mesa qué cosa?

(Zubizarreta, 1998)

Isn't the paradigm in (35) strikingly similar to the in-situ questions we have been discussing all along? In both cases the wh-words appear at the end of the sentence

creating a non-neutral order. If the whole motivation for the two-step movement analysis was to make sure that the in situ wh-word appeared in sentence-final position in spite of a non-neutral word order, then, what is the explanation for (35)? Uribe-Etxebarria's derivation accounts for part of the generalization, not the whole thing. We need something more general that accounts for all the cases under discussion, namely, wh-in-situ constructions, regular interrogatives, pied-piping and right dislocation cases.

In this section I have reviewed Uribe-Etxebarria's account of wh-in-situ in Spanish. I have shown that the arguments she provides are not strong enough to support her analysis. Moreover, her analysis makes wrong predictions. In the last part of the discussion, we have found that the SFR is a quite general phenomenon. It occurs in a variety of constructions that wouldn't be analyzed by Uribe-Etxebarria in a uniform manner. This fact in itself argues against her analysis: It misses a generalization.

At this point I believe that we have enough evidence to abandon Uribe-Etxebarria's analysis. The question is: Is there a better way to analyze the data? I will argue that there is. I will argue that the phonological properties of the in-situ wh-phrases are crucial in determining their distribution.<sup>15</sup> In order to make this proposal more concrete I will review Zubizarreta's (1998) and Stjepanović's (1999, 2003) systems. It will be shown that Stjepanović's proposal for an interaction between stress assignment and the Copy Theory of movement gives us a perfect tool to account for the Spanish data.

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<sup>15</sup> Uribe-Etxebarria mentions that phonological properties may play a role but she claims that her evidence points to a complex syntactic analysis of wh-in-situ questions in Spanish.

## 2.4 Zubizarreta (1998)

Zubizarreta (1998) examines the relationship between focus and stress in Germanic languages and the relationship between focus, stress and word order in Romance languages (i.e. Italian and Spanish).

Following Chomsky (1971, 1976) and Jackendoff (1972), Zubizarreta defines focus as “the nonpresupposed part of the sentence”. For example, in (36b) (which is an answer to (36a)), the nonpresupposed part of the sentence, that is, the new information of the sentence, is ‘an apple’. ‘John’ and ‘ate’ are the presupposed material since the information about John’s eating is already given in the question (36a).

- (36) a. What did John eat?  
b. John ate an apple.

Zubizarreta marks the focused element of the sentence with the diacritic [+F]. The nonpresupposed material is marked [-F]. In example (36), the F-marking or F-structure of the sentence would proceed as follows:

John ate an apple  
[-F] [-F] [+F]

Following Chomsky (1971) and Jackendoff (1972), Zubizarreta defends the view that there is an intimate connection between the prosody of a sentence and its F-structure. The basic idea of these works is that the main stress of the sentence, which is assigned by phonological rules is an identifier of focus. Based on Chomsky and Jackendoff’s insights,

Zubizarreta proposes that “the F-marked constituent of a phrase must contain the rhythmically most prominent word in that phrase” (p. 38). In essence, what this means is that the focus of a sentence must contain the main stress of that sentence.

What is the mechanism responsible for locating the main stress of a sentence? Zubizarreta assumes that the relevant mechanism is the Nuclear Stress Rule (NSR). This rule, which was first formulated by Chomsky and Halle (1968), is responsible for assigning main stress to a sentence. This kind of stress is neutral stress, that is, the kind of stress that would be assigned to a sentence uttered in an out-of-the-blue context. For example, in the English sentence below, main sentential stress will fall on ‘book’ (I underline ‘book’ to indicate stress assignment):

(37) John lost his book

In order to come up with a precise formulation of the NSR, Zubizarreta reviews Cinque’s (1993) stress assignment algorithm. According to Cinque, Nuclear Stress falls on the most embedded element on the recursive side of the tree. This formulation, for example, correctly predicts that nuclear stress falls on ‘book’ in sentence (37). Cinque’s version of the NSR is designed to explain the fact that main sentential stress falls on the verbal or prepositional object in transitive and ditransitive structures, regardless of whether the structure is head initial or head final.

Even though Cinque’s formulation of the NSR can account for a good amount of data, it fails to explain why there is an ambiguity in the position of main sentential stress in the case of intransitives in English and unergatives in German. In examining the

English and German data, Zubizarreta concludes that selectional relations play an important role in determining the placement of Nuclear Stress in these languages. Let us start with some German examples.

- (38) Hans hat das/ein Buch gelesen  
Hans has the/a book read

As (38) shows, Nuclear Stress (NS) falls on the object obligatorily. If NS fell on the verb, we would generate an impossible pattern:

- (39) \*Hans hat das/ein Buch gelesen

Given a verb such as 'gestellt' (put), which selects an object and a PP complement, NS falls on the PP:

- (40) a. Karl hat ein Buch ins Regal gestellt  
Karl has a book on-the shelf put  
b. \*Karl hat ein Buch ins Regal gestellt

If we now compare an unaccusative verb such as 'kommt' (comes) with the unergative 'gelacht' (laughed), we can observe that NS can fall only on the subject in the former case and either on the subject or on the verb in the latter case:



(41) Es heißt, daß der/ein Junge kommt  
it is-said that the/a boy comes

(42) a. Es heißt, daß ein Junge gelacht hat  
it is-said that a boy laughed has  
b. Es heißt, daß ein Junge gelacht hat

Some English examples are provided below:

(43) a. The baby's crying  
b. The baby's crying

As the example makes clear, English intransitives behave like German unergatives in the sense that NS can fall either on the subject or on the verb.

The main point of the German and English examples is that they pose a problem for Cinque's system. Recall that for Cinque, NS would fall on the verb in all the cases we have discussed so far. Let us examine additional data before coming up with a final formulation of the NSR.

(44) a. Das Taxi kommt  
the taxi is-coming  
b. Das Taxi kommt spät  
The taxi is-coming late

c. \*Das Taxi kommt spät

(45) a. Our dog mysteriously disappeared

b. \*Our dog mysteriously disappeared

How can we explain (44) and (45)? It seems that the presence of an adjunct prevents NS from falling on the subject in these cases. Can Cinque explain all the patterns we have examined in (38)-(45)? The answer seems to be a negative one. In order to overcome these problems, Zubizarreta proposes a modular formulation of the NSR. To be more precise, the NSR is sensitive to selectional ordering (S-NSR) and also to asymmetric c-command (C-NSR). The formal definitions are provided below:

(46) C-NSR:

Given two nodes  $C_i$  and  $C_j$ , that are metrical sisters, the one lower in the syntactic asymmetric c-command ordering is more prominent.

(47) S-NSR:

Given nodes  $C_i$  and  $C_j$ , that are metrical sisters, if  $C_i$  and  $C_j$  are selectionally ordered, the one lower in the selectional ordering is more prominent.

Selectional ordering is determined in the following way:

(48)  $(C, T, V_1, \dots, V_i, P/V_m, D_m)$ , with possibly  $m = 1$

$(C, T, \dots, V_i, D_i)$ , for  $i = 1, 2, \dots, m-1$  (for cases where  $m > 1$ )

where  $D_i, i = 1, 2, \dots, m-1$  is the nominal argument of  $V_i$  (for the cases where  $m > 1$ ) and  $D_m$  is the nominal argument of the lowest (possibly only) verb or prepositional predicate ( $V/P_m$ ) in the selectional ordering.

Metrical sisterhood is defined as follows:

(49) Constituents X and Y are metrical sisters =<sub>def</sub> there exist two constituents Z and W such that (a) Z and W are sisters and (b) Z (resp. W) is metrically nondistinct from X (resp. Y).

Where metrically non-distinct means:

(50) Constituents A and B are metrically nondistinct =<sub>def</sub> A and B dominate the same set of metrically visible heads.

The main phrasal prominence is computed by the following rule:

(51) The terminal element dominated solely by prominent constituents within a phrase is designated as the rhythmically most prominent one within that phrase

To illustrate the difference between the S-NSR and the C-NSR, let us go back to some of the examples examined above. For instance, in (42b), (43a) and (44a), the subject receives NS according to the S-NSR. This means that the subject in all the examples is the lowest element according to the selectional ordering.<sup>16</sup> In contrast, in (42a), (43b), (44b) and (45a), the verb receives main sentential stress via the C-NSR. This is so because the verb is the lowest element in the asymmetric c-command ordering.

One important aspect of the definitions presented above is the idea of metrical sisters, in particular, the idea of being metrically visible. Regardless of whether we are dealing with the S-NSR or the C-NSR, we need to take a pair of metrical sisters and assign NS to the one which is lowest (lowest in the selectional ordering or lowest in the asymmetric c-command). In order for that to happen both elements need to be metrically visible. Not all elements are metrically visible. For instance, phonologically null elements such as traces are metrically invisible. Moreover, “defocalized constituents are metrically invisible for the NSR in English and German” (p.46). Function words, auxiliaries or anaphoric constituents are also metrically invisible for Zubizarreta. To illustrate, consider (52). The elements in *Italics* are metrically invisible. This implies that the NSR will disregard ‘*hat*’, ‘*t<sub>1</sub>*’, ‘*ein*’ and ‘*t<sub>2</sub>*’ when assigning NS.

- (52) [CP Karl<sub>1</sub> [*hat* [*t<sub>1</sub>* [<sub>V1</sub> [*ein* Buch<sub>2</sub> [<sub>V2</sub> gekauft [*t<sub>2</sub>* ]]]]]]]]  
           Karl    has                   a   book           bought

<sup>16</sup> See Hale and Kayser (1991, 1993) to determine what counts as higher or lower in the selectional ordering.

So far we have seen that both the S-NSR and the C-NSR are active in German and English.<sup>17</sup> Now, the question is: How does Romance behave with respect to the modular NSR? I will concentrate on Spanish when making the relevant claims. Recall that in English and German, NS can fall on the subject in intransitive sentences uttered in out-of-the-blue contexts. As can be observed in (53), this stress pattern is impossible in Spanish. In these contexts, only the verb can receive NS.<sup>18</sup>

- (53) a. \*El bebé llora  
          the baby cries  
      b. El bebé llora

Based on these data, Zubizarreta concludes that in Spanish only the C-NSR is active. In other words, 'bebé' in (53a) could never receive NS since it is not the lowest element in the asymmetric c-command ordering. (53b) is fine because the verb 'llora' is the lowest element in terms of c-command. Furthermore, Zubizarreta claims that "all phonological material is metrically visible for the NSR in Spanish" (p. 76). Just to give an example, in Spanish there are no cases where the preverbal subject receives main sentential stress by the NSR. As mentioned in footnote 17, the subject can only have a contrastive reading (I indicate contrastive focus in capital letters). A relevant example is provided below:

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<sup>17</sup> Zubizarreta gives evidence that the S-NRS takes precedence over the C-NSR in German. In English, there is no preestablished ordering. Either the S-NSR or the C-NSR can take precedence over the other. See Zubizarreta for arguments for these claims.

- (54) a. \*Juan llamó por teléfono.

John called by phone

- b. JUAN llamó por teléfono (no Pedro)

John called by phone not Peter

In addition to the modular version of the NSR, Zubizarreta introduces a new rule under the name of 'Focus Prominence Rule' (FPR). The purpose of this rule is to capture the relationship between focus and prosody. The relevant definition is provided in (55):

- (55) Focus Prominence Rule (FPR)

Given two sister categories  $C_i$  (marked [+F]) and  $C_j$  (marked [-F]),  $C_i$  is more prominent than  $C_j$ .

The FPR brings us back to the very beginning of this section. Recall that we discussed examples of the type in (36) (repeated as (56):

- (56) a. What did John eat?

- b. John ate an apple.

John ate an apple

[-F] [-F] [+F]

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<sup>18</sup> (53a) would be grammatical if 'bebé' were contrastively focused in this sentence. This is expected since, according to Zubizarreta, the kind of stress associated with contrastive focus is freely assigned.

As the F-marking of the sentence makes clear, ‘an apple’ is marked [+F] since it is the nonpresupposed part of the sentence. The equivalent Spanish example is given in (57). In this case, the F-marking of the sentence is identical to the English case:

- (57) a. Qué comió Juan?  
           what ate John
- b. Juan comió una manzana  
           John ate an apple
- Juan comió una manzana  
           [-F] [-F] [+F]

Note that in both (56b) and (57b), the NSR would assign NS to ‘an apple’. It is clear that the element marked [+F] and the element receiving NS is the same: the apple. Sometimes, things are not so straightforward. There are some cases where there is a conflict between the output of the NSR and the output of the FPR. As Zubizarreta puts it, this would be a case where there are two metrical sisters  $C_i$  and  $C_j$ , and the NSR assigned NS to  $C_j$ ,  $C_j$  being [-F] and  $C_i$  [+F]. A representative example would be the following:

- (58) [[<sub>+F</sub> The cat in the blue hat] [<sub>-F</sub> wrote a book about rats ]]

The NSR would apply to metrical sisters DP and VP and would assign prominence to VP. The NSR would reapply within the VP and would assign NS to the noun ‘rats’. As can be observed in the F-structure of the sentence, the FPR has applied and has assigned main

prominence to the DP. How can we resolve this conflict? According to Zubizarreta, English (and German) resolves this conflict by treating the [-F] constituent as metrically invisible for the NSR. If we apply this suggestion to (58), we obtain the following. The NSR tries to apply but it fails because the DP and the VP are not metrical sisters (recall that the VP is metrically invisible). Then, the FPR applies and assigns main prominence to the [+F] DP subject. The NSR reapplies within the DP and gives main prominence to the noun 'hat'.

Now, suppose we encounter a conflict between the NSR and the FPR in Spanish. How can we resolve the conflict between the two contradictory outputs? We could use the English strategy and treat the [-F] constituent as metrically invisible for the NSR. However, this solution cannot work because for Zubizarreta, all phonologically specified material is metrically visible in Spanish. In order to resolve this problem, Zubizarreta proposes that Spanish can appeal to movement to resolve the conflict. More specifically, in Spanish there is a movement operation called p-movement (prosodically motivated movement) which moves the [-F] constituent away so that the [+F] constituent ends up in a position to receive main prominence by the C-NSR. As Zubizarreta puts it, p-movement is "the syntactic counterpart of metrical invisibility" (p. 89).

Let us explore the mechanism of p-movement in more detail. Suppose we have the question in (59). The question is asking about the person who gave you the car. According to this, the focused part of the sentence should correspond to the subject. The verb and the DO are presupposed since they are already mentioned in the question. If we answer the question as in (60a), we are in trouble.<sup>19</sup> Observe that there is a conflict between the NSR and the FPR. The NSR is assigning main prominence to 'el coche', by



virtue of it being the lowest element in the asymmetric c-command ordering. The problem is that 'el coche' is marked [-F]. Zubizarreta argues that in such cases, p-movement applies and moves the [-F] constituent away (i.e. 'el coche') so that the [+F] constituent 'Juan' is in a position to receive main prominence via the NSR. She takes p-movement to be leftward adjunction of VP<sub>2</sub> to VP<sub>1</sub> (see (60b)).<sup>20</sup>

(59) Quién te regaló el coche?

who CL gave the car

'Who gave you the car?

(60) a. Me regaló Juan el coche

[-F] [-F] [+F] [-F]

b.   

$$[_{TP} \text{ me regaló } [_{VP1} [_{VP2} \text{ el coche}_k [t_k [V_2 t_k]]]_i [_{VP1} \text{ Juan } [V_1 [t_i]]]]^{21}$$

[-F] [-F]                      [-F]                      [+F]

In this section I have introduced Zubizarreta's system. I have discussed her modular algorithm for the NSR. More specifically, the NSR should be divided into two parts: the S-NSR (sensitive to selectional ordering) and the C-NSR (sensitive to asymmetric c-command). Languages such as English or German use both the S-NSR and the C-NSR. In contrast, Romance languages of the Spanish type only appeal to the C-

<sup>19</sup> Let me clarify that (60a) is fine if the subject 'Juan' is contrastively focused.

<sup>20</sup> I will follow Zubizarreta, who in turn follows Hale and Keyser (1993), and assume that the VP consists of two VP-shells: VP<sub>1</sub> and VP<sub>2</sub>.

<sup>21</sup> I'm assuming Zubizarreta's exact derivation.

NSR. In order to account for the relationship between the focus and prosody of a sentence, Zubizarreta introduces the FPR. Sometimes the NSR and the FPR give contradictory results. In order to resolve the conflict English and German treat the [-F] constituent as metrically invisible. Spanish cannot appeal to this strategy since all phonological material is metrically visible in Spanish. Hence, this language appeals to p-movement. What p-movement does is to move a [-F] element so that the [+F] element is in a position to receive main prominence via the C-NSR.

### 2.5 Stjepanović (1999, 2003)

In her analysis of Serbo-Croatian word order, Stjepanović (1999, 2003) finds some paradoxical situations with respect to the position of subjects in this language. More specifically, when it comes to the height, it looks like there is only one subject position in Serbo-Croatian but with two realizations in the word order. The relevant data are given below:

- (61) a. \*Vjerovatno oni tuku Petra  
          probably they beat Peter
- b. Oni vjerovatno tuku Petra  
          they probably beat Peter  
          ‘They are probably beating Peter’

As the data show, subjects in Serbo-Croatian need to appear in a position preceding a sentential adverb. Bošković (1995, 1997) and Watanabe (1993) have argued that these

adverbs are adjoined to TP.<sup>22</sup> If this is correct, it follows that the subject in (61) is located higher than TP, presumably in Spec AgrSP. However, examples such as (62) show that subjects in Serbo-Croatian can be realized in a different position in the linear order:<sup>23</sup>

- (62) Pjeva Petar  
Sings Peter-Nom  
'Peter is singing'

Things get even more complicated once we examine an example such as (63) below:

- (63) Mariju je protiv svoje<sub>i</sub> volje oborio Jovan<sub>i</sub>  
Marija-Acc is against his will failed Jovan-Nom  
'Jovan<sub>i</sub> failed Marija against his<sub>i</sub> will'

As the example makes clear, the subject 'Jovan' is low in the structure but it binds 'his' suggesting that 'Jovan' is actually high in the structure.<sup>24</sup>

In order to resolve these paradoxes, Stjepanović proposes that subjects are always located in Spec AgrSP in Serbo-Croatian. The question is: Why does the subject appear low in some cases? She suggests that movement leaves copies (cf. Chomsky, 1993) and that sometimes a lower copy of the subject is pronounced in PF.

<sup>22</sup> It appears that languages differ with respect to the possibility of adjoining the adverb to AgrSP, in addition to TP. This option exists in English, but not in Serbo-Croatian.

<sup>23</sup> See Stjepanović for arguments to determine the position of the subject in examples such as (62). For the purposes of my argumentation, it suffices to say that there is evidence in Serbo-Croatian that subjects are located low in the structure (in some cases at least). Stjepanović also shows that finite verbs move overtly to T in Serbo-Croatian.

<sup>24</sup> Note that 'svoje' is an anaphor, not a pronoun.

The next immediate question we need to answer is the following: What is forcing the pronunciation of lower copies? Stjepanović claims that the answer lies in the interplay of focus and stress assignment in Serbo-Croatian. As a starting point, Stjepanović takes Zubizarreta's modular formulation of the NSR. Recall that for Zubizarreta, if stress falls either on the subject or the verb in intransitive structures, it indicates that both the S-NSR and the C-NSR are active in the relevant language. If stress falls only on the verb, one can conclude that only the C-NSR is active. As the examples below make clear, stress assignment in Serbo-Croatian is determined by the C-NSR. This is so because stress falls only on the verb:

(64) a. \*Marko pliva

Marko swims

b. Marko pliva

Let us examine an SVO sentence in Serbo-Croatian to see how Stjepanović's system works. Suppose we answer (65a) with the sentence in (65b). The neutral word order is SVO and the object, by virtue of being the lowest element in the asymmetric c-command, receives NS via the C-NSR.

(65) a. Šta se dešava?

what CL happening

'What is going on?

b. Mačka hvata miša

cat catches mouse

'A cat is catching a mouse'

Following Chomsky (1993), Stjepanović assumes that movement leaves copies. If this is so, the structure of the sentence in (65b) would look like this:<sup>25</sup>

(66) [<sub>AgrSP</sub> mačka [<sub>TP</sub> mačka hvata [<sub>AgrOP</sub> miša hvata [<sub>VP</sub> mačka hvata miša ]]]

Following Chomsky (1993, 1995), once (66) reaches Spell-Out and goes to PF, the highest copies (i.e. the heads of the chains) get pronounced. I represent this step below:

(67) [<sub>AgrSP</sub> mačka [<sub>TP</sub> ~~mačka~~ hvata [<sub>AgrOP</sub> miša ~~hvata~~ [<sub>VP</sub> ~~mačka~~ ~~hvata~~ ~~miša~~ ]]]]

As predicted, the NSR assigns main sentential stress to 'miša'. At this point, there is no major difference between Zubizarreta and Stjepanović. These authors derive (65b) in virtually the same way.

Stjepanović's innovation comes at this point. She proposes that the NSR can decide which copy should be pronounced in Serbo-Croatian. For this, the NSR needs to apply before copy deletion.<sup>26</sup> Furthermore, the NSR assigns NS to the most embedded copy of the focused element. Stjepanović assumes that a lower copy is pronounced if pronunciation of the higher copy would lead to a PF violation, as argued by Bobaljik

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<sup>25</sup> See Stjepanović and my discussion below for arguments that the verb and all its arguments move overtly out of the VP in Serbo-Croatian.

(1995), Hiramatsu (1997, in press), Franks (1998) and Bošković (2001, 2002).<sup>27</sup> As Stjepanović makes clear, if “not pronouncing [the lowest] copy would cause a PF violation, i.e., main stress would not be assigned”. In order to avoid this PF violation, the lowest copy gets pronounced.

As argued above, there is no crucial difference between Zubizarreta and Stjepanović when deriving SVO orders in Serbo-Croatian. Recall that we started this section discussing some paradoxical situations involving low subjects which behaved as if they were high in the structure. Let us go back to those cases and let us make use of Stjepanović’s system, a system in which the NSR can affect the decision of which copy to pronounce. Stjepanović analyzes (68b) as an answer to (68a):

(68) a. Ko hvata miša?

who catches mouse

‘Who is catching a mouse?’

b. Miša hvata mačka

mouse catches cat

‘A cat is catching a mouse’

The syntactic structure for this sentence is given below. Copies are included and, following Zubizarreta, [+F] and [-F] elements are indicated as well.

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<sup>26</sup> As will become clear below, there is cross-linguistic variation in this respect.

<sup>27</sup> For pronunciation of lower copies, see also Groat and O’Neil (1996), Richards (1997), Pesetsky’s (1997) and Roberts (1997).

- (69) [AgrSP miša [AgrSP mačka [TP mačka hvata [AgrOP miša hvata [V1 mačka hvata [V2  
 [-F] [+F] [+F] [-F] [-F] [-F] [+F] [-F]  
 hvata miša ]]]]]  
 [-F] [-F]

Following Zubizarreta, Stjepanović takes the two first metrical sisters, that is, the left-adjoined ‘miša’ and AgrSP. ‘Miša’ is marked [-F] and AgrSP is not specified for the feature [F] since there are both [+F] and [-F] elements inside AgrSP. For these kind of cases, Zubizarreta assumes that the feature specification is just [F]. The FPR does not apply in these cases because AgrSP is not specified for [F] (recall that the FPR only applies when there are two metrical sisters, one marked [+F] and the other one [-F]). The C-NSR applies and assigns prominence to the most embedded element in the asymmetric c-command, that is, AgrSP. The next pair of metrical sisters are ‘mačka’ and the TP. ‘Mačka’ is [+F] and the TP is only [F]. Hence, the FPR doesn’t apply. The C-NSR applies and assigns prominence to the TP. The same process repeats itself until we reach the metrical sisters ‘mačka’ in V1 and the V1’. As can be observed, ‘mačka’ is [+F] and V1’ is [-F]. The FPR can now apply since there is an element which is [+F] and an element which is [-F]. The FPR assigns prominence to the [+F] element ‘mačka’. A problem arises at this point. The C-NSR wants to assign prominence to V1’ since this is the most embedded element in the asymmetric c-command ordering. If this were to happen, there would be a problem with the FPR. We are now in a familiar situation. Recall that in our discussion of Zubizarreta, we encountered several cases where there was a conflict between the NSR and the FPR. How do we resolve the conflict? According

to Stjepanović, copy deletion intervenes and deletes the copies of the verb and the DO. At this point V1' is no longer there, it is invisible. The NSR tries to apply again but it can't because V1' is not metrically visible any more (recall that the NSR only applies when both sisters are metrically visible). The FPR can apply, though. After it applies, it assigns main prominence to 'mačka'. Note that the interaction between the NSR and the FPR has decided that the lowest copy of the subject needs to be pronounced. If this copy were not pronounced, NS could not be assigned resulting in a PF violation. Since there is no reason for the contrary, the highest copies of the object and the verb are pronounced. Recall that Stjepanović assumes that a lower copy is pronounced only if this is necessary to avoid a PF violation. If this is not necessary, the highest copy must be pronounced. (70) below shows the structure of (69) after copy deletion has taken place:

- (70) [AgrSP miša [AgrSP ~~mačka~~ [TP ~~mačka~~ hvata [AgrOP ~~miša~~ ~~hvata~~ [V1 ~~mačka~~ ~~hvata~~ [V2  
          [-F]        [+F]        [+F] [-F]        [-F] [-F]        [+F] [-F]  
          ~~hvata miša-]]]]]~~  
          [-F] [-F]

One of the main points of departure between Stjepanović and Zubizarreta is their treatment of the contradictory situations between the NSR and the FPR. Zubizarreta uses the following strategy. In a Romance language like Spanish, p-movement applies and moves away the [-F] constituent so that the [+F] constituent ends up in a position where it can receive prominence via the NSR. According to Stjepanović, there is no need for positing the existence of p-movement. The system she develops can capture the same



facts without appealing to this kind of movement. She considers this a welcome result (see Bošković (2001) for general arguments against PF movement). Since her copy deletion at PF system needs to happen at PF anyway (see the references above), it comes for free.

In summary, Stjepanović proposes a system in which the NSR may decide which copy to pronounce. This system allows her to explain the paradoxical behavior of subjects in Serbo-Croatian. Subjects in this language are always high in the syntax but in some cases a low copy of the subject gets pronounced in PF in order not to violate the requirements imposed by the NSR. In other words, the NSR interacts with the copy theory and decides which copy gets pronounced. In some cases the NSR decides that a low copy needs to be pronounced not to render a PF violation. Stjepanović's system is based on Zubizarreta's formulation of the stress assignment algorithm but crucially it differs in her treatment of contradictory situations between the FPR and the NSR. Zubizarreta needs p-movement to account for the behavior of Spanish. Stjepanović can do away with p-movement and explain the same facts via an interaction between the NSR and the copy theory of movement.

## **2.6 The analysis**

In this section I offer an analysis for the Spanish *wh-in-situ* data I presented in section 2.3. As discussed above, previous analyses, such as Uribe-Etxebarria (2002), account for the data by positing complex syntactic derivations. I showed that there was no real motivation for that kind of analysis. Furthermore, the analysis made wrong predictions. In this section I will show that it is possible to account for the Spanish *wh-in-situ* data in

a much simpler and unified way. More specifically, I will propose that the phonological properties of the in situ wh-phrases are responsible for the non-neutral and the SFR effect discussed in previous sections. For this, I will adopt Stjepanović's system, a system largely based on Zubizarreta's formulation of the stress assignment algorithm. Even though both systems could explain the data, I will follow Stjepanović here since she does not appeal to the existence of an extra mechanism, namely, p-movement. In Stjepanović's system, all the necessary processes are independently needed in PF and therefore anything we do in the relevant derivations comes for free.

Recall that the most basic data we are trying to explain is sentence (6b), repeated as (71):

(71) [Y] Juan compró qué?

For Uribe-Etxebarria, this sentence would involve overt movement to Spec CP followed by movement of the IP remnant. As discussed above, this derivation does not seem to be on the right track. Let us see now how the new account for (71) would proceed.

According to Zubizarreta, wh-words are intrinsically marked [+F].<sup>28</sup> This assumption seems correct since the wh-word corresponds to the new information part of the answer. For example, (71) can be answered as follows:

(72) Juan compró un coche

John bought a car

Following Stjepanović, the kind of structure (71) would have before Spell-Out is the following (I include copies and F-marking):<sup>29, 30</sup>

- (73) [AgrSP Juan compró [AgrOP qué compró [VP Juan compró qué]]]  
 [-F] [-F]                    [+F] [-F]           [-F] [-F]    [+F]

In (73), the first metrical sisters we need to consider are the subject ‘Juan’ in AgrSP and AgrS’. The subject is [-F] and AgrS’ is unspecified for feature [F]. This is so because AgrS’ contains both [+F] and [-F] elements. Since ‘Juan’ and AgrS’ do not have contradictory specifications, the FPR does not apply. The C-NSR applies and AgrS’, being the most embedded element in the asymmetric c-command, receives prominence. The next pair of metrical sisters the algorithm considers are the verb ‘compró’ and AgrOP. The verb is [-F] and AgrOP is only [F] because it contains both [+F] and [-F] elements. The FPR does not apply. The C-NSR applies and assigns prominence to AgrOP. The algorithm keeps reapplying in the same fashion until it reaches the last pair of metrical sisters, that is, the verb ‘compró’ and the in-situ wh-word ‘qué’ (both are inside the VP). As can be observed, ‘compró’ is [-F] and ‘qué’ is [+F]. The FPR can apply in this case because there is a contradictory situation between the two sisters. The FPR applies and assigns main prominence to the [+F] element, namely, ‘qué’. The NSR also applies and assigns prominence to the same element.

<sup>28</sup> Arregi (2002) makes the same assumption in his discussion of the preverbal position of wh/focus-elements in Basque.

<sup>29</sup> I’m only including the minimal structure necessary. It is likely that there is also a TP and a second VP. The presence or absence of these projections does not affect the analysis presented here so I will disregard them for the purposes of this chapter.

<sup>30</sup> Below, I will motivate the overt movement of the object. I will argue that both DO’s and IO’s move overtly in Spanish. This will be relevant for my discussion of (73) above and (76) below.

After copy deletion applies, we obtain the structure in (74):

- (74) [AgrSP Juan compró [AgrOP ~~qué~~ compró [VP Juan compró ~~qué~~]]]  
 [-F] [-F]            [+F] [-F]            [-F] [-F]    [+F]

As (74) makes clear, the joint work of the NSR and the FPR has determined that the lowest copy of the in-situ wh-word should be pronounced. Since nothing goes wrong with the pronunciation of the highest copies of the subject and the verb, these copies have to be pronounced. Let me point out that in this particular example, the NSR and the FPR have determined that the lowest copy of 'qué' should be pronounced. However, nothing would go wrong with respect to word order if the highest copy of this element were pronounced.<sup>31</sup>

In (75), I provide an example with a ditransitive structure. The stress assignment algorithm applies exactly in the same way as in (72). In other words, the joint work of the C-NSR and the FPR determines that the lowest copy of the wh-phrase will be pronounced.

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<sup>31</sup> A question that arises is how to analyze sentences where a wh-phrase is moved to Spec CP overtly:

- (i) Qué compró tu padre?  
 what bought your father  
 'What did your father buy?'

According to Zubizarreta, the wh-phrase does not bear Nuclear Stress in this example (the subject does). Consequently, Zubizarreta proposes that the fronted wh-phrase is licensed by another mechanism. According to her, the wh-phrase is licensed syntactically "by virtue of occupying the specifier position of a functional category with the feature [+wh]" (p. 92).

Note that in (ii) the in situ wh-phrase bears NS. In this case the wh-phrase is licensed prosodically (the fronted wh-phrase is licensed syntactically). Zubizarreta concludes that wh-phrases can be licensed syntactically or prosodically.

- (ii) Quién compró qué?  
 who bought what

(75) [Y] tú le diste la guitarra a quién?

and you CL gave the guitar to who

(76) [AgrSP tú diste [AgrOP la guitarra diste [AgrOP a quién diste [VP tu diste la guitarra

[-F] [-F] [-F] [-F] [+F] [-F] [-F] [-F] [-F]

a quién]]]]

[+F]

(77) [AgrSP tú diste [AgrOP la guitarra ~~diste~~ [AgrOP ~~a quién diste~~ [VP tu ~~diste la guitarra~~

[-F] [-F] [-F] [-F] [+F] [-F] [-F] [-F] [-F]

a quién]]]]

[+F]

Let us examine another example where pronouncing the lowest copy is obligatory if one wants to derive the correct word order. The new example under examination is (7) (repeated as (78)). This example is particularly interesting because it contains a non-neutral word order resulting from the SFR imposed on the wh-phrases.

(78) [Y] tú invitaste a tu fiesta a quién?

and you invited to your party to who

The input structure to PF looks as follows:<sup>32</sup>

<sup>32</sup> As can be observed, the PP 'a tu fiesta' raises overtly to a projection between AgrOP and VP. I will leave the nature of the projection open, labeling it only XP. This projection shares the same characteristics as

- (79) [AgrSP tú invitaste [AgrOP a quién invitaste [XP a tu fiesta invitaste [vP tú invitaste  
 [-F] [-F] [+F] [-F] [-F] [-F] [-F] [-F]  
 a quién a tu fiesta]]]]  
 [+F] [-F]

The stress assignment algorithm considers the first two metrical sisters ‘tú’ and AgrS’. ‘Tú’ is [-F] and AgrS’ is unspecified for the feature [F], therefore the FPR does not apply. The C-NSR applies and assigns prominence to AgrS’. Then, the algorithm considers the verb ‘invitaste’ and AgrOP. ‘Invitaste’ is marked [-F] and AgrOP is marked [F]. Since there is no contradictory situation in the F-marking of both sisters, the FPR does not apply. The NSR applies and assigns prominence to the lowest element in the asymmetric c-command ordering: ‘AgrOP’. The algorithm keeps on reapplying and finally encounters the two last metrical sisters, namely, ‘a quién’ and ‘a tu fiesta’. ‘A quién’ is [+F] and ‘a tu fiesta’ is [-F]. There is a clear contradictory situation in terms of F-marking. The FPR wants to assign prominence to the [+F] constituent ‘a quién’. However, the NSR wants to assign prominence to ‘a tu fiesta’ since this is the lowest element in the asymmetric c-command ordering. How does the conflict between the FPR and the NSR get resolved? According to Stjepanović, copy deletion applies at this point and deletes the lowest copy of ‘a tu fiesta’. The FPR applies again and assigns prominence to ‘a quién’. The NSR does not apply now because ‘a tu fiesta’ is no longer metrically visible (recall that the NSR only applies to sisters which are metrically

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Stjepanović’s PredP, that is a projection which is located low in structure and is capable of hosting topic-like elements. My XP is similar to Stjepanović’s PredP: it is located low in the structure and hosts [-F] elements. Presumably, the movement of ‘a tu fiesta’ is just an instance of short topicalization. This assumption is quite plausible given that the moving element is marked [-F].

visible). The NSR and the FPR have determined that the highest copy of the PP should be pronounced while the lowest copy of the object should be pronounced. Since there are no PF requirements on the copies of the subject and the verb, the highest copies of these elements get pronounced. After copy deletion takes place, (79) looks as (80):

- (80) [AgrSP tú invitaste [AgOP ~~a~~ ~~quién~~ invitaste [XP a tu fiesta invitaste- [VP tú invitaste  
[-F] [-F] [+F] [-F] [-F] [-F] [-F] [-F]  
a quién a tu fiesta]]]]  
[+F] [-F]

Note that in this example not pronouncing the lowest copy of ‘a quién’ would not give us the right word order. Instead, we would generate the ungrammatical (81):

- (81) \*[Y] tú invitaste a quién a tu fiesta?  
and you invited to who to your party

This example is showing us that we really need to pronounce the lowest copy of ‘a quién’. If not, there would be a problem with the stress assignment algorithm. The FPR would be assigning prominence to ‘a quién’ and the NSR would be assigning prominence to the PP. My account of wh-in-situ in Spanish can explain the contrast between (78) and (81) in a straightforward manner. The fact that wh-phrases appear in sentence-final position creating non-neutral orders is explained if the wh-phrase, by virtue of being

marked [+F], needs to be pronounced in the lowest position to get main prominence. The requirement is fulfilled in (80) but not in (81). That is why (81) is ill-formed.

One aspect I haven't discussed is the fact that the arguments of the verb seem to be moving out of the VP in the syntax (at least as an option). If this were not the case, we couldn't generate (78). The relevant structure without any movement would look as follows:

- (82) [<sub>VP</sub> tú invitaste a quién a tu fiesta]  
           [-F] [-F]      [+F]    [-F]

At the point when the stress assignment algorithm considers the two last metrical sisters, there would be a conflict between [+F] 'a quién' and [-F] 'a tu fiesta'. The FPR would want to assign main prominence to 'a quién' and the NSR would want to assign prominence to 'a tu fiesta'. The problem is that now there is no way to resolve the conflict. 'A tu fiesta' cannot be deleted because there is no higher copy we can pronounce. It seems that it is really crucial that the elements can move out of the VP in order for this system to work. Let me point out that Zubizarreta will solve the present conflict by appealing to p-movement. 'A tu fiesta' would move and adjoin to VP1.

It is standardly assumed that the preverbal subject and the verb move quite high in Spanish (see Ordoñez (1997), Zubizarreta (1998), Suñer (1994), among others). I refer the reader to chapter 4 (sections 4.5.1 and 4.5.3.) for the relevant arguments. The claim that objects move out of the VP is not that straightforward. I will use Stjepanović's tests



for this (her tests are based on Bošković, 1997). The starting point is the English data in (83):

- (83) a. John [[[knocked on the door] intentionally] twice ]      twice > intentionally  
b. John [intentionally [twice [knocked on the door ]]]      intentionally > twice

In the first sentence ‘twice’ takes scope over ‘intentionally’. That is, the sentence is making reference to two instances of intentional knocking. In the second sentence the scope facts are reversed and the sentence is referring to only one intention, which was to knock on the door twice. Given the standard assumption that height determines scope, Bošković, following Pesetsky (1989), who in turn follows Andrews (1983)), takes these data as evidence for the existence of a difference in the direction of adverb adjunction. In the first sentence the adverbs are right adjoined, which means that ‘twice’ is higher than ‘intentionally’. In the second sentence they are left adjoined, which means that ‘intentionally’ is higher than ‘twice’. Bošković takes these facts as a testing ground for the movement of elements outside of VP. The crucial Serbo-Croatian example is provided below:

- (84) Jovan je oborio Petra namerno dva put  
Jovan is failed Peter deliberately twice  
‘Jovan failed Peter deliberately twice’

According to Bošković, this example is ambiguous. The conclusion emerging from these data is that on the reading in which the first adverb has scope over the second adverb, the object (and the participle) has moved outside of the VP since the adverbs must be left-adjoined.

If we apply the same test to the Spanish data we obtain similar results. Sentence (85) is also ambiguous indicating that, on the reading in which the first adverb has scope over the second, the object has moved outside of the VP:

(85) Juan (le) falló a Pedro deliberadamente dos veces

John CL failed to Peter deliberately two times

Sentences with two objects give us exactly the same results, i.e. (86) is ambiguous. This indicates that both objects are moving out of the VP. More precisely, this is the case in the reading in which 'intencionalmente' scopes over 'dos veces'.

(86) Juan le enseñó el libro a María intencionalmente dos veces

John CL showed the book to Mary intentionally two times

Stjepanović uses Condition A and Condition C effects as further arguments for overt movement of objects in Serbo-Croatian. I will apply the same test to the Spanish data to determine whether objects undergo overt movement or not. As (87) shows, an object can bind into a VP adverb (I'm assuming that the adverb is VP-adjoined). This indicates that the object can move to a higher position where binding into the VP adverb

can occur. I will assume with Stjepanovic that the object moves to Spec of AgrOP in these constructions.

- (87)    Fotografiaron a Pedro<sub>i</sub> durante el    reportaje                    de sí mismo<sub>i</sub>  
           Photographed to Peter during the illustrated-report    of himself  
           'They photographed Peter during his illustrated report'

Similar effects arise with Condition C data. As can be observed below, (88) violates Condition C. The object c-commands the R-expression in the VP adverb. This indicates that the object is high, presumably in Spec AgrOP.<sup>33</sup>

- (88)    \*Despidieron a Pedro<sub>i</sub> por            las afirmaciones de Pedro<sub>i</sub>  
           Fired            to Peter because-of the statements    of Peter

In summary, we have evidence for the fact that arguments raise out of the VP in Spanish (this idea is also supported by Cuervo (2003), de Pedro (2004), Romero (1997), Suñer (2000), Torrego (1998) and Torrego (p.c.). All the previous discussion leads further support to a system along the lines of Stjepanović.

So far we have been able to account for simple sentences of the type in (71) and non-neutral sentences such as (78). The SFR imposed on the wh-phrases has been derived

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<sup>33</sup> I haven't used sentences such as (i) because even in cases where the pronoun doesn't c-command the name, the sentence is ungrammatical (see (ii)):

- (i) \*Le despidieron a él<sub>i</sub>    por            las afirmaciones de Pedro<sub>i</sub>  
      CL fired            to him because-of the statements    of Peter
- (ii) \*Sus<sub>i</sub> hijos quieren a Pedro<sub>i</sub>  
      His kids love    to Peter

as a result of the joint work between copy theory and stress assignment. Can we use the same mechanism to account for the whole Spanish paradigm? I will argue that this is possible indeed. The next example under study is (28), repeated as (89):

- (89) a. \*[Y] tu padre compró qué en Safeway?  
and your father bought what in Safeway  
b. [Y] tu padre compró qué # en Safeway?

(89a) above is ungrammatical because the wh-word does not conform to the SFR. The sentence can be salvaged if there is a pause after the wh-word. One common characteristic between this example and previous examples is that in all cases there exists the intuition that the wh-word is in final position. This is really clear in (71) but not so obvious in (89b). In fact, 'qué' is intonational-phrase final in (89b), not sentence final. One issue that needs to be clarified is the domain of the stress assignment algorithm. Is the domain the sentence or the intonational phrase? If the domain is the sentence, then (71) is fine but we run into trouble with (89b). If the domain is the intonational phrase then we are fine in both cases. Following Zubizarreta (1995a, 1995b, 1996), I will assume that the domain of stress assignment is the intonational phrase. Let me quote Zubizarreta here:

- (90) Within an intonational phrase, the rhythmically most prominent word must be right-adjacent to the intonational phrase boundary (...) (Zubizarreta, 1998, p. 84)

If this is correct, then we only need to take into account the intonational phrase (not the whole sentence, although the two may coincide) when applying the stress assignment algorithm.

Following Bošković (2001), Nespor and Vogel (1986), Schütze (1994) or Selkirk (1984, 1986), I will assume that intonational phrases correspond to elements such as root clauses, parenthetical expressions, nonrestrictive relative clauses, tag questions, vocatives and heavy fronted constituents. As Zubizarreta (1998) herself notes in her appendix on right dislocation, right-dislocated phrases constitute independent intonational phrases. Given this, there are two independent intonational phrases in (89b): ‘tu padre compró qué’ and ‘en Safeway’. If the domain of stress assignment is the intonational phrase, the stress assignment algorithm is only going to see the ‘tu padre compró qué’ part in (89b). This is exactly the same sequence of words as (71). I assume that the NSR and the FPR proceed in the same way and assign prominence to ‘qué’ by virtue of it being marked [+F] and by virtue of it being the lowest element in the asymmetric c-command domain.

With a refinement of the domain of stress assignment, namely, the assumption that the domain is the intonational phrase and the prominence bearing element needs to be right-adjacent to the intonational phrase boundary, we have been able to explain the data in (89) as well. Does this refinement pose a problem for (71) or (78)? The answer is going to be no. The analysis proposed for those data remains unaffected since the intonational phrase in those cases is going to be the root clause.

Recall that multiple questions such as (35) (repeated as (91)) posed a problem for Uribe-Etxebarria. According to her, a two-step movement analysis is not possible in these cases. The problem is that wh-in-situ words in Spanish multiple questions exhibit exactly

the same characteristics as wh-words in non-multiple-question contexts (i.e. non-neutral word order and SFR). Her analysis does not offer an explanation for this fact. I will show that my analysis can account for all these facts in a unified way.

(91) \*Quién puso qué cosa sobre la mesa?

who put what thing on the table

b. Quién puso sobre la mesa qué cosa?

The input to PF of sentence (91) looks as (92):

(92) [CP quién puso [AgrSP quién puso [AgrOP qué cosa puso [XP sobre la mesa puso  
 [+F] [-F] [+F] [-F] [+F] [-F] [-F] [-F]  
 [VP quién puso qué cosa sobre la mesa]]]]]  
 [+F] [-F] [+F] [-F]

The domain of stress assignment is the intonational phrase. Therefore, the entire CP in (91) is considered by the algorithm. The stress assignment algorithm considers the first metrical sisters, which are 'quién' and C'. 'Quién' is [+F] but C' is unspecified for [F]. As a consequence, the FPR does not apply. The NSR applies and assigns prominence to C'. This is so because C' is lower in the asymmetric c-command than 'quién' is. The algorithm keeps on reapplying until it considers the two last metrical sisters inside the VP: 'qué cosa' and 'sobre la mesa'. The two constituents have contradictory specifications, 'qué cosa' is [+F] and 'sobre la mesa' is [-F]. This is exactly the kind of

context where the FPR applies. Since 'qué cosa' is [+F], the FPR wants to assign prominence to this element. However, the NSR wants to assign prominence to 'sobre la mesa', because this is the lowest element in the asymmetric c-command domain. The conflict is resolved via deletion of the lowest copy of 'sobre la mesa'. Once this process takes place, the highest copy of 'sobre la mesa' and the lowest copy of 'qué cosa' get pronounced and the grammatical word order in (91b) is derived. After copy deletion takes place, the structure looks like (93) (note that the highest copies of 'quién' and 'puso' are pronounced):

- (93) [CP quién puso [AgrSP ~~quién~~ puso [AgrOP ~~qué cosa~~ puso [XP sobre la mesa puso  
          [+F] [-F]        [+F] [-F]        [+F]    [-F]        [-F]        [-F]  
          [VP ~~quién~~ puso ~~qué cosa~~ sobre la mesa]]]]]  
          [+F] [-F] [+F]        [-F]

Note that the interaction between stress assignment and copy deletion would prevent word orders such as the ungrammatical (91a). According to this system, (91a) would violate the requirements imposed by the stress assignment algorithm. Consequently, (91a) will never come into existence as a well-formed structure.<sup>34</sup>

<sup>34</sup> A question arises at this point: How do we analyze (30) (repeated as (i))? The problem with this example is that there are two [+F] elements in a final position. In order to solve this puzzle, I will assume that the two wh-phrases form a single stress unit. Note that, as expected, the order of the wh-phrases can be reversed (see (ii)):

- (i) [E] Iván le pidió qué a quién?  
and Ivan CL asked what to who  
'And what did Ivan ask to who?'  
(ii) [E] Iván le pidió a quién el qué?  
and Ivan CL asked to who the what

In our pursuit of a unified analysis of Spanish wh-in-situ words, we still need to explain the pied-piping cases discussed by Ormazabal. Uribe-Etxebarria's analysis intended to unify these kind of constructions. However, we found reasons to doubt her proposal. A representative example of the pied-piping phenomenon is given in (93) (this is example (23) above). The input structure to PF is provided in (95):<sup>35</sup>

- (94) a. [La estatua <sub>t<sub>obj</sub></sub> [en el jardín]<sub>adv</sub> [de qué diosa]<sub>obj</sub> ]<sub>i</sub> te ha dicho Juan que había  
the statue in the garden of what goddess CL has said John that had  
reconocido <sub>t<sub>i</sub></sub>  
recognized
- b. \*[La estatua [de qué diosa]<sub>obj</sub> [en el jardín]<sub>adv</sub>]<sub>i</sub> te ha dicho Juan que había  
the statue of what goddess in the garden CL has said Juan that had  
reconocido <sub>t<sub>i</sub></sub>  
recognized

- (95) [NP La estatua [de qué diosa [en el jardín [de qué diosa [en el jardín]]]]  
[-F] [+F] [-F] [+F] [-F]

As mentioned above, heavy fronted elements constitute independent intonational phrases. In (94) a heavy NP is fronted in the sentence. Therefore, it is reasonable to conclude that the heavy NP by itself is an intonational phrase. If this is so, the stress assignment

<sup>35</sup> I will remain vague as to the exact projections the elements are moving to. There is a large body of research arguing for the proliferation of maximal projections inside the NP. See for example Szabolcsi (1983), Ritter (1988, 1990), Piccolo (1991), Bernstein (1993), Ormazabal (2002), Zamparelli (1995), Valois



algorithm is going to apply to the NP, as represented in (95). The process is similar to our previous examples. The stress assignment algorithm considers the first metrical sisters ‘la estatua’ and X’.<sup>36</sup> The FPR does not apply because the first sister is [-F] and the second one is only [F]. The C-NSR applies and assigns prominence to X’. The stress assignment mechanism reapplies in the same fashion until it reaches the two last metrical sisters ‘de qué diosa’ and ‘en el jardín’. The FPR wants to assign prominence to ‘de qué diosa’ since this is the [+F] element. However, the C-NSR wants to assign prominence to the most embedded element, namely ‘en el jardín’. The conflict is solved by deleting the lowest copy of ‘en el jardín’. After this happens, the FPR assigns prominence to ‘de qué diosa’. The NSR does not apply because ‘en el jardín’ is rendered extrametrical via copy deletion.

The analysis proposed here has been able to account for all the wh-in-situ phenomena in a unified way. Now, let us ask ourselves: why aren’t there island effects in wh-in-situ constructions? Recall that this was problematic for Uribe-Etxebarria’s analysis. The answer is going to lie in the fact that there is no overt movement of the wh-word to Spec CP under the current analysis. Given this, the grammaticality of (96a) does not come as a surprise. The relevant structures are provided in (97) and (98). Note that the embedded CP is parsed as an independent intonational phrase.

- (96) a. Te has enamorado del hombre que vive con quién?

You have fallen-in-love of-the man who lives with who

‘Who have you fallen in love with the man that lives with?’

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(1991), Ticio (2003) and references therein. For my purposes, it suffices to assume that elements within the NP can undergo short movement within the traditional NP.

b. \*Con quién te has enamorado del hombre que vive?

(97) [CP que [AgrSP vive [AgrOP con quién vive [VP vive con quién ]]]]

[-F] [-F] [+F] [-F] [-F] [+F]

(98) [CP que [AgrSP vive [AgrOP ~~con quién~~ vive [VP ~~vive~~ con quién ]]]]

[-F] [-F] [+F] [-F] [-F] [+F]

In summary, we have been able to account for all wh-in-situ questions and related constructions in Spanish by appealing to the interaction between stress assignment and copy theory, i.e. by using Stjepanović's system.

## 2.7 Cross-linguistic comparison: Spanish, French and English

In this section I compare wh-in-situ constructions in Spanish with French and English wh-in-situ. I evaluate whether we are dealing with the same phenomenon in the three languages or whether we need different analyses to account for the cross-linguistic variation.

### 2.7.1 French

We started this chapter with a discussion of French wh-in-situ constructions. Recall that the distribution of wh-in-situ is very limited in this language. Wh-in-situ is allowed in short-distance questions but disallowed in embedded and long-distance contexts. Furthermore, French wh-in-situ questions exhibit intervention effects. If one compares

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<sup>36</sup> Since I'm not being precise about labels within the NP, I'm taking X as a tool to express the possible

Spanish and French there are very clear differences between the two languages. Spanish wh-in-situ has a wider distribution than the French one.

Uribe-Etxebarria (2002) notices these facts and explicitly mentions that an analysis along the lines of Bošković (1998a) (or more generally, an analysis of French wh-in-situ) cannot account for the Spanish data. What I will show next is that there is no need to force an analysis of this kind onto Spanish wh-in-situ. While it is true that both languages allow the in situ construction, Spanish is not like French syntactically in this type of construction.

In his analysis of French wh-in-situ, Bošković mentions that there are crucial differences between the examples in (99) and those in (100):

- (99) a. \*Jean et Pierre croient que Marie a vu qui?

Jean and Pierre believe that Marie has seen whom

‘Whom do Jean and Pierre believe that Marie saw?’

- b. \*Jean ne mange pas quoi?

Jean neg eats neg what

‘What doesn’t John eat?’

- (100) a. Qui croit que Marie a vu qui?

who believes that Marie has seen whom

- b. Qui ne mange pas quoi?

who neg eats neg what

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label of these projections inside the nominal domain.

The main difference between (99) and (100) is that the examples in (100) contain an additional wh-phrase located in Spec CP in the overt syntax. As discussed above, the in situ wh-phrases in (99) need to undergo LF wh-movement to check the strong +wh-feature of C. The examples are ungrammatical given the locality restrictions on movement. The questions in (100) are grammatical because the highest wh-phrase can check strong +wh-feature of C. Consequently, the in situ wh-phrase doesn't need to move. Bošković assumes that the wh-phrase is unselectively bound. What (99) and (100) show us is that the in situ wh-phrases in (99) and those in (100) are different; they have a different syntax and hence, should be analyzed in a different way

Let us see evidence that all in situ wh-phrases in Spanish exhibit a parallel behavior. I will translate the French data in (99) and (100) to determine whether there are differences between French and Spanish in these constructions:

(101) a. [Y] Juan y Pedro creen que María ha visto a quién?

and John and Peter think that Mary has seen to who

b. [Y] Juan no come (el) qué?

and John neg eats the what

(102) a. Quién cree que María ha visto a quién?

who thinks that Mary has seen to who

b. Quién no come (el) qué?

who neg eats the what

As the examples make clear, Spanish *in situ* wh-phrases behave the same in (101) and (102). Both types of wh-phrases are allowed in long-distance wh-movement contexts and in sentences containing negation. Recall that French is very different here: the French counterparts of (101) are ungrammatical but the ones in (102) are perfectly fine.

Let us see more evidence that all *in situ* wh-phrases in Spanish exhibit a parallel behavior. According to Uribe-Etxebarria, the Spanish facts cannot be accounted for under Bošković's analysis. She sees this as a problem for the analysis. Let us look at some Spanish examples before we decide on the correctness (or incorrectness) of Uribe-Etxebarria's claims.

(103) a. [Y] tu padre invitó a la fiesta a quién?

and your father invited to the party to who

b. \*[Y] tu padre invitó a quién a la fiesta?

c. [Y] tu padre invitó a quién # a la fiesta?

(104) a. Quién invitó a la fiesta a quién?

who invited to the party to who

b. \*Quién invitó a quién a la fiesta?

c. Quién invitó a quién # a la fiesta?

(103) contains a familiar paradigm. In the three questions there is only one wh-phrase, which is *in situ*, and which is subject to the SFR. The crucial difference between (103) and (104) is that there is an extra wh-phrase in Spec CP in all the examples. As the

examples make clear, there is a striking parallelism between (103) and (104). Regardless of the fact that there is one or two *wh*-phrases, the *in situ wh*-phrases in both cases obey the SFR and create non-neutral word orders. In both cases the b. examples become grammatical if there is a pause after the *wh*-phrase. This paradigm looks very different from the French data. In French the two sets of examples exhibited an opposite behavior. In Spanish they are the same. Note that French is not subject to the SFR (see footnote 8 for some examples).

The conclusion from the Spanish data is that all Spanish *in situ wh*-phrases exhibit the same syntax. French *in situ wh*-phrases are different, they have a different syntax depending on the presence or absence of an additional *wh*-phrase in Spec CP. Uribe-Etxebarria is likely correct in her claim that Bošković's analysis of French cannot be applied to Spanish. However, this is not a problem for Bošković's analysis of French. Given all the differences between French and Spanish *wh-in-situ* noted above, we should not need to have the same analysis for both cases. We are dealing with constructions which are the same on the surface but which are very different under closer scrutiny.

### 2.7.2 English

It is standardly assumed that *wh-in-situ* questions in English (cf. (105)) only have an echo reading.

(105) Your father saw who?

Lasnik (1995) and Bošković (2000) mention that the status of questions such as (105) is rather unclear. It seems that (105) is not as good as the French counterpart. Interestingly, my informants accepted (105) given a previous context. For example, (105) is acceptable in the context provided below:<sup>37</sup>

Context: My mother, my father and I got tickets to attend the Oscar's ceremony. We were lucky enough to see some of our favorite celebrities. My mother saw Julia Roberts and I saw Sean Penn.

(106) And your father saw who?

As discussed in section 2.3.1, it is very hard to determine how much contextualization is needed to utter (106). Some of my informants felt comfortable with very little or no context and others needed a very detailed context. In any event, there seems to be a parallelism between Spanish and English wh-in-situ here. In both languages the wh-in-situ strategy is not used as often as the fronting strategy. Furthermore, some kind of contextualization seems to be necessary.

Let us explore whether there are more parallelisms between English and Spanish. As (107) below makes clear, English wh-in-situ can be used in long-distance contexts. Moreover, English does not exhibit intervention effects of the French type. The examples

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<sup>37</sup> Some of my informants found (106) a bit degraded in comparison with 'and who did your father see?'. Still, they said that the question was possible given the previous context.

in (108) contain universal quantifiers, negation, modals, quantificational adverbs and negative quantifiers.<sup>38</sup>

(107) [And] your father believes that Mary admires who?

- (108) a. [And] everyone admired who?  
b. [And] your father didn't see who?  
c. [And] Peter may interview who?  
d. [And] your father always admires who?  
e. [And] nobody admired who?

So far, Spanish and English exhibit a parallel behavior, a behavior which sets them apart from French. Would it be possible to offer a unified analysis for English and Spanish? Let us examine English constructions where there is a *wh*-phrase in situ and another *wh*-phrase in Spec CP. This will help us determine whether all kinds of *wh*-in-situ in English have the same syntax.

- (109) a. [And] John and Peter believe that Mary has seen whom?  
b. [And] John doesn't eat what?

- (110) a. Who believes that Mary has seen who?  
b. Who doesn't eat what?

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<sup>38</sup> Most of my informants found (108e) problematic. Since all the previous examples were fine, I assume that the marginality of this example is due to a problem with the context preceding the in situ question.



In (109) we have familiar data. Wh-in-situ in English is allowed in long-distance context and across negation. Interestingly, once we add an additional wh-phrase the judgments remain the same. All sentences are grammatical. From these data we can conclude that all wh-in-situ phrases in English have the same syntax. This is exactly what happens in Spanish (but not in French).

At this point English is behaving just like Spanish. There is one last aspect one needs to consider before proposing a unified analysis for wh-in-situ in these two languages. Wh-phrases in situ are subject to the SFR in Spanish. As (111) shows, wh-phrases in English are not subject to this requirement. Wh-phrases can appear in final position, as in (112), but they don't have to (cf. (111)). In (111), there's no need for a pause after the wh-word. In fact, according to one of my informants, a pause makes the sentence worse.

- (111) a. [And] you gave who the guitar?  
b. [And] you invited who to your party?
- (112) a. [And] you gave the guitar to who?  
b. [And] you invited to your party who?

Note that the judgments remain the same when we add another wh-phrase in Spec CP. This is expected given our previous discussion.<sup>39</sup>

- (113) a. Who gave who the guitar?

b. Who invited who to your party?

(114) a. Who gave the guitar to who?

b. Who invited to your party who?

Based on the previous data we can conclude that *wh-in-situ* in Spanish and *wh-in-situ* in English have the same syntax but different prosody. My last claim is based on the fact that only *in situ wh-phrases* in Spanish are subject to the SFR. English *in situ wh-phrases* are not subject to this requirement. This finding is not surprising, in fact, it is expected. Recall from the discussion in section 2.4 that stress assignment works differently in English and Spanish (cf. Zubizarreta (1998)). English makes use of both the S-NSR and the C-NSR. Spanish only appeals to the C-NSR. Furthermore, in Spanish all material is metrically visible. In English this is not the case. For example, defocalized material is metrically invisible for the NSR. If this is correct, (111) and (113) would be analyzed in the following way. Let us focus on (111a) (repeated as (115)) for concreteness.

(115) you gave who the guitar

[-F] [-F] [+F] [-F]

As the F-marking of the sentence makes clear, the *wh-phrase* is [+F] and the element following the *wh-phrase* is [-F]. Given our previous discussion, the [-F] element is

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<sup>39</sup> My informants found (110b) slightly degraded.

analyzed as extrametrical to the NSR. This means that the NSR does not even see the [-F] element.

Stjepanović (1998) explicitly mentions that English is different from Serbo-Croatian (and by extension, different from Spanish). In Serbo-Croatian, copy deletion interacts with stress assignment. In English this cannot be the case. According to Stjepanović, copy deletion is more rigid in English in the sense that it requires the highest copy to be pronounced at all times.<sup>40</sup> If this were not the case, then (116b) should be a possible answer to (116a). In other words, if copy deletion applied after the NSR, it would be possible to pronounce the lowest copy of 'John'. This is not desirable, as indicated by the ungrammaticality of (116b).

(116) a. What happened?

b. \*Was arrested John

[+F] [+F] [+F]

In summary, French, Spanish and English are different when it comes to the wh-in-situ strategy. French in situ wh-phrases have a different syntax depending on the presence or absence of a wh-phrase in Spec CP. In contrast, all in situ wh-phrases in Spanish and English have the same syntax. On the surface, Spanish and English wh-in-situ behave the same. Under closer scrutiny, one finds that the syntax is the same but the prosody is different. This follows from the analysis proposed above. Wh-in-situ in

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<sup>40</sup> I'm assuming that we need this assumption plus the assumption about the invisibility of [-F] material to the NSR in English.

English and Spanish has a different prosody because the stress assignment mechanism in the two languages works differently.

## **2.8 Conclusions**

In this chapter I have shown that the defining properties of wh-in-situ constructions in Spanish (non-neutral word order and the SFR) can be derived from their phonological properties. To be more precise, in situ wh-phrases in Spanish need to be last within their intonational phrase. Using Stjepanović's (1999, 2003) system as a tool, I have accounted for this property. In situ wh-phrases appear in this position as a result of the joint work of the stress assignment algorithm (cf. Zubizarreta (1998)) and the Copy Theory of movement. My analysis has proven successful in offering a unified account of all wh-in-situ in Spanish (i.e. wh-phrases that do not move to Spec CP overtly). Furthermore, I have been able to offer a principled account of the cross-linguistic differences between Spanish, French and English wh-in-situ constructions.

## CHAPTER 3: MULTIPLE QUESTIONS IN BASQUE

### 3.1 Introduction

In this chapter, I examine the behavior of multiple questions in Basque. As it will become clear below, Basque exhibits a wider range of possibilities than Spanish regarding multiple question formation. Basque, in contrast to Spanish, can front all *wh*-phrases or leave some of them in situ. Regarding the latter possibility, I will show that not all *wh*-phrases that appear to be in situ should be analyzed in the same way. (cf. Bošković (2002)). In particular, I will argue that Spanish and Basque *wh*-phrases in situ should be treated differently. Regarding the Multiple *Wh*-Fronting strategy (MWF) in Basque, I will compare Basque with Slavic MWF languages, focusing on Bošković's (1999, 2002) study of Slavic.

According to Bošković (1999, 2002), all *wh*-phrases obligatorily move to the beginning of the sentence in Serbo-Croatian<sup>1</sup>. Since the movement of one *wh*-phrase should be enough to check the strong +*wh*-feature of C, one can deduce that *wh*-phrases in Serbo-Croatian must be fronted overtly for independent reasons. Bošković (1999, 2002) argues that Serbo-Croatian *wh*-phrases undergo focus movement to a position below C. He also shows that the following properties of Serbo-Croatian can be accounted for in a principled way under this analysis: lack of Superiority effects (i.e. free order of Serbo-Croatian *wh*-phrases) and the availability of single-pair answers.

In this chapter I will evaluate Bošković's (1999, 2002) proposal with respect to question formation in Basque. The present study is an attempt to offer an account of the

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<sup>1</sup> See Bošković (2002) for some exceptions to this generalization.

mechanisms underlying multiple question formation in Basque. Previous research (Ortiz de Urbina (1995, 1999a)) has found that *wh*-words in Basque behave very similarly to elements bearing focus. However, there are very few detailed studies dealing with multiple question formation in this language. In this chapter I will offer an analysis of multiple questions in Basque which will help us gain a deeper insight into the nature of “*wh*”-movement in this language.

The chapter is organized as follows. First, I will introduce Bošković’s (1999, 2002) theory. This will be crucially important since I will use the tools provided by this author in trying to analyze the Basque data. Second, I will introduce the data to be accounted for. As shown below, Basque allows two strategies to ask a question such as ‘who bought what?’. One possibility is that one *wh*-phrase fronts and the other stays in situ. The other possibility is that both *wh*-phrases move overtly to the front of the sentence. We will see that, independently of the strategy employed, Superiority effects always show up in this language. Third, I will offer some background regarding “*wh*”-movement in Basque. As it will become clear, the driving force behind *wh*-fronting in this language is focus. Fourth, I will give an analysis for the first strategy found in Basque. The basic idea is that, contrary to appearances, both *wh*-phrases move overtly in the syntax. Fifth, I will provide an analysis for the second strategy, that is, the Multiple *Wh*-Fronting strategy. As shown below, *wh*-phrases raise to a syntactic position below *C*. Finally, I will offer a brief discussion of multiple questions in long-distance *wh*-movement contexts.

### 3.2 Theoretical Background

In this section I will discuss the three main ingredients of Bošković's system: focus, Superiority and the interpretation of questions.

#### 3.2.1 Focus

In a series of papers (Bošković 1997a, 1997c, 1998b, 1999, 2002), Bošković argues that wh-phrases in Serbo-Croatian undergo focus movement. The main motivation for this approach comes from Stjepanović's (1998) work. According to her, wh-phrases in Serbo-Croatian behave like contrastively focused non-wh-phrases in many respects.<sup>2</sup> She interprets these similarities as an indication that wh-phrases in Serbo-Croatian are inherently focused and therefore undergo overt movement for focus purposes. This idea goes back to Horvath (1986). In her system, the movement of wh-phrases in certain languages is analyzed as an instance of focus movement. This line of research establishes a connection between the movement of wh-phrases and the movement of contrastively focused non-wh-phrases.<sup>3</sup> In other words, if a language allows overt movement of contrastively focused non-wh-phrases, wh-phrases in that language front for focus reasons.

Bošković, building on Stjepanović's (1998) work, adopts the idea that wh-fronting in Serbo-Croatian should be analyzed as focus movement. Before doing that, he shows first that all wh-fronting in Serbo-Croatian is not wh-movement. For example, all

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<sup>2</sup> Her arguments come from the position that wh-words and contrastively focused phrases move to and also from the interpretation of adverbs. Since Stjepanović (1998) found that wh-phrases and contrastively focused non-wh-elements behave on equal grounds in both realms, she concluded that wh-phrases are

wh-phrases in Serbo-Croatian must front. If we were dealing with wh-movement, the movement of one wh-phrase would suffice to check the +wh-feature of C. Since all wh-phrases must move overtly in Serbo-Croatian (see (1) below), there must be something else motivating the movement.

- (1) a. Ko šta gdje kupuje?  
       who what where buys  
       ‘Who buys what where?’  
       b. \*Ko kupuje šta gdje?  
       c. \*Ko šta kupuje gdje?  
       d. \*Ko gdje kupuje šta?

Another piece of evidence arguing for the fact that all wh-fronting in Serbo-Croatian is not wh-movement comes from echo questions. Wh-phrases in Serbo-Croatian cannot stay in situ in echo questions (cf. (2)). Given that these types of questions do not presumably involve checking of the +wh-feature, the obligatory fronting of wh-phrases must be motivated by something other than wh-movement.<sup>4</sup>

- (2) ?\*Jovan kupuje ŠTA?  
       Jovan buys what

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inherently focused in Serbo-Croatian and consequently undergo the same type of movement contrastively focused non-wh-elements undergo. See Stjepanović (1998) for the relevant tests.

<sup>3</sup> For another view on the wh/focus connection, see Calabrese (1987).

<sup>4</sup> The judgment in (2) holds for echo questions used to ask for repetition of information the person asking the question has not heard. (2) improves if the echo question is used to express surprise. This contrast follows from the nature of focus movement since, in contrast to the first reading, in the second reading the



### 3.2.2 Superiority

A curious property of focus fronting in Serbo-Croatian is that it does not exhibit Superiority effects. The grammaticality of the examples below shows that wh-phrases are freely ordered in this language:

- (3) Ko šta kupuje?

who what buys

‘Who buys what?’

- (4) Šta ko kupuje?

Bulgarian, another language Bošković (1999, 2002) analyzes in depth, differs from Serbo-Croatian in this respect. As shown in (5) and (6), Bulgarian conforms to the Superiority Condition.<sup>5</sup>

- (5) Koj kakvo e kupil?

who what is bought

‘Who bought what?’

- (6) \*Kakvo koj e kupil?

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value of the wh-word is known to both the speaker and hearer. Hence, the wh-phrase is subject to focus movement only on the first reading. See Bošković (2002) for details.

<sup>5</sup> The Superiority Condition was originally formulated by Chomsky (1973). In order to account for contrasts such as (i) and (ii), Chomsky (1973) proposed the Condition in (iii):

- (i) Who bought what?

- (ii) \*What did who buy?

Bošković (1999, 2002) accounts for the Bulgarian pattern in the following way. First, he argues that Bulgarian, in contrast to Serbo-Croatian, has wh-movement in these constructions. In order to capture this fact, Bošković (1999, 2002) adopts the Economy account of Superiority which requires that the +wh-feature of C be checked in the most economical way (i.e. through the shortest movement possible). Under this account, the Nominative wh-phrase 'koj' must move to Spec CP before the Accusative wh-phrase 'kakvo' since this is the most economical way to check the +wh-feature of C.<sup>6</sup> (6) is ruled out since the movement of 'kakvo' is less economical, that is, it results in a longer link. In this respect, Bulgarian behaves exactly like English. To put it clearer, both languages exhibit Superiority effects. From the evidence collected so far, it seems that wh-movement is sensitive to Superiority but focus movement is not.

The Bulgarian data raise several questions. If Bulgarian wh-fronting is an instance of wh-movement, why must all wh-phrases obligatorily move to the front of the sentence?

(7) \*Koj e kupil kakvo?

who is bought what

'Who bought what?

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(iii) No rule can involve X, Y in the structure ...X...[...Z...WYV...] where the rule applies ambiguously to Z and Y, and Z is superior to Y. The category A is superior to the category B if every major category dominating A dominates B as well but not conversely.

<sup>6</sup> Eventually, both wh-phrases land in Spec CP. The analysis proposed by Bošković (1999, 2002) holds either if one adopts the rightward adjunction (cf. Rudin 1988), in which the second wh-phrase right adjoins to the first wh-phrase in Spec CP, or the multiple specifier analysis of Multiple Wh-Fronting in Bulgarian (cf. Richards, 1997), in which the second wh-phrase moves to a lower Spec CP. Either way the first wh-phrase linearly moves first. Note that for Bošković, the wh-phrase that moves first to Spec CP checks the +wh-feature of C.

Bošković (1999, 2002) takes this fact as evidence that focus movement is also involved in Bulgarian. More precisely, movement of one wh-phrase should suffice to check the strong +wh-feature of C. Wh-fronting of the remaining wh-phrases is an instance of focus movement. This analysis makes a prediction. If wh-movement, which is subject to the Superiority Condition, affects only one wh-phrase, then the movement of the highest wh-phrase would satisfy the requirement that the +wh-feature of C be checked in the most economical way. If focus movement, which is not subject to the Superiority Condition (cf. (3) and (4)), is responsible for the fronting of the rest of the wh-phrases, then one would expect these wh-phrases to be freely ordered. The prediction is borne out by the Bulgarian data in (10) and (11):

(8) Kogo kakvo e pital?

whom who is asked

‘Who asked whom?’

(9) \*Kakvo kogo e pital?

(10) Koj kogo kakvo e pital?

who whom what is asked

‘Who asked whom what?’

(11) Koj kakvo kogo e pital?

As the examples above make clear, the Nominative wh-phrase 'koj' moves first to check the strong +wh-feature of C. The second and third wh-phrases are freely ordered since they are subject only to focus movement.

Bošković (1999, 2002) accounts for these facts by modifying Chomsky's (1995) Attract system. More specifically, Bošković (1999, 2002) proposes that the attractor for wh-movement is an Attract-1F head.<sup>7</sup> This entails that given two potential attractees, the Attract-1F head will always attract the highest wh-phrase. Attract-1F heads give us Superiority effects. In contrast, Bošković (1999, 2002) proposes that the attractor for focus movement is an Attract-all-F head.<sup>8</sup> Superiority effects are not expected in this case since the order in which wh-phrases move to the relevant head yield equally economical derivations. To put it clearer, the derivation in which 'ko' (cf. (3)) moves first to the attracting head is equally economical as the derivation in which 'šta' moves first (cf. (4)). Since the same number of nodes are crossed in both cases to satisfy the relevant Attract-All property, both derivations yield equally economical outputs.

The Bulgarian pattern receives the following analysis in Bošković's (1999, 2002) system. According to Bošković (1999, 2002), C in Bulgarian has two features: Attract-1F +wh-feature and Attract-all-F +focus feature. Once C enters the derivation, the movement of the highest wh-phrase satisfies the +wh inadequacy of C. After the highest wh-phrase moves, the order of movement of the remaining wh-phrases is free since focus movement is not subject to Superiority.

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<sup>7</sup> As Bošković (1999, 2002) puts it, Attract-1F implies that the formal inadequacy of the attractor is overcome by attracting 1 feature F.

<sup>8</sup> An Attract-all-F head is a head that has a formal inadequacy that can only be overcome by attracting all features F.

To summarize, wh-movement is subject to Superiority because the relevant head has an Attract-1F feature. Focus movement does not exhibit Superiority effects because focus movement has the Attract-all-F property.

The discussion above makes a further prediction. Whenever Superiority effects show up, wh-movement is involved in the derivation. The data from Bulgarian and English support this claim. In those languages where the Superiority Condition is operative, wh-movement is taking place. Since Serbo-Croatian wh-phrases are freely ordered, wh-movement is not responsible for the overt fronting of the wh-phrases. This state of affairs becomes relevant for certain constructions in Serbo-Croatian. As Bošković (2002) shows, Serbo-Croatian exhibits Superiority effects in some contexts. More precisely, the Superiority Condition is operative in embedded, long-distance and overt C questions:

- (12) a. [Ko koga voli], taj o njemu i govori  
           who whom loves that-one about him even talks  
           ‘Everyone talks about the person they love’  
       b. ?\*[Koga ko voli], taj o njemu/o njemu taj i govori
- (13) a. ?Ko koga tvrdiš da je istukao?  
           who whom claim that is beaten  
           ‘Who do you claim beat whom?’  
       b. \*Koga ko tvrdiš da je istukao?

- (14) a. Ko li koga voli?  
           who C whom loves  
           ‘Who on earth loves whom?’
- b. \*Koga li ko voli?

In order to account for these facts, Bošković (2002) establishes a parallelism between Serbo-Croatian and French. The core idea of this proposal is that Serbo-Croatian exhibits Superiority effects in those contexts in which French must have wh-movement, which involve embedded, long-distance and overt C questions (see Chapter 2 for the relevant French data). To put it another way, Serbo-Croatian has real wh-movement when French has it. If this is so, then we have an explanation for the facts in (12) through (14). Serbo-Croatian wh-phrases are subject to ordering constraints in these examples because wh-movement, crucially not just pure focus movement, is taking place here.<sup>9</sup>

### 3.2.3 Interpretation of questions

Whether wh-phrases undergo focus or wh-movement has consequences for the interpretation of questions. As Bošković (2001a, 1999, 2002) points out, the English question in (15) obligatorily requires a pair-list answer:

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<sup>9</sup> Bošković (1997c) assumes that as in French, C-insertion triggers immediate wh-movement in Serbo-Croatian. C in (3) and (4) is phonologically null. Bošković (1997c) assumes that it is merged at the root of the tree in LF. Since the C does not enter the structure overtly, wh-movement does not take place overtly. In indirect questions C must be inserted overtly in order not to violate the requirement that Merger expand the tree. Example (14) above contains a phonologically realized C, that is, *li* (a second position clitic). Given that *li* is phonologically realized, it follows that it must be introduced in overt syntax. The contexts where C must enter the structure overtly involve overt wh-movement under the assumption that C-insertion triggers immediate wh-movement (the assumption follows from Chomsky’s (1995) approach to strength). As a result, these contexts exhibit Superiority effects.

(15) Who bought what?

(15) cannot receive a single-pair answer. In other words, (15) cannot be felicitously uttered in the following situation: “John is in a store and off in the distance sees somebody buying an article of clothing, but does not see who it is and does not see what exactly the person is buying. He goes to the shop-assistant and asks (15)”.

Curiously, the Japanese and Chinese counterparts of (15) can receive not only a pair-list answer but also a single-pair answer. To put it clearer, the Japanese question in (16) can be asked in the situation described above.

(16) Dare-ga nani-o katta no  
who-NOM what-ACC bought Q  
‘Who bought what?’

One crucial difference between English and Japanese/Chinese is that *wh*-phrases in English move overtly to Spec CP. In contrast, *wh*-phrases in Japanese and Chinese stay in situ and consequently do not move overtly to Spec CP. Given this difference, Bošković concludes that filling Spec CP overtly forces the pair-list interpretation for some reason. As Bošković (2001a, 1999, 2002) shows, French confirms this conjecture. As discussed in Chapter 2, French allows the in-situ and the *wh*-movement strategy, as shown in (17) and (18). Crucially, single-pair answers are only allowed with the in-situ strategy (cf. (17)). This state of affairs provides strong evidence for the claim that single-pair answers

are only allowed when Spec CP is not filled in the overt syntax (see Bošković (2001a)) for an explanation of this state of affairs).

- (17) Il a donné quoi à qui?  
he has given what to who  
'What did he give to who?'

- (18) Qu'a-t-il donné à qui?

If we now turn to the interpretation of multiple questions in Bulgarian and Serbo-Croatian, we expect the following: Bulgarian, a language in which Spec CP is filled overtly, should only allow a pair-list answer. In this respect, Bulgarian would pattern with English. In contrast, Serbo-Croatian, a language in which *wh*-phrases do not move to Spec CP overtly, should allow single-pair answers.<sup>10</sup> Serbo-Croatian would pattern with Japanese and Chinese in the relevant respect. As Bošković shows, the predictions are borne out. The Serbo-Croatian multiple question in (3) (repeated as (19)) allows both a pair-list and a single-pair answer. In contrast, the Bulgarian counterpart in (5) (repeated as (20)) requires a pair-list answer:

- (19) Ko je šta kupio?  
who is what bought  
'Who bought what?'



(20) Koj kakvo e kupil?

who what is bought

‘Who bought what?’

This analysis makes the following prediction: when wh-movement takes place overtly in Serbo-Croatian, single-pair answers should be disallowed since Spec CP would be filled in the overt syntax. The topic construction is one such context. As Bošković (2002) shows, such constructions in Serbo-Croatian exhibit Superiority effects (cf. (21)), which we have taken to be a diagnostic that wh-movement has taken place.<sup>11</sup> If wh-movement is indeed taking place here, single-pair answers should be disallowed in (21a). The prediction is borne out. (21a) requires a pair-list answer.

(21) a. Tom čoveku, ko je šta poklonio?

that man who is what bestowed

‘To that man, who bestowed what?’

b. ?? Tom čoveku, šta je ko poklonio?

In conclusion, whenever wh-movement takes place, that is, whenever Spec CP is filled overtly, single-pair answers are disallowed. If only focus movement is involved, single-pair answers are allowed since Spec of CP is not filled overtly in these cases.

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<sup>10</sup> The claim that wh-phrases in Serbo-Croatian do not move to Spec CP overtly goes against Rudin’s (1988) original proposal in which the first wh-phrase in Serbo-Croatian multiple questions is located in Spec CP.

<sup>11</sup> See Bošković (2002) for explanation why wh-movement takes place in this construction.

In this section I have summarized the core ideas of Bošković's system. In the next section I introduce the Basque data to be accounted for. In my attempt to offer an analysis, I will use tools provided by Bošković and I will evaluate whether his system can capture the Basque data.

### 3.4 Basque

Basque has two different strategies to ask a question such as 'Who bought what?'. One possibility is that one wh-phrase is fronted and the other stays in situ, as in (22). The other possibility is that both wh-phrases move overtly to the beginning of the sentence, as in (23):<sup>12,13</sup>

- (22) Nork        erosi du    zer?  
       who-ERG buy AUX what-ABS  
       'Who bought what?'

- (23) Nork zer erosi du?

Wh-phrases exhibit Superiority effects, as shown below:<sup>14, 15</sup>

<sup>12</sup> There are three main cases in Basque: the ergative *-k*, the absolutive  $\emptyset$ , and the dative *-(r)i*. I will use the following abbreviations: ERG = Ergative, ABS = Absolutive and DAT = Dative.

<sup>13</sup> Note that some speakers disallow (23).

<sup>14</sup> It is possible to front three wh-phrases, as in (i). I have not included the relevant data in the main text due to unclear judgments (when it comes to Superiority effects) and several interfering factors. For relevant discussion on the data with three wh-phrases, see section 3.7.3.

- (i) Nork        nori        zer        esan zion?  
       Who-ERG who-DAT what-ABS say AUX  
       'Who said what to whom?'

- (24) \*Zer            erosi du    nork?  
           What-ABS buy   AUX   who-ERG  
           ‘\*What did who buy?’

- (25) \*Zer nork erosi du?

### 3.5 Focus in Basque

In this section we will see that Basque wh-fronting is an instance of focus movement. In this respect, Basque exhibits the same behavior as Serbo-Croatian. Before going into the details of the account, I will present some basic facts about word order in Basque which will be crucially important for the analysis I propose in this chapter.

#### 3.5.1 Word order

Basque has a very flexible word order. All the word orders in (26) through (31) are allowed but only (26) is pragmatically neutral.<sup>16,17</sup>

- (26) Jonek        Miren        ikusi zuen.  
           Jon-ERG   Miren-Abs   see AUX  
           ‘Jon saw Miren’

- (27) Miren ikusi zuen Jonek.

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<sup>15</sup> According to Etxepare and Ortiz de Urbina (2003) (24) is grammatical. However, seven out of the eight informants I consulted about this sentence found (24) considerably more degraded than (22), so I will concentrate on this judgement only.

<sup>16</sup> The auxiliary ‘zuen’ cannot be initial in (26) through (31).

(28) Jonek ikusi zuen Miren.

(29) Miren Jonek ikusi zuen.

(30) Ikusi zuen Jonek Miren.

(31) Ikusi zuen Miren Jonek.

(Ortiz de Urbina, 1995)

The sentence in (26) would be the most natural way to answer a question such as ‘What happened?’. Similarly, in sentences with two objects the pragmatically neutral word order is as in (32):

(32) Jonek Mireni muxu bat eman zion  
Jon-ERG Miren-DAT kiss one give AUX  
‘Jon kissed Mary’

In (27) and (28) the element to the left of the verb is interpreted as focus. ‘Miren’ in (27) and ‘Jonek’ in (28) bear contrastive stress and receive a focus interpretation. As Elordieta (2001) points out, postverbal elements in these types of sentences express given information. (29) exhibits a slightly different pattern. As in (27) and (28), the element preceding the verb, that is, ‘Jonek’ is interpreted as focus. ‘Miren’ in this sentence is

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<sup>17</sup> I’m assuming with Kayne (1994) (and Jeong (2004) specifically for Basque) that SVO is the base-generated order in Basque. The SVO order is a result of movement.

separated from the focalized 'Jonek' by a pause and receives a topic interpretation.<sup>18</sup>

Finally, the verb itself is focalized in (30) and (31).

### 3.5.2 Focus

As mentioned above, focalized elements land in a position immediately adjacent to the verb. This observation has a long tradition which goes back at least to Altube (1929). More recently, Rijk (1978), Eguzkitza (1986), Martin Callejo (1984) and Ortiz de Urbina (1989, 1995, 1999a) among others have investigated this phenomenon in depth. Ortiz de

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<sup>18</sup> Syntactic tests point to the same direction. To begin with, topics denote old information. As Kiss (1981: 185) puts it, "the topic is said to be the introductory part of a sentence foregrounding known information". In English, (ia) cannot be the answer to (ib):

- (i) a. What did Mary buy?
- b. \*The house, Mary bought.

Basque exhibits the same behavior, as in (ii):

- (ii) a. Zer           erosi du   Mirenek?  
         what-ABS buy   AUX Miren-ERG  
         'What did Miren buy?'
- b. \*Etxea,       Mirenek   erosi du.  
         house-ABS Miren-ERG buy   AUX  
         'The house, Miren bought'

Negative quantifiers cannot be topicalized, as in (iii):

- (iii) \*Nothing, Mary bought.

The counterpart of (iii) in Basque is also ruled out, as shown in (iv):

- (iv) \*?Ezer,           Mirenek ez   du   erosi.  
         Nothing/anything Miren-Erg NEG AUX buy  
         'Nothing, Miren bought'

Finally, idiom chunks generally resist topicalization, as in (vb):

- (v) a. John kicked the bucket.
- b. \*The bucket, John kicked.

An idiom chunk such as (via) cannot be topicalized in Basque, as shown in (vib):

- (vi) a. Jonek    adarra jo du.  
         Jon-ERG horn hit AUX  
         'Jon has hit the horn' (meaning 'John was kidding')
- b. \*Adarra, Jonek jo du.

Urbina (1999a), for example, has paid special attention to the similarities between focus movement and *wh*-movement. These similarities, to be explained below, led him to conclude that foci and *wh*-words undergo the same type of movement and that both types of elements land in the same position; namely, Spec FocP (see Ortiz de Urbina 1999b for the latter conclusion).

Ortiz de Urbina (1999a) points out the following distributional similarities between foci and *wh*-words. To begin with, both occur in clause initial position and are immediately followed by the verb.<sup>19</sup> Compare (28) with (33) below:

- (33) Nork        ikusi zuen    Miren?  
       who-ERG    see    AUX    Miren-ABS  
       ‘Who saw Miren?’

The ungrammaticality of (34) and (35) shows the adjacency between foci/*wh*-words and the verb (focus is indicated in capital letters):<sup>20</sup>

<sup>19</sup> Ortiz de Urbina (1993) provides an example containing a postverbal focalized element:

- (i)        Etorri da    AITA  
           come    AUX    father  
           ‘It is the father that has arrived’

According to Elordieta (2001), postverbal focus is interpreted as ‘focus of correction’. As she makes clear, ‘focus of correction’ has a different meaning and a different intonation pattern from that of preverbal focus. Therefore, I will disregard these examples since they seem to have different properties from the ones I am interested in. For further discussion of the difference between preverbal and postverbal focus, see Rijk (1996) and Etxepare (1997).

<sup>20</sup> As Rijk (1978) points out, there are a few elements which can be placed between the focus/*wh*-word and the verb. For instance, *ez* ‘no’, *omen* ‘reportedly’, *bide* ‘apparently’, *ote* ‘by any chance’ and *al* (yes-no question marker) can interrupt the sequence focus/*wh*-word Verb. An example of this phenomenon is provided below:

- (i)        Zergatik ote dago hainbeste tximeleta?  
           why        are    so-many    butterflies  
           ‘Why are there so many butterflies?’

(Etxepare & Ortiz de Urbina, 2003)

(34) \*JONEK Miren ikusi zuen.

Jon-ERG Miren-ABS see AUX

'It is Jon that saw Miren'

(35) \*Nork Miren ikusi zuen?

who-ERG Miren-ABS see AUX

'Who saw Miren?'

Second, both foci and wh-words are optionally preceded by topics. Compare (36) with (29) above, where 'JONEK' is focused and 'Miren' topicalized:

(36) Miren, nork ikusi zuen?

Miren-ABS who-ERG see AUX

'As for Miren, who saw her?'

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What is responsible for the placement of these elements is beyond the scope of this chapter. Presumably, these elements are clitics adjoined to the verb.

Uriagereka (1992, 1999) also provides examples where the adjacency requirement is not respected:

(ii) Nork ardoa edaten du?  
who-ERG wine-ABS drink AUX  
'Who has drunk wine?'

(iii) Zergatik zaldunak herensugea hil zuen?  
why knight-ERG dragon-ABS kill AUX  
'Why did the knight kill the dragon?'

The problem with these examples is that they are very marginal, especially the first one (Elordieta, 2001). Given the exceptional character of these examples, I will disregard them for the purposes of my chapter.

As Ortiz de Urbina (1999b) points out, a sentence may contain multiple topics. These topics are freely permutable and receive a listing intonation.

(37) Atzo/ Mirenekin/ Jon nora/ETXERA joan zen.

yesterday Miren-with Jon where/home-to go AUX

‘Where did John go yesterday with Miren?’

‘Yesterday, with Miren, John went HOME’

Third, foci, like wh-words, can undergo cyclic movement with bridge verbs:

(38) JONEK uste dut [t esan du-ela Mikelek [t idatzi du-ela eskutitza]

Jon-ERG thinkAUX say AUX-COMP Mikel-ERG writeAUX-C letter

‘It is Jon that I think Mikel has said has written the letter’

(39) Nork uste duzu [t esan du-ela Mikelek [t idatzi du-ela eskutitza]]

who think AUX say AUX-COMP Mikel-ERG writeAUX-COMP letter

‘Who do you think Mikel has said has written the letter?’

Fourth, focal operators and interrogative operators behave in the same way in pied-piping configurations. Interrogative operator features can percolate in these configurations. Similarly, focal operators can also percolate in the same types of constructions.



(40) [JONEN lagunek] idatzi zuten eskutitza

Jon's friends-ERG write AUX letter-ABS

'JON's friends wrote the letter'

(41) \*[JONEN lagunek eskutitza] idatzi zuten

(42) [Noren lagunek] idatzi zuten eskutitza?

whose friends-ERG write AUX letter-ABS

'Whose friends wrote the letter?'

(43) \*[Noren lagunek eskutitza] idatzi zuten?

A parallel behavior is also observed with clausal pied-piping constructions:

(44) [JONEK idatzi du-ela liburua] esan du Peiok

Jon-ERG write AUX-COMP book-ABS say AUX Peio-ERG

'Peio said that JON wrote the book' (That JON wrote the book has Peio said)

(45) [Nork idatzi du-ela liburua] esan du Peiok?

who-ERG write AUX-COMP book-ABS say AUX Peio-ERG

'Who wrote the book has Peio said?'

(46) [[JONEK idatzi du-en] liburuak] izan ditu salmenta onak?

Jon-ERG write AUX-COMP books-ABS be AUX sale good

‘The book that JON has written sold well’

(47) [[Nork idatzi du-en] liburuak] izan ditu salmenta onak?

who-ERG write AUX-COMP books-ABS be AUX sale good

‘The book that who wrote had good sales?’

The ungrammaticality of (49) suggests that focus and wh-elements compete for the same position. This pattern is observed both in matrix (cf. (48)) and in embedded sentences (cf. (49)):

(48) a. \*Nork MIREN ikusi du antzokian?

Who-ERG Miren-ABS see AUX theater-at

‘Who saw MIREN at the theater?’

b. \*MIREN nork ikusi du antzokian?

(49) Galdetu didate (\*JONEK) zer (\*JONEK) erosi duen

Ask AUX Jon-ERG what-ABS Jon-ERG buy AUX-COMP

‘They have asked me what JOHN bought’

From the discussion above, we can draw the following conclusions: foci and wh-words undergo the same type of movement and occupy the same structural position;

namely, the position immediately adjacent to the verb. Given the parallel behavior between foci and wh-words, it seems reasonable to conclude that wh-fronting in Basque is not the outcome of wh-movement but of focus movement (Ortiz de Urbina, 1999a, Eguzkitza, 1986 etc...).<sup>21</sup> In this respect, wh-words exhibit a parallel behavior to those of Serbo-Croatian.

Further evidence supporting the idea that wh-words in Basque are inherently focused comes from echo questions. Similarly to Serbo-Croatian, wh-words in Basque move overtly to the beginning of the sentence even in questions where the +wh-feature is not present. Given the fact that wh-words in Basque move overtly even in questions with an echo interpretation, we can conclude that the fronting of wh-phrases in Basque is independent of the +wh-feature. (50) below is a representative example:

(50) A: Zugandik atera dira kontu zikin guzti horiek.

you-from come AUX stories dirty all those

‘All those dirty stories have come from you’

B: a. Nigandik ZER atera dela?

me-from what-ABS come AUX-COMP

‘(That) what has come from me?’

b. \*Nigandik atera dela ZER?

(Etxepare & Ortiz de Urbina, 2003)

<sup>21</sup> This conclusion is tentative. As I will show below, only some wh-words, that is, those wh-words adjacent to the verb, undergo focus movement in Basque. I will show that, when it comes to wh-fronting, there are

Given the previous empirical evidence, I will assume in the remainder of this chapter that wh-phrases in Basque move overtly to check a focus feature.

### 3.6 The Wh-in-situ Strategy

With all the background provided in sections 2 and 4, we are now ready to discuss the Basque data from section 3. I will first provide an analysis for the Basque sentences in which one wh-phrase moves to the beginning of the sentence and the other wh-phrase stays in situ. A representative example is (22), repeated as (51):

- (51) Nork        erosi du    zer?  
      who-ERG buy AUX what-ABS  
      ‘Who bought what?’

I will argue that in sentences such as (51) the fronted wh-phrase is focalized whereas the in situ wh-element is D-linked. My last claim, that is, that in situ wh-elements are D-linked, is reminiscent of the behavior of in situ wh-phrases in Slavic. As Bošković (2002) shows, non-D-linked wh-phrases in Serbo-Croatian must be fronted obligatorily. In contrast, D-linked wh-phrases can remain in situ, as in Serbo-Croatian (52):

- (52) Ko    je kupio    koju    knjigu?  
      Who is bought which book  
      ‘Who bought which book?’

---

other types of movements involved (i.e. topic movement), too.

In this respect, Basque and Slavic exhibit a parallel behavior, as will be shown below. In order to support my claims empirically, I will consider Pesetsky's (1987) 'the hell' test. As Pesetsky (1987) points out, there are elements which are good candidates for "aggressively non-D-linked" wh-phrases. In English examples such as (54), there is a conflict between aggressively D-linked 'which' and aggressively non-D-linked 'the hell'. The conflict does not arise in (53) since the nature of 'what' is different from that of 'which':

(53) What the hell book did you read that in?

(54) \*Which the hell book did you read that in?

To put it clearer, 'the hell' is a wh-modifier which expresses complete ignorance. As Den Dikken and Giannakidou (2001) indicate, when 'the hell' combines with a wh-word, the speaker does not know what the value of the wh-word will be. Since the range of reference of D-linked wh-phrases is discourse-given, any attempt to attach an element which stands for 'non-givenness' (i.e. 'the hell') to an element which is inherently D-linked, will result in an ungrammatical sentence (cf. (54)). (53) is perfectly grammatical because 'what' is not inherently D-linked and is therefore free to combine with the "aggressively non-D-linked" 'the hell'.

This type of test helps us differentiate between those wh-phrases which are D-linked from those which are not. Now, I will apply the same line of reasoning to some Basque examples:

(55) Nor arraiok erosi du zer?

who hell-ERG buy AUX what-ABS

‘Who the hell bought what?’

(56) \*Nork erosi du zer arraio?

who-ERG buy AUX what hell-ABS

‘Who bought what the hell?’

The grammaticality of (55) indicates that *nork* is not D-linked in this sentence since it is able to combine with the “aggressively non-D-linked” ‘*arraio*’.<sup>22</sup> In contrast, (56) is ungrammatical suggesting that the in situ wh-phrase ‘*zer*’ must be D-linked.

In summary, Pesetsky’s (1987) ‘the hell’ test indicates that the fronted wh-phrase in (51) is non-D-linked whereas the in situ wh-phrase is D-linked. As Bošković (2002) points out, only non-D-linked wh-phrases in Slavic undergo focus movement. This correlation is fairly intuitive in the sense that non-D-linked wh-phrases do not refer to previously mentioned or contextually salient referents. Focus movement implies the notion of ‘new information’, something ‘not given’. Therefore, the semantic nature of non-D-linked wh-phrases allows them to undergo focus movement. D-linked elements, on the other hand, have very different semantics from non-D-linked wh-phrases. As Pesetsky (1987) points out, when a speaker asks a question like ‘which book did you read?’ the range of felicitous answers is limited by a set of books both speaker and hearer have in mind. Therefore, the reference of D-linked wh-phrases such as ‘which man’ is discourse given. This ‘discourse givenness’ property is reminiscent of the notion ‘topic’.

As mentioned in footnote 17, “the topic is said to be the introductory part of a sentence foregrounding known information” (Kiss 1981: 185). Topics refer to old, given information, something that is not new. Given the close connection between D-linking and Topicalization, I will claim that being D-linked is equivalent to being topicalized. This idea is not new. For extensive discussion of the similarities between D-linking and Topicalization, I refer the reader to Grohmann (1998). The basic idea is that D-linking in the minimalist framework correlates with some feature. Since being D-linked implies being ‘given’ and since being a topic also implies being ‘given’, it is reasonable to conclude that the feature D-linking correlates with is a topic feature. This is Grohmann’s (1998) conclusion with respect to the behavior of multiple questions in German.

So far I have provided evidence indicating that ‘nork’ in (51) undergoes focus movement by virtue of its non-D-linked nature. ‘Zer’, in contrast, is D-linked or topicalized. Since the range of reference of D-linked elements is discourse given, elements such as ‘zer’ in (51) are not inherently focused and therefore do not undergo focus movement.

### 3.6.1 Predictions

My analysis makes the following predictions. First, if the in-situ wh-phrase ‘zer’ is D-linked or topicalized in (51), one would expect inherently D-linked wh-phrases to appear in that position. The prediction is borne out, as in (57):

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<sup>22</sup> The exact translation of ‘arraio’ is ‘lightning’. I will translate it as ‘hell’ in the text for ease of exposition.

(57) Nork        erosi zuen    zein    liburu?

who-ERG    buy    AUX    which book-ABS

‘Who bought which book?’

Furthermore, if the Ergative wh-phrase ‘nork’ in that very sentence occupies a position for focalized elements, then we should expect inherently D-linked wh-phrases to be disallowed in preverbal position. The prediction is apparently not borne out:

(58) Zein    ikaslek        erosi zuen    zer?

which student-ERG    buy    AUX    what-ABS

‘Which student bought what?’

This problem does not only arise in multiple questions. In a simpler sentence such as (59), the position corresponding to focalized elements is occupied by a D-linked wh-phrase:

(59) Zein    liburu        erosi du    Jonak?

which book-ABS    buy    AUX    Jon-ERG

‘Which book did Jon buy?’

From the evidence presented in the sentences above, it seems that inherently D-linked phrases are allowed in sentence initial position, contrary to our predictions. However, the facts are a bit more intricate than (58) and (59) show. Etxepare and Ortiz de Urbina



(2003) notice that, in some circumstances, parentheticals can interrupt the sequence Wh-phrase Verb. A representative example is given below:

- (60) Zein idazle, gaurko edo denbora bateko, iruditzen zaizu gidaririk  
 which writer-ABS today-from or time other seem AUX guide  
 zuzenena hitz kontuan?  
 best word in-terms  
 'Which writer, from today or from other times, seems to you the best  
 guide in terms of words?'

What is curious in this example is that the wh-phrase which is separated from the verb is inherently D-linked. A question arises at this point: would we obtain the same grammaticality judgment if we substituted 'zein ikasle' for a non-D-linked wh-phrase like 'nor'?<sup>23</sup> As (61) shows, this possibility is not allowed in Basque:

- (61) \*Nor, gaurko edo denbora bateko, iruditzen zaizu gidaririk  
 who-ABS today-from or time other seem aux guide  
 zuzenena hitz kontuan?  
 best word in-terms  
 'Who, from today or from other times, seems to you the best guide in  
 terms of words?'

---

<sup>23</sup> From now on, I will assume non-D-linked contexts for non-inherently-D-linked wh-phrases.

This discussion partially resembles some Bulgarian facts. As Bošković (2002) shows, a parenthetical can more easily intervene between two fronted wh-phrases if the second one is D-linked. The contrast in (62) and (63) exemplifies this point.

(62) \*?Koj, spored tebe, kakvo e kupil?

who according to-you what is bought

‘Who, according to you, bought what?’

(63) ?Koj, spored tebe, koja kniga e kupil?

who, according to-you which book is bought

‘Who, according to you, bought which book?’

Given this state of affairs, Bošković (2002) concludes that ‘kakvo’ and ‘koja kniga’ do not land in the same position. As Bošković (2002) puts it, ‘koja kniga’ in (63) does not undergo focus movement and lands in a position below CP.

Basque behaves like Bulgarian in the sense that fronted D-linked wh-phrases seem to land in a different position from that of non-D-linked wh-phrases. If this were not the case, there should be no reason for different grammaticality judgments between the two types of wh-phrases. I would therefore like to suggest that inherently D-linked wh-phrases in Basque do not land in the same position as non-D-linked wh-phrases. Given the contrast in grammaticality between (60) and (61), I will assume that D-linked wh-phrases are higher than the position where non-D-linked wh-phrases move to. Presumably, non-D-linked wh-phrases land in Spec FocP (cf. Ortiz de Urbina 1999b)

while inherently D-linked wh-phrases land in the Spec of a TopP, placed above FocP. Leaving aside the precise nature of the positions where non-D-linked wh-phrases and inherently wh-phrases move to, the crucial point of my discussion is that the two types of wh-phrases land in different positions.

My analysis makes another prediction. If the in situ position in sentences such as (51) is the position where D-linked or topicalized elements are located, then we should expect those elements which are incapable of receiving a D-linked interpretation to be disallowed in the in situ position. Kiss (1993) treats wh-phrases such as ‘how’ and ‘why’ differently from wh-phrases of the form ‘which applicant’. According to her, ‘how’ and ‘why’ cannot be D-linked, or in her terminology, ‘how’ and ‘why’ are incapable of specificity. If this is correct, then we should expect ‘how’ and ‘why’ to be disallowed in the ‘in situ’ position. The prediction is borne out:

(64) \*Nori            esplikatu dio    Jonek    ariketa            nola?

who-DAT explain AUX Jon-ERG exercise-ABS how

‘To whom did Jon explain the exercise how?’

(65) \*Nork            lapurtu ditu    bitxiak            zergatik?

who-ERG steal AUX jewels-ABS why

‘Who stole the jewels why?’

Notice that ‘nola’ and ‘zergatik’ are allowed in preverbal position. This is expected since the preverbal position is the position where focalized elements move to. If

'nola' and 'zergatik' cannot be D-linked, then, we should expect those two wh-phrases to be allowed in a position where D-linking is not playing a role; namely, the preverbal position:

- (66) Nola esplikatu dio ariketa Jonek nori?  
how explain AUX exercise-ABS Jon-ERG who-DAT  
'How did Jon explain the exercise to whom?'

- (67) ?Zergatik lapurtu ditu bitxiak nor?  
why steal AUX jewels-ABS who-ERG  
'Why did who steal the jewels?'

### 3.6.2 Landing Sites

So far I have presented evidence that the preverbal wh-phrase is focalized whereas the in situ wh-phrase is D-linked or topicalized. A question arises at this point: where are the wh-phrases located in the structure? Before offering an answer to this question, let me show some data which will become relevant in our search for the landing positions of wh-phrases.

At first sight, one would expect in situ wh-phrases to occupy the same position as their non-wh-counterparts. This conclusion is supported by sentences such as (68) and (69):

(68) Nork        erosi du    zer?  
 who-ERG buy AUX what-ABS  
 ‘Who bought what?’

(69) Nork        erosi du    liburua?  
 who-ERG buy AUX book-ABS  
 ‘Who bought the book?’

‘Zer’ in (68) seems to occupy the same position as ‘liburua’ in (69). However, this parallelism can no longer be maintained if more data are carefully examined.<sup>24</sup>

(70) Nork        eman dio    muxua sutsuki        Mireni?  
 who-ERG give AUX kiss    passionately Miren-DAT  
 ‘Who kissed Miren passionately?’

(71) a. \*Nork        eman dio    muxua sutsuki        nori?  
           who-ERG give AUX kiss    passionately who-DAT  
           ‘Who kissed whom passionately?’  
       b. Nork eman dio nori muxua sutsuki?

The data above suggest that “wh-phrases-in-situ” are structurally higher than their non-wh counterparts. As (70) makes clear, the object ‘Mireni’ can appear after the manner

<sup>24</sup> ‘Nori’ can marginally appear after ‘muxua’ in (71b). However, the sentence is clearly more degraded, ranging from ‘??’ to a ‘\*’ depending on the speaker.

adverb ‘sutsuki’. In contrast, ‘nori’ cannot appear after the adverb, as in (71a). The sentence is only grammatical when the wh-phrase appears higher in the structure (cf. (71b)). Note that the same grammaticality judgment obtains if we substitute ‘nori’ for an inherently D-linked wh-phrase such as ‘zein neskari’ (‘to which girl’). This is expected since, under my analysis, in situ wh-phrases in Basque are D-linked.

- (72) a. \*Nork eman dio muxua sutsuki zein neskari?  
           who-ERG give AUX kiss passionately which girl-DAT  
           ‘Who kissed passionately which girl?’  
       b. Nork eman dio zein neskari muxua sutsuki?

Note that the behavior of wh-in-situ in Basque is different from Spanish wh-in-situ. As discussed extensively in chapter 2, in situ wh-phrases in Spanish need to be last within their intonational phrase.<sup>25</sup> For example, (71a) is fine in Spanish (see below). The intonational phrase is the whole sentence. Once the NSR applies, it assigns main prominence to the lowest element in the asymmetric c-command ordering; namely, ‘a quién’.

- (73) Quién besó apasionadamente a quién?  
       who kissed passionately to who

<sup>25</sup> This requirement also applies to D-linked wh-phrases, as showed in chapter 2. This is surprising given the discussion in this chapter. I would like to propose that the [+F] feature in phonology is not the same as the [+F] in semantics. We are using the same label but we are dealing with different phenomena. According

Basque is very different here. Note also that (71b) and (72b) would be ungrammatical in Spanish unless a pause followed the in situ wh-phrase. This is not the case in Basque.

We seem to be dealing with different kinds of in situ wh-phrases. An analysis along the lines of Spanish obviously wouldn't work. A new analysis is in order. Note that Spanish in situ wh-phrases are not D-linked according to Pesetsky's test (see (74)), which confirms that we need different analyses for the two languages.

(74) ?Quién compró qué diablos?

who bought what hell

In order to account for the Basque pattern, I will suggest the following: wh-phrases "in situ" have a topic feature which must be checked overtly. This idea has its origins in Grohmann's (1998) work. As noted above, Grohmann (1998) suggests that wh-phrases in German are D-linked. This D-linking property is syntactically encoded in the wh-phrase by means of a topic feature which must be checked overtly in a spec-head relation. He proposes that wh-phrases in German, by virtue of being D-linked, undergo overt movement to the spec of a TopP where the topic feature the wh-phrase carries can be formally checked.

(71a) is then ungrammatical because the wh-phrase 'nori' has failed to be attracted and therefore its topic feature remains unchecked. Once overt movement takes place, the output we obtain is grammatical (cf. (71b)). Since non-wh-objects do not have

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to the data discussed so far, the [+F] feature in phonology seems more inclusive since it doesn't differentiate between D-linked and non-D-linked wh-phrases.

to check a topic feature, they can remain in their base position. Note that the non-wh-object 'Mireni' in (70) can also appear before the adverb, as in (75):

- (75) Nork        eman dio    Mireni        muxua    sutsuki?  
       who-ERG give    AUX Miren-DAT kiss-ABS passionately  
       'Who kissed Miren passionately?'

The crucial difference between (75) and (71b) is that the movement of the wh-phrase in (71b) is obligatory. In contrast, 'Mireni' undergoes it optionally. I will treat cases where the object moves overtly (cf. (75)) as instances of scrambling. I will not discuss the exact mechanism which is prompting the movement of 'Mireni' in (75). Suffice it to say that the movement of 'nori' is obligatory whereas the movement of 'Mireni' is optional (i.e. 'scrambling'). Given this difference, I will assume that the two movements are instantiated in a different way.

At this point we are ready to investigate the landing positions of the wh-phrases in sentences such as (51). In order to do so, I will use data with adverbs. According to Watanabe (1993) and Bošković (1997d), manner adverbs are VP adjoined and sentential adverbs are TP adjoined. Those adverbs which are ambiguous between the two interpretations allow both adjunction possibilities. Taking these facts into account let us investigate the position wh-phrases move to in the syntax.

Example (76), where the sentential adverb 'atzo' is placed after the verb, suggests that the preverbal wh-phrase and the verb must be higher than TP.<sup>26</sup> (77) shows that the

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<sup>26</sup> I am taking 'atzo' (yesterday) as an example of a sentential adverb. I did not use the sentential adverb 'seguruenera' (probably), as in Watanabe (1993) and Bošković (1997d), since there are interfering factors with it. To be more precise, (79)-(80) below are both bad with the sentential adverb 'seguruenera' (probably).



position of the adverb in (76) is the highest position the sentential adverb can be located in.<sup>27</sup>

- (76) Nork eman zion atzo liburua Mireni?  
who-ERG give AUX yesterday book-ABS Miren-DAT  
'Who gave the book to Miren yesterday?'

- (77) \*Nork atzo eman zion liburua Mireni?

I will argue that the preverbal wh-phrase does not land in Spec CP. Following Ortiz de Urbina (1999b), I assume that the preverbal wh-phrase lands in the Spec of FocP. Further evidence for this idea comes from the interpretation of questions. As Bošković (1999, 2002) shows (see the discussion above), single-pair answers are only allowed when Spec CP is not filled overtly by a wh-phrase. In Basque the most salient reading for a question such as (51) is a pair-list reading. However, one of my informants allows a single-pair answer for this question.<sup>28</sup> I take this to suggest that wh-phrases do not move overtly to Spec of CP in Basque. Note that Bošković (2002) points out that not filling Spec CP overtly is necessary but not sufficient for licensing single-pair answers. In other words, a language may not fill Spec CP overtly and still only allow pair-list answers.<sup>29</sup> Given this fact and given that one of my informants accepts single-pair

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<sup>27</sup> The sentential adverb can also appear in sentence initial position. In this example the adverb is interpreted as a topic and is presumably adjoined to some projection (to be defined) in the Left Periphery. I will disregard these types of examples since they do not affect the argument presented here.

<sup>28</sup> I checked these data with three informants. Two of them only allowed pair-list answers and one allowed a single-pair answer.

<sup>29</sup> This follows under the analysis of the phenomenon under consideration presented in Bošković (1998d).

answers, I will assume that preverbal wh-phrases in Basque do not move overtly to CP but remain in a lower position; namely Spec of FocP.

Now let me offer some data which can help us figure out the position of the postverbal wh-phrase.<sup>30</sup> As the data in (70) and (71) above made clear, the postverbal wh-phrase cannot stay inside the VP. If manner adverbs are adjoined to VP and 'nori' cannot appear after the manner adverb 'sutsuki' then we can safely conclude that 'nori' must be higher than VP. The relevant example is repeated below:

- (78) (= (71a)) \*Nork eman dio muxua sutsuki nori?  
 who-ERG give AUX kiss passionately who-DAT  
 'Who kissed whom passionately ?'

Sentential adverbs indicate that the postverbal wh-phrase must be higher than TP. 'Atzo' (yesterday) in (79)-(80) is only acceptable when placed right after the postverbal wh-phrase. As (80) shows, 'zer' cannot appear after the sentential adverb, indicating that 'zer' cannot be lower than TP. The grammaticality of (79) gives further support to this idea.<sup>31</sup>

- (79) ?Nork eman zion zer atzo Mireni?  
 who-ERG give AUX what-ABS yesterday Miren-DAT  
 'Who gave what to Miren yesterday?'

<sup>30</sup> From now on I will refer to 'in situ' wh-phrases as 'postverbal wh-phrases'. Since we have found that in situ wh-phrases are not really in situ, I will change the terminology to make it more intuitive.

<sup>31</sup> One of my informants found (79) degraded. However, he found that (80) was worse than (79). Crucial for my argumentation is that there is a contrast in grammaticality between the two examples.

(80) ?\*Nork eman zion atzo zer Mireni?

Data with ambiguous adverbs give further support to the claim that the postverbal wh-phrase must be higher than TP. In the examples below, the manner reading of 'zuhurki' is possible in (82) but not in (81), indicating that 'nori' must be higher than VP. Similarly, the sentential reading of 'zuhurki' is allowed in (82) but not in (81). This state of affairs suggests that the postverbal wh-phrase *nori* is located above TP:

(81) \*Nork aholkatu zion zuhurki nori?

Who-ERG advise AUX wisely who-DAT

'Who advised wisely whom?'

(82) Nork aholkatu zion nori zuhurki?

Given the above discussion, I assume that the projection the postverbal wh-phrase lands in is TopP, which is located above TP.<sup>32</sup>

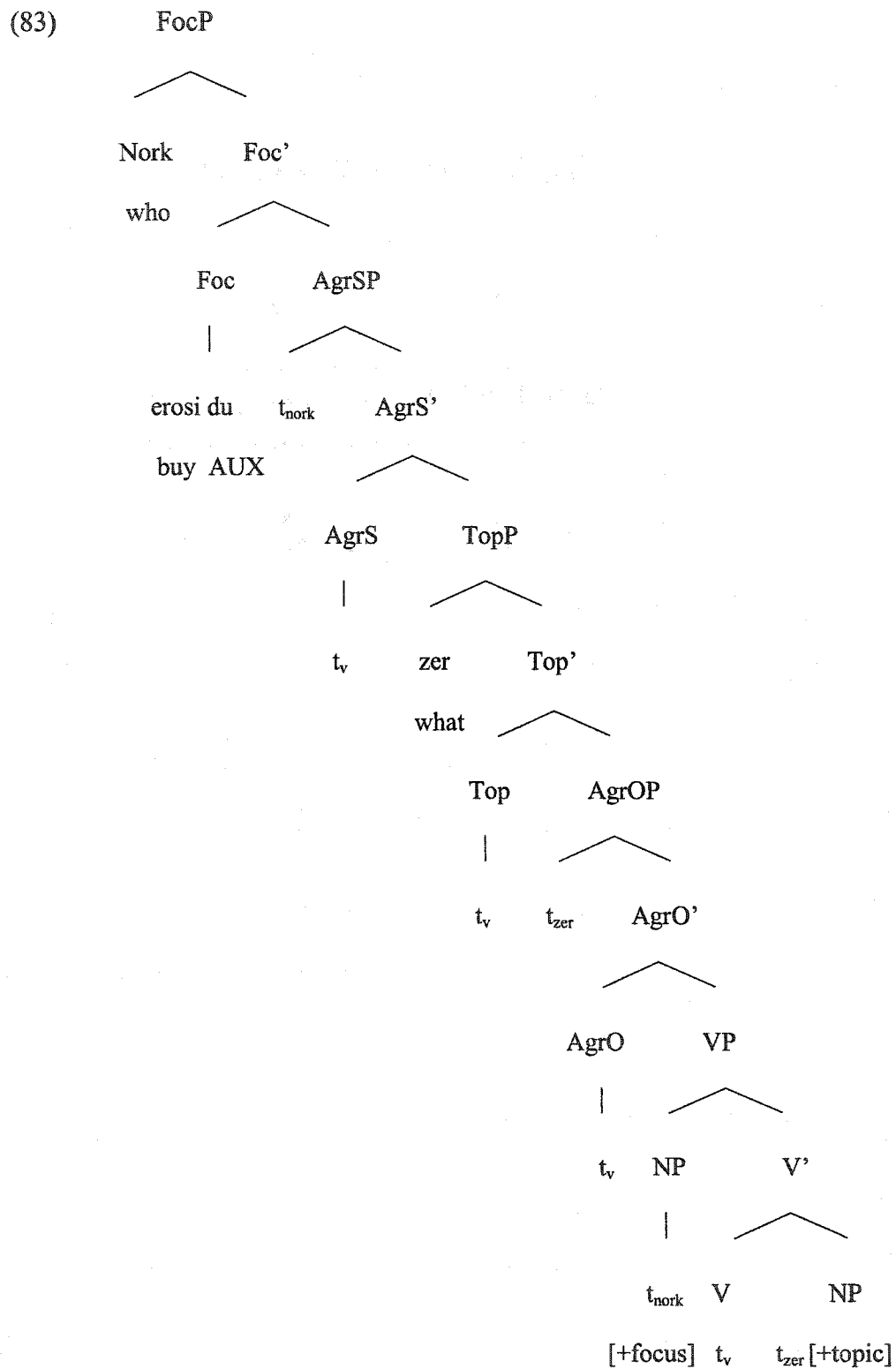
### 3.6.3 Derivation

In this section I will present the derivation for (51). The derivation I am proposing is shown in (83).<sup>33</sup>

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<sup>32</sup> This idea receives further support from Stjepanović's (1999) work. According to her, topics in Serbo-Croatian are licensed either in AgrSP or in a lower projection in the structure; namely, PredP. Under her analysis, PredP (located between T and AgrOP) is able to host topics (see Chapter 2 for relevant discussion). My TopP is very similar to Stjepanović's (1999) PredP. Both projections are relatively low in the structure and are able to host topics.

<sup>33</sup> I have not included TP in the tree in (83) since it is not crucial for the analysis presented here. Furthermore, whether Spec TP is present in the structure varies from language to language (cf. Jonas and Bobaljik 1993). I assume that AgrSP is the locus of the EPP feature in Basque, with T raising to AgrS so



that the EPP feature is checked in Spec AgrSP. Whether this is the correct analysis remains an open (but



The claim that 'zer' is focalized in (84) is not surprising given the evidence discussed above that those elements immediately to the left of the verb are focalized in Basque. As pointed out by Ortiz de Urbina (1999a), among others, any element preceding a wh-word functions as a topic in Basque. If 'liburua' in (85) is undergoing topic movement, it is reasonable to say that 'nork' in (84) is undergoing the same type of movement:

- (85) Liburua    nork        erosi du?  
          book-ABS who-ERG buy AUX  
          'As for the book, who bought it?'

Moreover, 'nork' behaves like a D-linked or topicalized element with respect to Pesetsky's (1987) 'the hell' test:

- (86) \*Nor    arraiok    zer        erosi du?  
          who hell-ERG what-ABS buy AUX  
          'Who the hell bought what?'

In (86) the position 'nork' occupies is the position of a D-linked or topicalized element. The sentence is ungrammatical because 'nork', being in a D-linked position, cannot combine with the aggressively non-D-linked 'arraio'.

We would now expect 'zer' to be able to cooccur with 'arraio' because 'zer' is non-D-linked or focalized in my analysis. The prediction is borne out, as in (87):

- (87) Nork        zer        arraio erosi du?  
           who-ERG what-ABS hell    buy AUX  
           ‘Who bought what the hell?’

The grammaticality of (87) shows that ‘zer’ can combine with the aggressively non-D-linked ‘arraio’ suggesting that ‘zer’ is non-D-linked in this example.

### 3.7.1 Predictions

If ‘nork’ is D-linked in (84) and ‘zer’ is focalized, then we would expect inherently D-linked wh-phrases to be disallowed in the immediately preverbal position. In contrast, inherently D-linked elements should be allowed in the position ‘nork’ occupies in the sentence under discussion. The predictions are borne out, as shown below:

- (88) \*?Nork        zein liburu        erosi zuen?  
           who-ERG which book-ABS buy AUX  
           ‘Who bought which book?’

- (89) (?)Zein ikaslek        zer        irakurri zuen?  
           which student-ERG what-ABS read    AUX  
           ‘Which student read what?’

(88) shows that inherently D-linked wh-phrases such as ‘zein liburu’ are not allowed in the position where focalized elements land. This is expected given the incompatibility

between D-linking and focus. The incompatibility does not arise in (89) because ‘zein ikaslek’, being inherently D-linked, can freely land in the position D-linked or topicalized elements move to.

Example (89) is relevant regarding the discussion in section 5.1. Recall that in that section I suggested that an example such as (58) is grammatical because the preverbal inherently D-linked wh-phrase ‘zein ikaslek’ does not land in the position corresponding to focalized elements but in a higher position in the structure, presumably in the Spec of a TopP. The ungrammaticality of (88) gives further support to this idea. In (88) there is a wh-phrase functioning as a topic and a second wh-phrase functioning as the focus of the sentence. Notice that inherently D-linked wh-phrases are allowed only in the position corresponding to the first wh-phrase; namely, ‘nork’ (cf. (89)). If one tries to place them in the position corresponding to focalized elements, the output is ungrammatical, as in (88). Given these facts I will conclude that ‘zein ikaslek’ in (90) lands in a position higher than the position occupied by focalized wh-phrases.

(90) (= (58)) Zein ikaslek erosi zuen zer?

which student-ERG buy AUX what-Abs

‘Which student bought what?’

My second prediction is as follows: those wh-phrases that were unable to stay in situ due to their impossibility to receive a D-linked interpretation should now be allowed to appear in the position immediately adjacent to the verb. The prediction is fulfilled as



shown by the contrast in grammaticality between (91) and (92) and (93) and (94), respectively.

(91) \*Nori esplikatu dio Jonek ariketa nola?

who-Dat explain AUX Jon-ERG exercise how

‘Who did Jon explain the exercise how?’

(92) Nori nola esplikatu dio Jonek ariketa?

(93) \*Nork lapurtu ditu bitxiak zergatik?

who-ERG steal AUX jewels-ABS why

‘Who stole the jewels why?’

(94) Nork zergatik lapurtu ditu bitxiak?

My analysis makes another prediction. Sentences such as (95)-(96) should be ruled out. In these constructions, elements which cannot receive a D-linked interpretation (i.e. ‘nola’ (how) and ‘zergatik’ (why)) are placed in the position for D-linked elements.

The ungrammaticality of the examples is thus expected under my analysis.<sup>35</sup>

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<sup>35</sup> Superiority may be an interfering factor in (95)-(96) if, due to movement to its Case-checking position, the accusative wh-phrase is higher than the adjunct (see Bošković 1997b for the relevant discussion). The Superiority problem should not arise in (i) and (ii) where we have the sequence ‘nola-noiz’ (how-when). Once we have controlled for the interfering factor in (95) to (96) it is clear that my prediction still holds. (i) is ungrammatical because ‘nola’ (how), being non-D-linked, cannot land in the position where D-linked elements land.

(i) \*Nola noiz konpondu zuen Jonek autoa?  
how when fix AUX Jon-ERG car-ABS  
‘How did Jon fix the car when?’

(95) \*Nola zer irakurri zuen Jonek?

How what-ABS read AUX Jon-ERG

‘Who did John read what?’

(96) \*Zergatik zer irakurri zuen Jonek?

Why what-ABS read AUX Jon-ERG

‘Why did Jon read what?’

### 3.7.2 Derivation

There are a number of questions that need to be answered before going into the details of the derivation of the Multiple Wh-Fronting structure in (84). The first question I would like to raise is the following: Are Topic and Focus licensed in the same projection? At first sight, it seems that they are licensed in different projections. This is so because the Topic-Subject-Verb order is possible (cf. (97)) whereas the order Focus-Subject-Verb is not, as shown in (98):<sup>36</sup>

(97) Mireni, Jonek muxu bat eman zion

Miren-DAT Jon-ERG kiss one give AUX

‘Miren, Jon kissed’

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(ii) ??Noiz nola konpondu zuen Jonek autoa?

<sup>36</sup> I assume that the subject is in Spec AgrSP.

- (98) a. \*MIRENI Jonek eman zion muxu bat  
 Miren-DAT Jon-ERG give AUX kiss one  
 'Jon has kissed MIREN'
- b. MIRENI eman zion Jonek muxu bat

However, if Topic and Focus land in different projections, why can no material intervene between the two wh-phrases in (99)?

- (99) \*Nork horretaz/beraz /Joni zer erranen dio?  
 who-ERG on that/ therefore/Jon-DAT what-ABS say AUX  
 'Who will say what to John/therefore/on that?'

(Etxepare & Ortiz de Urbina, 2003)

Based on the ungrammaticality of (99), I assume that 'nork' and 'zer' are located in the same projection, with multiple Spec structures.

At this point we are still left with some open questions: which head licenses the two features (i.e. Topic and Focus)? Why is the focused element lower in the structure? In order to answer the first question, let me offer a short digression. In examples such as (84), a single-pair answer is allowed. In Bošković's (1999, 2002) system, the availability of single-pair answers is taken as evidence that Spec CP is not filled in the overt syntax. Since Basque allows single-pair answers in a multiple question such as (84), we can

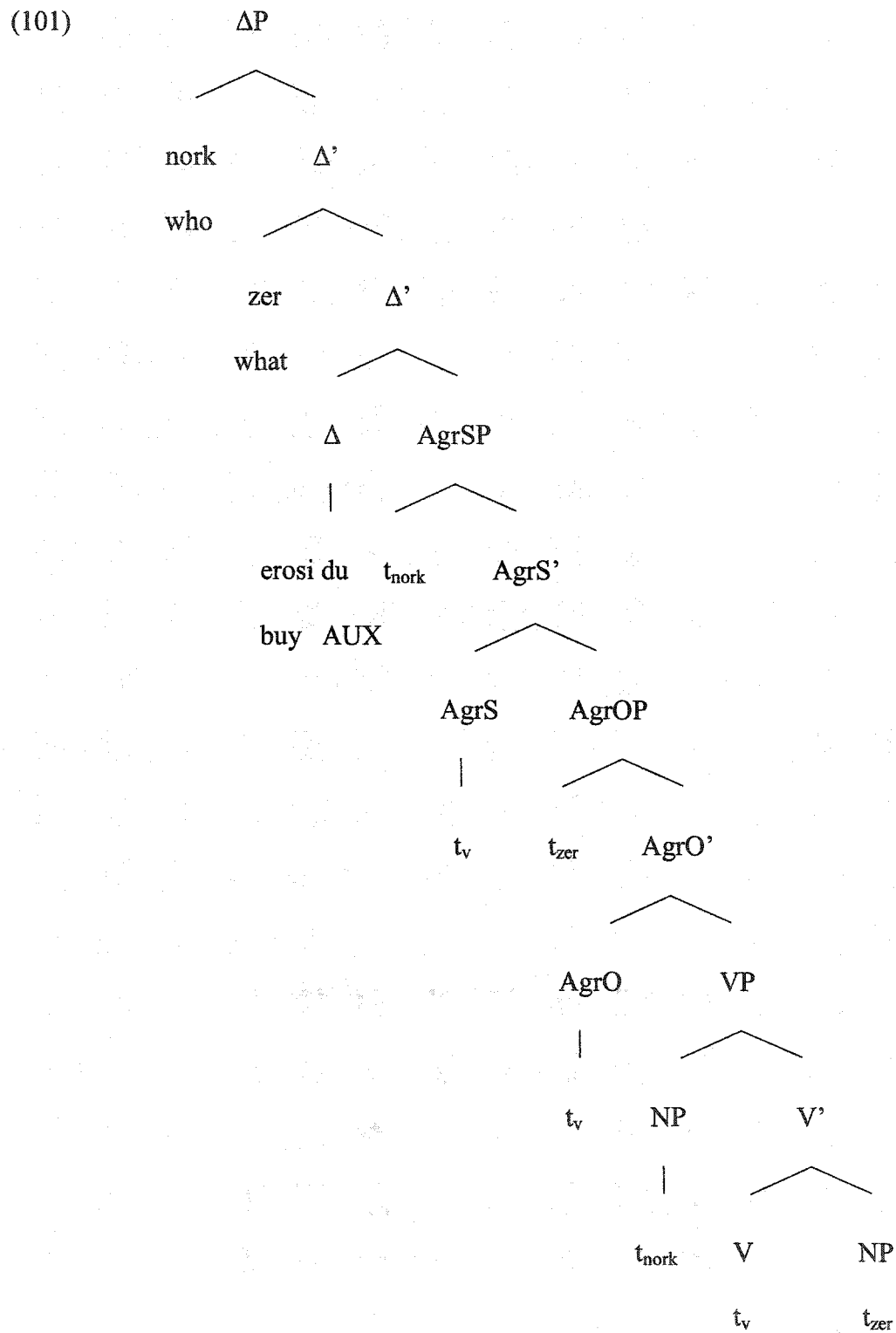
deduce that Spec CP is not filled overtly in Basque. Whatever head is licensing the Topic and Focus features, it must be below C.

Data with sentential adverbs indicate that the head we are interested in must be at least higher than TP:

- (100) Nork        zer        eman zion atzo        Mireni?  
who-ERG what-ABS give AUX yesterday Miren-DAT  
'Who gave what to Miren yesterday?'

It seems that whatever head is simultaneously licensing Topic and Focus must be below C but above TP. Furthermore, the head under discussion licenses both features at the same time. This point is important because Topic and Focus convey opposite communicative functions (i.e. Topic=old information and Focus=new information). Uriagereka (1995), Boeckx & Stjepanović (1999) and Lambova (2001) have already dealt with this issue. Despite the differences, the three accounts basically argue for the presence of a functional projection capable of hosting discourse-related material. If this is possible, then there is no longer a problem in assuming that Topic and Focus can be licensed by the same head. Since Topic and Focus are both discourse-related, they can be hosted in the same projection. For the sake of exposition I will assume that both topicalized and focalized elements land in the Spec of  $\Delta P$  (Lambova 2001). The projections suggested in Boeckx & Stjepanović (1999) and Uriagereka (1995) are virtually equivalent to Lambova's (2001)  $\Delta P$ .

The derivation I propose for (84) is as follows:<sup>37</sup>



<sup>37</sup> I will discuss the exact position of the verb below. At this point I place it in Δ for ease of exposition.

The first steps of the derivation are similar to those in (83). We start with a VP which has ‘nork’ as its specifier and which has ‘zer’ as the complement of the verb ‘erosi du’. ‘Nork’ is taken from the lexicon with a Topic feature. In contrast, ‘zer’ is taken with a Focus feature. In the next two steps of the derivation, each wh-phrase raises overtly to check Case. In other words, once AgrOP enters the derivation, ‘zer’ raises overtly to check Absolutive Case. Then, ‘nork’ moves overtly to Spec AgrSP in order to get its Ergative Case checked. The relevant head enters the derivation now. Once ΔP shows up, the highest wh-phrase, that is, ‘nork’ moves to the highest specifier and then the next wh-phrase, ‘zer’, moves to the lower specifier.<sup>38</sup>

What still needs to be explained is why we always end up with the order Topic Focus. In order to answer this question I will follow Lambova (2001), who in turn follows Bošković (2001b), and I will suggest that the focus feature in the wh-phrase is a verbal PF affix and therefore must be adjacent to a verbal element, as shown in (98) above and (102) below.<sup>39</sup> As a result, we always end up with the Topic-Focus-Verb order:

- (102) a.      \*Zer            Mirenek      eman zion   Pelli?
- What-ABS Miren-ERG give AUX Pello-DAT
- ‘What did Miren give to Pello?’
- b.            Zer eman zion Mirenek Pelli

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<sup>38</sup> Note that I assume that TopP, which would be located below AgrSP, is only optionally present in the structure.

Under this proposal, the adjacency between Focus and Verb is due to phonological rather than syntactic factors. Syntax can in principle yield either the Topic-Focus-Verb or the Focus-Topic-Verb order. However, if syntax derives the unacceptable order Focus-Topic-Verb, PF will rule out this derivation since the focus feature in the wh-phrase will fail to attach to its host; namely, the verb. As an alternative to the PF account, one could argue that a purely syntactic account can also account for the data in (102). Under a syntactic account, the verb 'eman zion' raises to  $\Delta$  obligatorily. (102b) above is grammatical because V-to- $\Delta$  has taken place. (102a) is ruled out since the verb has not raised all the way to  $\Delta$ .

Both the PF account and the syntactic account discussed above account for the data in (102). However, there are additional data that show that the PF account is superior. Let us examine (97) and (98) (repeated as (103) and (104)) again in more detail.

(103) Mireni,      Jonek      muxu bat eman zion

Miren-DAT Jon-ERG kiss    one give AUX

'Miren, Jon kissed'

(104) a.      \*MIRENI      Jonek      eman zion      muxu bat

Miren-DAT Jon-ERG give AUX kiss    one

'Jon has kissed MIREN'

b.      MIRENI eman zion Jonek muxu bat

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<sup>39</sup> I am assuming the affix hopping analysis of affixation (cf. Chomsky 1957), in which an affix and its host must be linearly adjacent in PF. See in this respect Bobaljik (1995), Halle and Marantz (1993), Lasnik

In (103) and (104a) the topic 'Mireni' and the focus 'MIRENI' are located in the same position; namely, Spec of  $\Delta$ P. Under the syntactic account, the verb 'eman zion' would raise to  $\Delta$  obligatorily. Consequently, there would be no extra space between the verb and the topic/focus. If this is so, the grammaticality of (103) remains unaccounted for. In other words, if 'Mireni' is located in Spec  $\Delta$ P and the verb is in  $\Delta$ , where is the extra material between the topic and verb located? It follows then that the verb is not located in the head of  $\Delta$ P, otherwise (103) would be bad. More precisely, under the syntactic V to  $\Delta$  account of the adjacency requirement, (103) should be bad for the same reason as (104a). The above data point to one direction: the focus-verb adjacency in Basque is not the result of V-to- $\Delta$  movement. The empirical evidence suggests that the adjacency requirement between focus and verb is the result of a PF process, as I have argued above.

There is a problem with this account though. As I have explained above, it seems that contrastive focus forces V-adjacency. However, there are cases in Basque which suggest that V-adjacency forces contrastive focus. If (103) is slightly modified, as in (105), we obtain a different interpretation for the sentence. More precisely, when the verb is placed next to the subject, the subject has to be contrastively focused.

- (105) Mireni,        JONEK    eman zion    muxu bat  
                          Miren-DAT Jon-ERG give AUX kiss    one  
                          'Miren, JON kissed'

In order to account for this state of affairs, I will assume that  $\Delta$  has a weak V feature. The verb moves overtly in those cases in which a PF violation is going to take

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(1995) and Bošković (2001).



place, that is, in those cases in which the affix is going to end up non-adjacent to the verb. To put it another way, the verb moves to  $\Delta$  overtly only if there is a focused element in Spec  $\Delta$ P so that it can support the PF verbal affix. Otherwise, the verb moves in LF in order not to violate Procrastinate. We thus have a mixed account between phonology and syntax. We have movement to  $\Delta$ , but it is not obligatory. It is only forced when there is a verbal PF affix in Spec  $\Delta$ P.<sup>40</sup>

This account makes a prediction. The order Topic-Verb-Object should not be allowed, as in (106):

(106) \*Mireni        eman zion   liburua

Miren-DAT give AUX book

'Miren, (Jon) gave the book'

The reason why the verb cannot immediately follow the topic is because there is no PF verbal affix involved in this case. There is then no reason for V-to- $\Delta$  to take place overtly. Hence the verb moves in LF in order not to violate Procrastinate.<sup>41</sup>

### 3.7.3 Three wh-phrases

In Basque it is possible to front three wh-phrases, as in (109). Whether Superiority effects show up in this construction is an unclear issue. According to Ortiz de Urbina (1989), the

<sup>40</sup> See Arregi (2002) for an alternative account where the adjacency effect is derived from an interplay of the NSR and the prosodic requirements imposed on the wh-phrases.

<sup>41</sup> A question arises at this point. Given the badness of (106), why is (90) grammatical? Recall that I argued that the wh-phrase in (90) undergoes overt movement to TopP. Given the ungrammatical status of (106), I will assume that the wh-phrase in (92) undergoes wh-movement in this case with the verb moving to C. If this approach is correct, Basque would resemble Serbo-Croatian and French in having optional wh-movement. See Bošković (2002) for relevant discussion of Serbo-Croatian and French.

only possible order (for the wh-phrases) is the one in (109). All other possible combinations are ungrammatical.<sup>42</sup> However, while one of my informants exhibits Superiority effects, my two other informants do not have Superiority effects even in (107)-(108).<sup>43</sup>

(107) Nori        zer        esan    zion   Jonek?  
                   who-DAT what-ABS say    AUX Jon-ERG  
                   ‘What did Jon say to whom?’

(108) \*/√ Zer nori erosi du Jonek?

(109) Nork        nori        zer        esan    zion?  
                   who-ERG who-DAT what-ABS say    AUX  
                   ‘Who said what to whom?’

(110) \*/√ Nork zer nori esan zion?

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<sup>42</sup> In her analysis of Basque Superiority effects, Jeong (2004) observes that Basque has iterative superiority effects. That is, the three wh-phrases are strictly ordered in the sentence. According to her, this poses a problem for current approaches to Superiority such as Bošković (1997a, 1997c, 1998b, 1999, 2002) and Richards (1997). However, her empirical claim is based on Ortiz de Urbina’s (1989) data illustrated above. As I show below, only one of my informants agreed with the data. Furthermore, once interfering factors were controlled for, even the informant who shared Ortiz de Urbina’s judgment showed inconclusive results regarding Superiority. This casts doubt on Jeong’s analysis and her criticism of current approaches to Superiority.

<sup>43</sup> The judgment before the slash corresponds to the informant who has Superiority effects. The judgment after the slash corresponds to the two other informants. When no double judgment is indicated, the judgments are the same for the three informants. I have used the same procedure in (111) to (118).

The paradigm above received mixed judgments so it is difficult to decide whether there are Superiority effects in this construction or not. Furthermore, there are interfering factors which could play a role for the speaker who has strict ordering in this construction. More specifically, there are speakers who tend to place the inanimate wh-phrase last in multiple wh-fronting constructions (cf. Billings and Rudin (1996)). In order to control for this factor, I have checked data with animate wh-phrases, as in (111)-(112). The problem with this paradigm is that my informants do not have Superiority effects with two wh-phrases so it is impossible to draw a definite conclusion from the data:

- (111) (?)Nor            nori            aurkeztu zion Jon-ek?  
who-ABS who-DAT introduce AUX Jon-ERG  
'Who did Jon introduce to whom?'

- (112) (?)Nori nor aurkeztu zion Jonek?

- (113) Nork      nori      nor      aurkeztu    zion?  
 who-ERG who-DAT who-ABS introduce AUX  
 'Who introduced who to whom?'

- (114) \*/ $\sqrt{\text{Nork nor nori aurkeztu zion?}}$

In another attempt to determine what is going on with respect to Superiority with three wh-phrases in Basque, I have tried to use two inanimate wh-phrases, as shown

below. The problem here is that both the sequence 'nork-noiz-zer' (who-when-what) and the sequence 'nork-zer-noiz' (who-what-when) are disallowed.<sup>44</sup>

- (115) ✓/?/?Zer          noiz esan zuen Jonek?  
                                what-ABS when say AUX Jon-ERG  
                                'What did Jon say when?'

- (116) \*//?Noiz zer esan zuen Jonek?

- (117) \*Nork          zer          noiz esan zuen?  
                                who-ERG what-ABS when say AUX  
                                'Who said what when?'

- (118) \*Nork noiz zer esan zuen?

As I have shown, it is not clear what is going on with respect to Superiority in constructions with 3 wh-phrases. I will now examine the topic/focus status of wh-elements in constructions with 3 wh-phrases. In order to do that, I will use Pesetsky's (1987) 'the hell' test. The results of the test are as follows: the first two wh-phrases are D-linked/topicalized and the wh-phrase adjacent to the verb is focalized.

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<sup>44</sup> Actually, one of my informants finds all the sentences in (115)-(117) grammatical. Again, it is impossible to draw a definite conclusion from this paradigm.

(119) \*Nor arraiok nori zer esan zion?

who hell-ERG who-DAT what-ABS say AUX

‘Who the hell said what to whom?’

(120) \*Nork nor arraiori zer esan zion?

who-ERG who hell-DAT what-ABS say AUX

‘Who said what to who the hell?’

(121) Nork nori zer arraio esan zion?

who-ERG who-DAT what hell-ABS say AUX

‘Who said what the hell to whom?’

Is there a way to account for the pattern Topic-Topic-Focus in Basque? In order to account for this pattern, I propose the following: in Basque there is a head with two features; namely, Attract-all-discourse and Attract-1Topic.<sup>45</sup> This system basically says that all discourse-related elements, that is, Topic and Focus, are attracted. Furthermore, the highest wh-phrase is attracted first. This analysis would give us the Bulgarian pattern where the first wh-phrase is attracted first and the second and third wh-phrase are freely ordered (cf. (10) and (11)). This is of course an idealization of judgments. I am taking the Bulgarian pattern to be the representative one until clearer judgments emerge from the Basque data with three wh-phrases.

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<sup>45</sup> I am assuming, following Bošković (1999, 2002), that elements that are already located in discourse-related positions (e.g. lower Spec TopP) cannot be attracted by another discourse-related head.

The analysis proposed above, that is, that there is a head in Basque with both the Attract-all-discourse and the Attract-1-Topic properties thus ensures that the highest wh-phrase is attracted first. It also ensures that there is only one focus. The last claim follows from the adjacency requirement between the verbal PF affix and the verb. For example, in a Topic Focus Focus Verb order, the adjacency requirement between the focus feature of the second Focus and the Verb cannot be satisfied, hence this order is ruled out.

### 3.8 Long-distance contexts

As discussed in section 2.2., Serbo-Croatian must have wh-movement in those contexts where C is inserted overtly in the structure. If Basque is a Serbo-Croatian type language with respect to when it must have wh-movement we would expect Basque also to obligatorily have wh-movement when overt C is present in a sentence, as in the long-distance question in (122):<sup>46</sup>

- (122) Nork        zer            esan dute    erosi duela?  
           who-ERG what-ABS say AUX bring AUX-COMP  
           ‘Who did they say bought what?’

The data in (122) raises several questions though. To begin with, ‘nork’ in (122) is D-linked, as shown in (123a). Furthermore, single-pair answers are allowed in (122):<sup>47</sup>

<sup>46</sup> As Xabier Artiagoitia (p.c.) points out to me, some speakers reject the Multiple Wh-Fronting strategy in long-distance contexts even though they accept it in short-distance questions such as (23).

<sup>47</sup> Recall that in Bošković’s system, single-pair answers are only allowed when wh-movement to Spec CP does not take place overtly.

- (123) a. \*Nor arraiok zer esan dute erosi duela?  
 who hell-ERG what-ABS say AUX buy AUX-COMP  
 'Who the hell did they say that bought what?'
- b. ?Nork zer arraio esan dute erosi duela?  
 who-ERG what hell-ABS say AUX buy AUX-COMP  
 'Who did they say that bought what the hell?'

This indicates that wh-movement is not taking place here. There are two possibilities to account for the data. It might be the case that '-(e)la' is not a C or, more likely, that Basque is like Russian, another MWF language, in the relevant example.<sup>48</sup> As Stepanov (1998) and Bošković (2002) have argued, wh-movement does not take place in Russian even in those cases where C is inserted overtly in the structure.<sup>49</sup> As expected, single-pair answers are allowed in Russian even in this type of constructions. If Basque is like Russian, we have an explanation for the fact that single-pair answers are still allowed even in the presence of an overt C. This means that overt wh-movement is never forced in Basque, in contrast to Serbo-Croatian, and on a par with Russian.<sup>50</sup>

### 3.9 Concluding Remarks

In this chapter I have provided an analysis which accounts for the wh-movement strategies in Basque presented in section 3.4. The main findings of this chapter are as

<sup>48</sup> As Jon Ortiz de Urbina (p.c.) points out to me, in Basque there are no Complementizers with non-echo short-distance questions. This makes one wonder whether '-(e)la' in (122) is a Complementizer at all.

<sup>49</sup> The difference between Serbo-Croatian and Russian is that Serbo-Croatian +wh-C has a strong +wh-feature, so it triggers wh-movement as soon as it enters the structure (more precisely, if it enters the structure overtly, it triggers overt wh-movement), while in Russian it is weak.

<sup>50</sup> Hence, the above discussion does not rule out the possibility of wh-movement optionally taking place in Basque.

follows. First, in sentences such as (51) no wh-phrase remains in situ in the structure. Under my proposal, the postverbal wh-phrase raises overtly to check a topic feature. In this respect, we have seen that the “wh-in-situ” strategy (i.e. a question such as ‘who bought what’) in Basque and Spanish is very different. In situ wh-phrases in Basque, in contrast to Spanish, are D-linked and are located quite high in the structure. Given this, I follow Bošković (2002) and conclude that not all wh-phrases that appear to be in situ should be treated in the same way. Second, I have offered an analysis for Multiple Wh-fronting structures in which the wh-phrase closer to the verb is focalized and the rest of the wh-phrases are topicalized. In order to account for this pattern, I have proposed that Basque has a head with two features: Attract-all-discourse and Attract-1Topic. Under this analysis, all wh-phrases bearing focus or topic are moved to the front of the sentence. Furthermore, the highest wh-phrase must move first. The fact that only one wh-phrase is focalized follows from the adjacency requirement of a PF verbal affix.

I have argued for a new paradigm of multiple question formation which has not received much attention in the literature. I have shown that the paradigm can be successfully captured by Bošković’s Attract-all-F approach to Multiple-Wh Fronting. More specifically, I have presented data from a language which can on the surface be treated as an Attract-all-Topic language. However, I have presented evidence that that is not the correct analysis for Basque. Instead, I have shown that the Basque data should be analyzed by positing a head with the Attract-all-discourse and the Attract-1Topic features. It is also worth noting that Basque is a Multiple-Wh Fronting language which crucially differs from Slavic in that there is only one Focus. So far, we have the following Multiple-Wh Fronting languages: Attract-all-Focus (Slavic) and Attract-all-Discourse



(Basque). It remains to be seen whether there is a language where all and only topicalized wh-phrases are fronted to the beginning of the sentence

## CHAPTER 4: COMPARATIVE SUBDELETION IN SPANISH

### 4.1 Introduction

In chapter 2, we examined the role of new information focus in Spanish. In chapter 3, we focused on Basque and the interaction of *wh*-movement, contrastive focus and topic in this language. In this new chapter we will continue exploring A'-dependencies in Spanish. More specifically, I examine the role of contrastive focus in Spanish. To be more precise, I study how contrastive focus interacts with comparative subdeletion constructions in this language. On the surface, one could claim that Spanish does not allow Comparative Subdeletion constructions (Snyder, 1995). As I will show, this claim can be easily falsified. The correct generalization emerging from the data is the following: Spanish does not allow Comparative Subdeletion in the same way English does. However, Spanish allows Comparative Subdeletion under the two following circumstances: obligatory gapping of the verb (i.e. the "Obligatory Gapping Strategy") and word order alteration of the elements in the comparative clause (i.e. the "Inversion Strategy").

I will capture the Spanish data by appealing to the claim that there is a strong focus feature requirement in the "Inversion Strategy". Based on this, I will claim that the NP containing the quantity term must undergo overt movement to check a strong focus feature. If the feature is not checked, the derivation can still be rescued by deleting the strong feature in PF. Once the strong feature is erased from the derivation, the emerging sentence is grammatical. My analysis is reminiscent of Lasnik's (1995) analysis of

pseudogapping in which the derivation can be salvaged either by pied-piping or by deletion of the offending strong feature.

I organize the chapter as follows. First, I introduce the data and some background assumptions regarding Comparative Subdeletion. Second, I focus on the “Inversion Strategy”. The main finding is that the object raises overtly to a focus position with the verb in the head of that very same projection. This result is quite interesting given that the verb doesn’t raise that high in declarative sentences. Third, I discuss the “Obligatory Gapping Strategy”. As it will become clear below, this strategy involves a deletion process which serves to hide an offending strong focus feature. Fourth, I show that my analysis can be extended to Comparative Deletion structures. Finally, I draw the main conclusions of the chapter.

#### **4.2 Comparative Subdeletion: General assumptions**

Bresnan (1972) gave the name ‘Comparative Subdeletion’ to the type of structure represented in (1):

- (1) Mary read more books than John read magazines.

(1) roughly means “the number of books that Mary read is larger than the number of magazines that John read”. According to Bresnan’s analysis, the underlying representation of (1) contains a variable ranging over degrees or quantities, as shown in (2):

- (2) Mary read more books than John read [x-many] magazines.

The ungrammaticality of a sentence such as (3) is usually taken as evidence for the existence of an empty quantifier in the subcomparative clause. Bresnan (1975) argues that the impossibility of having an overt quantifier in (3) supports the idea that there is indeed an empty category in examples such as (2).

- (3) \*Mary read more books than John read (two/many/ a few) magazines.

Note that the variable in (2) gets deleted under identity with material in the main clause, as in (4). The parallelism between 'more' and 'x-many' might not be obvious at first sight. The underlying assumption here is that 'more' is decomposed into 'er many'. Note that the only difference between 'er many' and 'x many' is that the comparative morpheme has been substituted for a variable ranging over quantities in the subcomparative clause.

- (4) Mary read more books than John read [~~x-many~~] magazines.

Later work, such as Bresnan (1975) and Chomsky (1977), observed that comparatives share several characteristics with wh-movement (see also Corver 1990, den Besten 1978, Grimshaw 1987, Larson 1988, among others). To be more precise, subcomparatives exhibit island effects. As the data in (5) show, subcomparatives obey the Complex NP Constraint. (6) and (7) contain violations of the Sentential Subject

Constraint and the Coordinate Structure Constraint, respectively (all the data come from Bresnan 1975):

- (5) a. It has done no less harm than you say it has done good.  
b. \*It has done no less harm than you have the opinion that it has done good.
- (6) a. You have as many reasons for leaving him as it's likely that he has for leaving you.  
b. \*You have as many reasons for leaving him as that he has for leaving you is likely.
- (7) a. \*Dean drank more booze than Frank ate a lot of Wheaties and Sammy drank milk.  
b. \*Wilt is taller than Bill is so strong and wide.

Based on paradigms similar to the ones above, Chomsky concludes that the variable in (4) should be identified with the trace of a null Operator. This null Operator is extracted from the NP and moves to Spec, CP. The resulting derivation is given in (8):<sup>1</sup>

- (8) Mary read more books than *Op<sub>i</sub>* John read [ *t<sub>i</sub>* many] magazines.

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<sup>1</sup> This analysis is a slight oversimplification of Chomsky (1977). According to him, "no wh-word was moved, but only wh-" (p. 123). What Chomsky is implying is that the whole wh-word does not move but only the wh-feature does. Chomsky makes this distinction to avoid Left Branch Condition violations. See below for relevant discussion.

Further support for this analysis comes from some dialects of American English (cf. Bresnan (1972)) where an overt wh-word is allowed in the same position the null Operator occupies in (8). Some examples are given below:

- (9) a. Mary read more books than what John read magazines.  
b. She is more happy now than what she was sad before.

These very same facts are also observed in Afrikaans (example from den Besten 1978):

- (10) a. Jan koop meer boeke as wat Piet plate koop  
John buys more books than what Pete records buys

Based on the evidence above, it is fair to conclude that subcomparatives behave like wh-constructions. Attractive though this analysis may be, it raises some questions. Note that under this analysis, subcomparatives involve violations of the Left Branch Constraint (LBC), which is disallowed in English (see (11)). Since subcomparative wh-movement is similar to (11), (11) may then be expected to be good under this analysis. Obviously, this is the wrong prediction. Whereas (8) is well-formed, (11) is not:

- (11) \*How many did John read magazines?

Different solutions have been proposed to this problem. Just to give an example, Izvorski (1995) argues that the gap in the subcomparative clause is not a wh-trace with a

null –modifier status. Following proposals by Grimshaw (1987), Izvorski adopts the idea that the null element in the subcomparative clause is a non-overt adverbial phrase like “to a certain extent/great extent”. Note that the movement of this non-overt adverbial phrase does not induce an LBC violation:

- (12) a. In what quantity did Mary eat apples?  
b. To what extent was John surprised?

Other authors such as Kennedy and Merchant (2000) and Snyder, Wexler and Das (1995) suggest that LBC effects are exclusively a PF phenomenon. As Snyder et al. put it, “one might, for example, argue that LBC effects are exclusively a PF phenomenon, tied to cliticization of a (null or overt) determiner onto its specifier; LBC effects would then not be expected in LF movement operations” (p. 588). We will review Kennedy and Merchant’s proposal in more detail in section 4.6.1.2. Regardless of the exact analysis to be adopted, there seem to be ways out of the LBC effect problem. For the purposes of this chapter, I will therefore adopt structure (8) when analyzing comparative subdeletion constructions in Spanish.

#### 4.3 Snyder (1995)

In his study of the syntax of quantity and degree across languages, Snyder (1995) examines whether languages allow bare numerals/measure phrases, LBC effects and subcomparatives (of quantity and degree). If we focus on subcomparatives of quantity (cf. (1)), we notice that there is a cross-linguistic variation: some languages allow the

construction whereas other languages don't. In his survey of twelve languages, Snyder finds that Japanese, Khmer, Hungarian, German and Albanian behave like English in allowing comparative subdeletion constructions. In contrast, French, Russian, Spanish, Italian, Serbo-Croatian and Mandarin disallow the construction. Some representative examples are provided below:

- (13) Kira mien siawp'ow jran                      jieng Aroy mien C. D.                      (Khmer)

Kira have book                      many/more than ARoy has C.D's

'Kira has more books than Aroy has C.D's'

- (14) Eva lexon më shumë revista                      se c'lexon Beni libra                      (Albanian)

Eva reads more                      magazines than what reads Ben books

'Eva reads more magazines than (what) Ben reads books'

- (15) Marie a lu plus \*(de) livres que Jean a lu \*(de) revues                      (French)

Mary has read more (of) books than John has read (of) magazines

- (16) \*Maria ha letto più libri che Gianni ha letto riviste                      (Italian)

Mary has read more books than John has read magazines

#### 4.4 Comparative Subdeletion Constructions in Spanish

##### 4.4.1 The data



As mentioned in the previous section, Spanish belongs to the class of languages which disallow comparative subdeletion constructions. Snyder gives the following ungrammatical example to illustrate this point:

(17) \*María leyó más libros que Juan leyó revistas.

Mary read more books than John read magazines

The interesting thing about Spanish is that (17) becomes fully grammatical once the verb 'leyó' (read) is deleted from the subcomparative clause (cf. Price (1990)). The grammatical status of (18) provides empirical evidence for this claim:

(18) María leyó más libros que Juan revistas.

Mary read more books than John magazines

I will call the structure in (18), that is, a structure where the verb undergoes gapping, the "Obligatory Gapping Strategy". Interestingly, Spanish is not the only language where obligatory gapping of the verb is required in order to form a Comparative Subdeletion construction. According to Price (1990), Andrea Calabrese (p.c.) and Eva Bar-Shalom (p.c.), Galician, Portuguese, Italian and Hungarian behave in the same way as Spanish. Some relevant examples are provided below

(19) a. \*Maria ha letto più libri che Gianni ha letto riviste

Maria has read more books than John has read magazines

b. Maria ha letto più libri che Gianni riviste

Mary has read more books than John magazines

(Italian (Andrea Calabrese, p.c.))

(20) a. \*János több könyvet olvasott mint Maria újságot olvasott

John more book-acc read than Mary newspaper-acc read

'John read more books than Mary read newspapers.'

b. János több könyvet olvasott mint Maria újságot

Janos more book-acc read than Mary newspaper-acc

'John read more books than Mary newspapers.'

(Hungarian (Eva Bar-Shalom, p.c.))

(21) a. \*Ama a seu pai menos que ama a sua mãe

loves to his father less than loves to his mother

'He loves his father less than he loves his mother.'

b. Ama a seu pai menos que a sua mãe (Portuguese (Price, 1990))

(22) a. \*Esta nena é menos grande ca é a túa

this girl is less big that is the yours

'This girl is smaller than yours is'

b. Esta nena é menos grande ca a túa

this girl is less big than the yours

'This girl is smaller than yours.' (Galician (Price, 1990))

A question arises at this point: Could the Spanish sentence in (17) be ungrammatical because the verb 'leyó' (read) is repeated twice in the structure? Maybe there is a strong preference in Spanish to leave out as much material as possible from the comparative clause. This wouldn't be surprising given that in subject contexts 'pro' must be used instead of an overt pronoun (if possible). In order to test this hypothesis, let us use a different verb in the subcomparative clause in (17). If the sentence turns out to be grammatical, one could argue that there is a ban in Spanish against having redundant material in Comparative Subdeletion. In contrast, if the resulting sentence is still ungrammatical, one should look for a deeper explanation in order to account for the facts. As (23) shows, a different verb does not make a difference. Even though we have two different verbs; namely, 'leyó' and 'compró', the sentence is still ungrammatical:

(23) \*María leyó más libros que Juan compró revistas

Mary read more books than John bought magazines

Perhaps comparing the number of books read to the number of magazines bought may seem a bit odd pragmatically speaking. Even if we construct a sentence which makes more pragmatic sense, the outcome is the same, as shown below:

(24) \*Mi padre vende más libros que mi madre compra discos

My father sells more books than my mother buys records

(Price, 1990, ex. (86b))

Furthermore, the verb 'leyó' can appear in the comparative clause once the word order is modified, as in (25). This fact in itself clearly indicates that the same verb can appear both in the main clause and in the comparative clause. There is a requirement though: the word order in the comparative clause must change from Subject-Verb-Object (cf. (17)) to Object-Verb-Subject (cf. (25)). I will call this alternative way of forming Comparative Subdeletion the "Inversion Strategy".

(25) María leyó más libros que revistas leyó Juan

Mary read more books than magazines read John

'Mary read more books than John read magazines'

As expected, sentences with different verbs (cf. (26)) also become grammatical once the word order is modified:

(26) Mi padre vende más libros que discos compra mi madre

My father sells more books than records buys my mother

'My father sells more books than my mother buys records'

(Price, 1990, ex. (86a))

In summary, Spanish does not have the English Comparative Subdeletion construction. However, Spanish has two alternative ways to express the same meaning: the "Obligatory Verb Gapping Strategy" and the "Inversion Strategy".

#### 4.4.2 Previous analyses

There are no detailed analyses of the two subdeletion strategies discussed above. Knowles (1984) and Rivero (1981) mention the “Inversion Strategy” and they propose a movement analysis for it. To be more precise, both authors argue that the object and a quantifier-like expression move from some position inside the VP to Comp. The relevance of this proposal will become clear in section 4.6.1.2. As far as I know, the only work dealing with both strategies is Price (1990). According to her, the “Inversion Strategy” involves topicalization of the object in the subcomparative clause. More specifically, she establishes a parallelism between (26) and (27):

- (27) Dicen      que enemigos, parece      que tiene  
(they) say that enemies, (it) seems that (he) has

In both cases, the objects ‘discos’ (records) and ‘enemigos’ (enemies) are undergoing topicalization.

Price argues that a verb can only occur in the subcomparative clause if there is a category in topic position which is not the verb itself. If this criterion is met, the verb falls outside the scope of the comparison proper. For example, in (26) ‘discos’ is topicalized in the subcomparative clause. For Price, this means that ‘discos’ is the element that is being compared. Since the verb is not topicalized in this example, it is not inside the comparison itself. For some reason, the verb can appear in these instances. In other words, Price finds that the element in topic position can override the prohibition against the presence of a verb in the subcomparative clause.

This approach to the data does not seem to explain the phenomenon under discussion. Why does a topic suddenly allow the presence of a verb in the subcomparative clause? Why isn't a verb allowed if there is no topic in the sentence? Price's account seems to be restating the descriptive generalization discussed above without really providing an explanation for it. Furthermore, the object in the subcomparative clause in (26) does not seem to be undergoing a topicalization process. To begin with, a topic needs to be followed by a pause in Spanish.<sup>2</sup> Moreover, subject-verb inversion is not required. The data in (28) support these two points. The behavior of the topicalization process is clearly different from the kind of movement taking place in (26). The object 'discos' (records) in (26) cannot be separated with a pause from the rest of the sentence. As shown in (29) subject verb inversion is required. The object 'discos' needs to be adjacent to the verb, in contrast to the topicalized object in (28).

(28) El libro, Juan lo compró

The book, John CL bought

(29) \*Mi padre vende más libros que discos mi madre compra

my father sells more books than records my mother buys

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<sup>2</sup> There may be some variation in this respect. Bošković (2001) notes that in sentences such as (i) (his example (204)), some speakers can have a pause while others cannot.

(i) A ninguna de estas personas, (no) las ví en la fiesta  
to none of these people not CL saw in the party  
'I didn't see any of these people at the party.'

#### 4.5 The “Inversion Strategy”

In this section I offer an analysis for (25), repeated as (30). In order to account for the pattern exhibited by this sentence, I will pay attention to the information structure of the sentence, as well as the position each of the elements occupy in the subcomparative clause. The basic idea to be explored is that the object in the subcomparative clause undergoes focus movement with the verb landing in the head of Foc. This is an important finding given that the verb doesn't move so high in declarative clauses.

(30) María leyó más libros que revistas leyó Juan

Mary read more books than magazines read John

‘Mary read more books than John read magazines’

In section 4.5.1, I provide some background regarding verb movement. This will serve to compare the position where the verb lands in regular declaratives vs. subcomparative structures. Then, I concentrate on the movement of the object and the position of the subject.

##### 4.5.1 On Verb Movement<sup>3</sup>

Let us start with some basic background regarding verb movement in Spanish declarative clauses. It is well-known that verbs in French raise higher than English main verbs. Pollock (1989) gave the following paradigm to illustrate this difference:

(31) a. Jean n'aime pas Marie

John neg loves neg Mary

'John doesn't love Mary'

b. \*Jean ne pas aime Marie

c. \*John loves not Mary

d. John doesn't love Mary

The paradigm above contains data with negation. There is a clear difference between English and French. Whereas the verb needs to precede the negative element 'pas' in French, the opposite is true in English. In this language the verb needs to appear after negation. This contrast has been interpreted as a difference in verb movement between the two languages. Verbs raise in French but they don't in English. Belletti (1990) shows that Italian also exhibits verb movement. The relevant data are given below:

(32) a. Gianni non parla più

John neg speaks any more

'John does not speak any more'

b. Maria non rideva ancora

Mary neg laughed yet

c. Lui non diceva mai la verità

He neg said never the truth

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<sup>3</sup> This section is also relevant for chapter 2, section 2.6.



Belletti establishes a parallelism between the French ‘pas’ and the negative polarity adverbs ‘più’, ‘ancora’ and ‘mai’. The French and the Italian data are identical in the sense that the verb needs to precede the negative element. Belletti, following Pollock, assumes that French ‘pas’ and Italian ‘più/ancora/mai’ are located in a position immediately to the right of AgrSP: NegP. Schematically, the syntactic positions of the relevant elements look as follows:

(33) [AgrSP NP ne/non V [NegP pas/ più-ancora-mai [TP ...

Based on the data in (32) and the schema in (33), Belletti concludes that the verb moves to the highest inflectional projection in Italian, namely, AgrS. This is so because ‘più-ancora-mai’ are located higher than TP and NegP and the verb precedes them in the tree. The only position left for the verb is AgrS.

It is standardly assumed that Spanish verbs also move overtly to the highest inflectional projection within the split IP. Ordóñez (1997), Suñer (1999) and Zubizarreta (1998) have already argued for this claim.

If we now apply Pollock’s and Belletti’s tests, one notices that Spanish behaves exactly like French and Italian. The Spanish counterparts of the Italian data in (32) are given in (34):

(34) a. Juan no habla ya más/nunca más

John neg speaks any more

b. María no se ha reído todavía

Mary neg CL has laughed yet

c. Él no dijo nunca la verdad

he neg said never the truth

The paradigm above suggests that overt verb movement is also operative in Spanish. As the examples make clear, the verb needs to precede the negative adverbials 'ya más/nunca más', 'todavía' and 'nunca'.<sup>4</sup> If we combine this observation with the schema in (33), we can reach the following conclusions: Spanish verbs move to AgrS.

In summary, in this section I have shown that Spanish behaves like French and Italian in having overt movement of the verb from V to AgrS. In section 4.5.3, I will offer an additional argument for V-to-AgrS movement based on Floating Quantifiers.<sup>5</sup> The present argument will suffice for the purposes of the discussion in the next section.

#### 4.5.2 Focus and landing sites

Recall Price's claim that the object in the subcomparative clause undergoes topicalization. We presented evidence against this claim. The distribution of pauses and the word order of the elements in the subcomparative clause do not correspond to the characteristics exhibited by a topicalization process.

When pronouncing a subcomparative clause such as (30) above, the object 'revistas' (magazines) needs to be heavily stressed in order for the sentence to be

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<sup>4</sup> Since there is no reason to the contrary, I assume that the negative adverbials are located in the same position as the Italian ones.

grammatical. I am proposing that we are dealing here with focalization. That this is an instance of focus movement is supported by word order facts. As noticed by Torrego (1984) (see also Campos and Zampini 1990, Hernanz and Brucart 1987, among many others), focalization structures share one fundamental property with wh-movement: subject-verb inversion is required. In the following example from Torrego, the DO 'un viaje a las Canarias' is undergoing focus movement. As the contrast between a. and b. shows, subject-verb inversion is obligatory in these cases (the DO is contrastively focused in both (35a) and (35b). I indicate contrastive focus in capital letters):

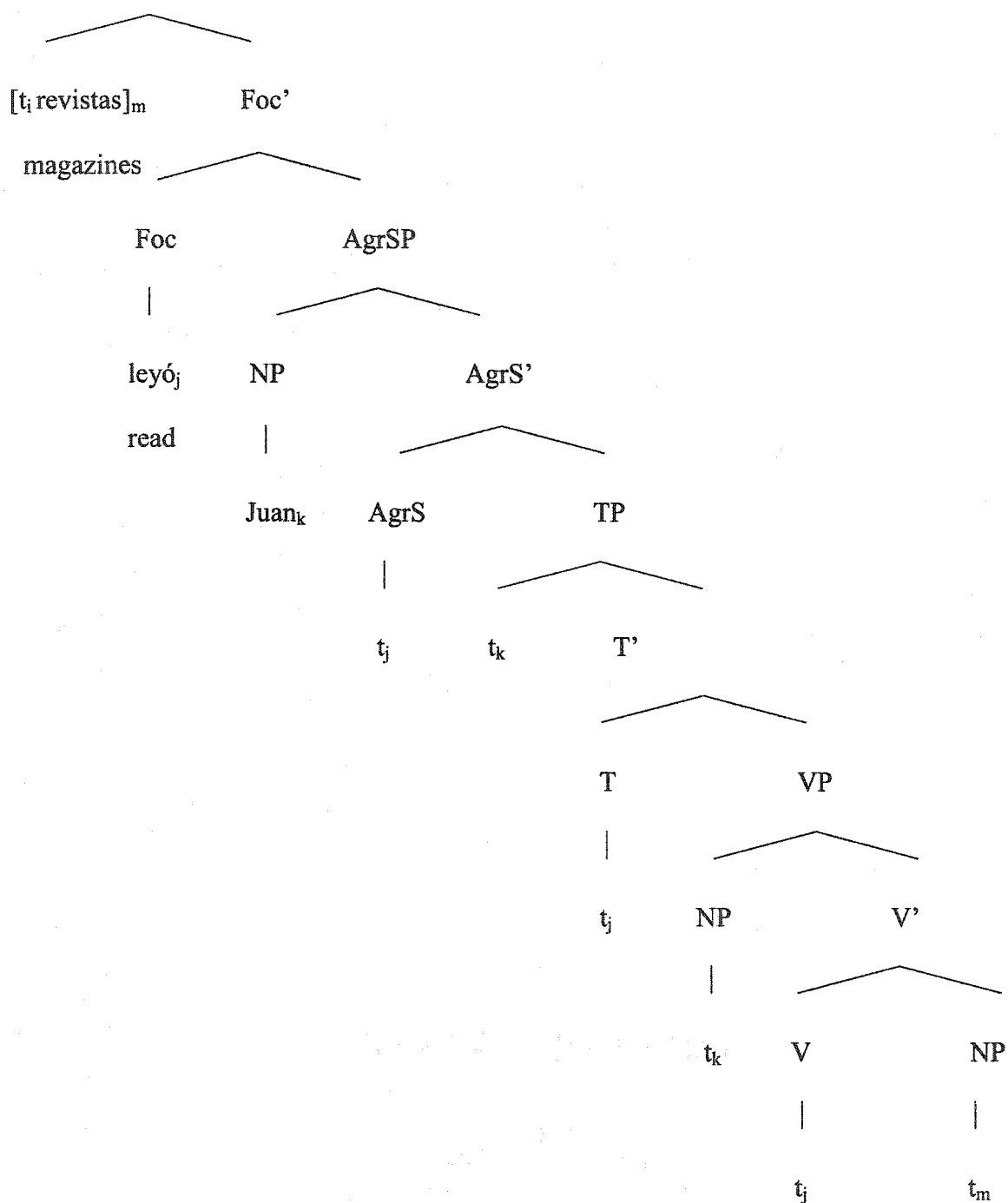
- (35) a. Un viaje a las Canarias hizo Antonio este verano.  
           a trip to the Canary-islands made Antonio this summer  
           'Antonio made A TRIP TO THE CANARY ISLANDS this summer'  
       b. \*Un viaje a las Canarias Antonio hizo este verano.

Based on these facts I claim that the object in the subcomparative clause is undergoing focus movement from object position to the specifier of a Focus Phrase. The derivation I propose for the sentence is given in (36). A justification of the landing sites immediately follows.

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<sup>5</sup> Another interesting test to determine the high position of the adverb is the placement of sentential adverbs. If the verb precedes really high adverbs, it would indicate that the verb is located in AgrS. Unfortunately, this test cannot be run in Spanish (see section 4.5.2. below).

(36) ...FocP



As (36) shows, the NP ' $t_i$  revistas'(recall that ' $t_i$ ' is a variable ranging over quantities)' moves overtly from the complement position of the verb up to the Spec

position of FocP.<sup>6</sup> I am assuming with Kennedy (2000) and Rivero (1981) that the whole NP ‘*t<sub>i</sub> revistas*’ moves overtly. The head of FocP, that is, Foc, has a strong focus feature. The NP has a matching feature which needs to be checked off. By overt movement of the NP ‘*t<sub>i</sub> revistas*’ to Spec FocP the strong feature is checked in a spec-head relation. Note that the verb raises to Foc while the subject is located in Spec of AgrSP. In this way, we obtain the desired word order Object-Verb-Subject.

Several questions come to mind. Is it really the case that the verb moves to Foc or could the adjacency between the focused DO and the verb be a result of affix hopping of a null affix onto the verb (recall here our discussion of this phenomenon in chapter 3)? Let us illustrate this possibility with some Bulgarian examples. Bošković (2001) notes that a subject cannot intervene between a wh-word and a verb in Bulgarian regular wh-questions (see (37)). Curiously enough, the verb doesn’t move to C in these contexts (see Izvorski (1993) for the relevant arguments).

(37) a. \*Kakvo Ana dade na Petko?

what Ana gave to Petko

‘What did Ana give to Petko?’

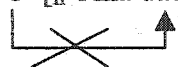
b. Kakvo dade Ana na Petko?

In order to account for this puzzling behavior, Bošković proposes that “the null interrogative C in Bulgarian is a verbal affix which must merge with a verb under PF adjacency” (p. 245). Let us illustrate this analysis below:

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<sup>6</sup> I am ignoring AgrOP.

(38) [<sub>CP</sub> Kakvo C [<sub>IP</sub> Ana dade Ana na Petko]]



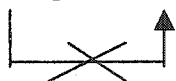
[<sub>CP</sub> Kakvo C [<sub>IP</sub> ~~Ana~~ dade Ana na Petko]]



As the schema above makes clear, the subject ‘Ana’ moves from Spec VP to Spec IP with the verb located in I. If the subject were to be pronounced in Spec IP, it would induce a PF violation since C, being a verbal affix, wouldn’t be able to attach to its host (the subject would intervene between the two). The PF violation is salvaged by deletion of the highest copy of ‘Ana’ (cf. Bobaljik (1995), Hiramatsu (1997, in press), Franks (1998) and Bošković (2001, 2002)). Alternatively, the subject could remain in Spec VP in (38), which is an option in Bulgarian. Either way, C can merge with the verb under PF adjacency.

Maybe the analysis provided by Bošković for Bulgarian questions could also be extended to subcomparative constructions in Spanish. If this were possible, we would derive the adjacency between the DO and the verb without appealing to verb movement. The derivation for (30) would proceed as follows:

(39) [<sub>FocP</sub> revistas Foc [<sub>IP</sub> Juan leyó Juan]]



[<sub>FocP</sub> revistas Foc [<sub>IP</sub> ~~Juan~~ leyó Juan]]



As discussed in chapter 3, we could propose that 'Foc' could be a null affix (like C in Bulgarian) in the focus feature in 'revistas'. This affix is a verbal PF affix which hence must be adjacent to a verbal element. Now, it is clear why the derivation fails if the highest copy of the subject gets pronounced: the affix fails to attach to the verb. If the highest copy of the subject is deleted the problem disappears. At this point no element intervenes between the affix and the verb. Hence, the affix can freely hop onto the verb.

We have discussed two possible ways to obtain the DO-verb adjacency in (30). Under the first possibility, the verb raises to Foc. Under the second possibility, the verb remains in I. The adjacency effect is obtained through affix hopping of a null verbal affix onto the verb. In order for this to happen, a low copy of the subject needs to be pronounced. Otherwise, a PF violation would take place. Below, I provide evidence that the verb movement analysis is indeed the correct way to account for the data.

Let us continue our discussion by considering high adverbs. Cinque (1999) classifies the following in this group: 'francamente' (frankly), 'fortunatamente' (fortunately), 'probabilmente' (probably), 'ora' (now) etc...<sup>7</sup> Let us focus on one high adverb and discuss its meaning and distribution. Belletti notes that the Italian high adverb 'probabilmente' (probably) can appear in three main positions in the sentence. As shown in (40a), the adverb can appear in sentence-initial position. (40b) shows that 'probabilmente' can also appear in the position preceding the verb and following the subject. Finally, the adverb can be located in the sentence-final position provided the adverb is separated from the rest of the clause by a pause. In the three cases the adverb has a sentential reading that can be paraphrased as 'It is probable that...'

- (40) a. Probabilmente Gianni telefonerà alle 5  
           probably       John will-call at 5  
       b. Gianni probabilmente telefonerà alle 5  
       c. Gianni telefonerà alle 5, probabilmente

The same facts obtain in Spanish, as shown below:

- (41) a. Probablemente Juan llamará a las 5  
           probably       John will-call at the 5  
       b. Juan probablemente llamará a las 5  
       c. Juan llamará a las 5, probablemente

There is one more possibility for the placement of 'probably' in the sentence. Belletti mentions in her note 29 that 'probabilmente' can also be located between the verb and the object, as in (42):

- (42) In vita sua Gianni leggerà probabilmente molti racconti d'avventura  
       in life his John will-read probably       many novels of-adventures  
       'In his life, John will read probably many adventure novels'

The crucial difference between (42) and (38) is that 'probabilmente' does not have a sentential reading in the former example. In other words, (42) cannot be paraphrased as 'It is probable that John will read many novels in his life'. The adverb in this particular example only takes scope over the phrase immediately following it (i.e. the NP 'molti

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<sup>7</sup> The adverbs are Italian adverbs.



racconti d'avventura'). For completeness, let me offer the Spanish example. 'Probablemente' does not have a sentential reading in this example either.

- (43) En su vida Juan leerá      probablemente muchas novelas de aventuras  
in his life John will-read probably      many novels of adventures

Before discussing the relevance of the different readings of 'probabilmente', let us explore what example (43) tells us about the position of the verb in declarative clauses. As we have just discussed, 'probablemente' does not have a sentential reading in (43). An immediate question arises: Why is that the case? Recall from our discussion in section 4.5.1. that the verb is located in AgrS in Spanish. If 'probablemente' cannot have a sentential reading when it appears after the verb, it means that the adverb is located even higher than the verb in these cases. I assume that the adverb is AgrSP-adjoined in (41a-b).<sup>8</sup> Note that this accounts for the ungrammaticality of (43) under the sentential reading of the adverb. The adverb is AgrSP-adjoined, the verb is in AgrS but the former follows the latter in the structure. This is not a possible scenario. Note that 'probablemente' has a sentential reading in (41a-b). In (41a), the adverb is AgrSP-adjoined, the subject is in Spec AgrSP and the verb is in AgrS. In (41b) the adverb and the verb are in the same positions. The subject is able to appear before the adverb indicating that the subject is

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<sup>8</sup> Here I'm modifying Watanabe (1993) and Bošković's (1995, 1997) assumption about the placement of high adverbs. We said that in English the adverb can be TP or AgrSP-adjoined. I claim that in Spanish it must be AgrSP-adjoined.

higher than AgrSP. I will discuss the position of the subject in greater detail in section 4.6.1.1. It suffices to say at this point that the subject is in a topic position in (41b).<sup>9</sup>

After this brief digression, let us go back to our derivation (36). Recall that the proposal is that the object is in Spec FocP and the verb is located in the head of this projection. We suggested that it might not be necessary to assume this high position for the verb (for the alternative affix hopping analysis, I refer the reader to the discussion above). There is evidence, however, that the verb is located higher than in the declarative sentence. To construct the relevant test, we need to find a sentential adverb which cannot appear in a position after the verb in a declarative sentence but which can appear in that very same position in the subcomparative clause in (30). If this state of affairs is found, it would imply that the verb moves higher in the subcomparative clause than in a regular declarative. That is, the verb would be located in AgrS in the declarative sentence but higher than AgrS in the subcomparative clause.

(43) above and the paradigm below show that there is indeed a contrast between declaratives and subcomparatives. Similarly to (43), (44) is a well-formed sentence and crucially ‘probablemente’ does not have a sentential reading. It only has the irrelevant reading where the adverb takes scope over the NP. In contrast, ‘probablemente’ has a sentential reading in the subcomparative clause in (45). Admittedly, the judgment is subtle but the reading is there. This contrast between (43)/(44) and (45) indicates that the verb ‘leyó’ (read) is higher in (45) than in (43)/(44). Since verb is located in AgrS in (43)/(44), it follows that the verb is higher than AgrS in (45) (recall that the adverb is AgrSP-adjoined). According to our tree in (36) the next head up is Foc.

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<sup>9</sup> I will ignore (41c) here since ‘probablemente’ seems to be functioning just as an afterthought, as indicated by the obligatory pause.

(44) # María leyó probablemente 2 libros

Mary read probably 2 books

(45) María probablemente leyó más libros que revistas leyó probablemente Juan<sup>10</sup>

Mary probably read more books than magazines read probably John

### 4.5.3 More on the subject position

So far we have offered evidence for the presence of the verb in Foc. Throughout I have also assumed that the subject is located in Spec of AgrSP. However, there is some evidence that the subject may be located lower in the structure.<sup>11</sup> In order to test the position of the subject, I will use data with Floating Quantifiers. I assume Sportiche's (1988) analysis of these facts. The basic idea is that the presence of a Floating Quantifier signals the presence of an NP-trace next to it. This is also known as the stranding analysis of Floating Quantifiers. To illustrate, consider the example below. As the structure makes clear, the NP 'the students' was in the position following 'all' at some point in the

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<sup>10</sup> Apparently, repeating the adverb 'probably' in the matrix and the subcomparative clause does not lead to ungrammaticality. However, repeating other sentential adverbs in both sentences sounds quite degraded. For example, (i) sounds degraded to my ear.

- (i) ??Juan sinceramente tiene más posibilidades que oportunidades tiene sinceramente Juan  
John sincerely has more possibilities than opportunities has sincerely John

This contrast may be attributed to the fact that even in a coordinated structure, 'probably' sounds much better than 'sincerely':

- (ii) María probablemente leyó muchos libros y Juan probablemente leyó muchas revistas  
Mary probably read many books and John probably read many magazines

- (iii) ??María sinceramente tiene muchas posibilidades y Juan sinceramente tiene muchas oportunidades  
Mary sincerely has many possibilities and John sincerely has many opportunities

For some reason it does not sound good to repeat 'sincerely' in both conjuncts. For the purposes of my discussion, I will use 'probably' since its repetition in both clauses still gives us grammatical outputs.

derivation, forming a constituent with it. Then, it moved to the matrix IP. The NP moved stranding the quantifier behind.

(46) The students seem all  $t_{NP}$  to have left.

This test is particularly useful for us because it indicates where the NP was originally located. As Bobaljik (1995) and Bošković (to appear) note, Sportiche's analysis is not without problems. The examples below are ungrammatical even though an NP-trace is assumed to exist in both cases.

- (47) a. \*The students arrived all  $t_{NP}$   
b. \*The students were arrested all  $t_{NP}$

In order to solve this problem, Bošković proposes the following generalization:<sup>12</sup>

(48) Quantifiers cannot be floated in their  $\theta$ -positions.

If this generalization is correct, the examples in (47) are ungrammatical because the quantifiers are located in a  $\theta$ -position. It follows that in all the grammatical examples the quantifier is not floated in a  $\theta$ -position. This is indeed the case in (49).<sup>13</sup>

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<sup>11</sup> It will become clear below why the evidence is not crystal clear.

<sup>12</sup> Bošković deduces the generalization from independent mechanisms, i.e. he shows it is a theorem.

<sup>13</sup> See Bošković for the consequences of this analysis.

(49) The students<sub>i</sub> were all t<sub>i</sub> arrested t<sub>i</sub>

I will apply the floating quantifier test to the subcomparative construction under discussion. First of all, note that Spanish allows floating quantifier structures, as illustrated in (50a). Under Bošković's analysis, the quantifier cannot be floated in Spec VP, a  $\theta$ -position. Otherwise, the sentence would be ungrammatical. The structure for this sentence is provided in (50b), with 'todos' located in TP, a non-  $\theta$ -position. Note incidentally that this test provides further evidence that the verb is located in AgrS in Spanish.

(50) a. Los estudiantes leyeron todos el libro

the students read all the book

b. [<sub>AgrSP</sub> Los estudiantes]<sub>j</sub> leyeron<sub>i</sub> [<sub>TP</sub> todos t<sub>j</sub> t<sub>i</sub>] [<sub>VP</sub> t<sub>j</sub> t<sub>i</sub> el libro]

The Floating Quantifier test gives an ungrammatical output in the subcomparative case, as shown in (51). The conclusion we can draw from these data is that 'todos' is floated in a  $\theta$ -position: Spec VP. If this is the case, the subject 'los estudiantes' would be located in Spec TP. A second possibility is that the subject remains in Spec VP. This is the case if floating movement did not even take place in the subcomparative example.

(51) \*María leyó más libros que revistas leyeron los estudiantes todos

Mary read more books than magazines read the students all

We have evidence that the subject is located lower than Spec of AgrSP is subcomparative structures. However, there is an interfering factor that needs to be controlled for. We need to test whether a quantifier can be floated in the following English sentence:<sup>14</sup>

(52) Mary read more books than the students all read magazines

If the sentence is ungrammatical, it would imply that quantifier float is ruled out independently in the subcomparative construction. In this scenario, the Spanish data above would not tell us anything about the position of the subject in subcomparatives. Two out of the three informants I checked the data with, found (52) grammatical. My third informant gave a ‘\*’ to the sentence. Based on the judgment of my first two informants, the conclusions we reached above seem to be on the right track. However, one needs to be cautious given that my third informant didn’t accept the sentence. Maybe one reason why he didn’t accept it is because there may be too many focused elements in the sentence.<sup>15</sup>

In summary, I have shown that the object ‘revistas’ in (30) moves to Spec FocP with the verb in the head of this same projection. The subject is located in Spec of AgrSP. This statement needs to be taken with a word of caution, since we have seen

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<sup>14</sup> When I elicited the judgments from my informants, I controlled for issues that might interfere with their judgments, such as parallelism between the two clauses. For example, I used two floating quantifiers in both clauses. (52) is only a representative example of the set of data my informants judged.

<sup>15</sup> Željko Bošković informs me that ‘all’ is typically stressed a bit when floated. (52) is well-formed syntactically so maybe the reason why my third informant didn’t accept (52) is because there were two many stressed/focused elements in the sentence.

that there is evidence regarding floating quantifiers that the subject could actually be located lower in the structure.<sup>16</sup>

#### 4.6 The “Obligatory Gapping Strategy”

In this section, I examine constructions where the verb has undergone obligatory gapping in the subcomparative clause. The relevant example is (18), repeated as (53a):

- (53) a. María leyó más libros que Juan revistas.  
Mary read more books than John magazines  
b. \*María leyó más libros que Juan leyó revistas

One important characteristic of this construction is that the verb has to undergo gapping. If it doesn't, the result is ungrammatical, as in (17) (repeated as (53b)). This is clearly different from normal gapping where the verb is optionally elided. (54) below is a representative example. See Williams (1977), Hankamer (1973, 1979), Sag (1976), Johnson (1994), Lobeck (1995, 1997), Larson (1990), Ross (1970), Tri Chan (1999), among others, for relevant discussion of this construction.

- (54) a. John bought apples and Mary bananas  
b. John bought apples and Mary bought bananas

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<sup>16</sup> The interesting question is why the subject is lower here. It seems that we have contradictory evidence. On the one hand, the adverb interpretation analysis indicates that the verb is moving with the subject in Spec AgrSP. On the other hand, the floating quantifier test indicates that the subject is low. This would be

I propose that there is a PF violation in the structure in (53b). The violation is eliminated by deleting the verb in the subcomparative clause, as in (53a). Following insights of Lasnik (1995) and Kennedy and Merchant (2000) regarding a similar phenomenon in English pseudogapping structures, I propose that there is a strong feature that needs to be checked either by movement, as in the “Inversion Strategy”, or by PF deletion of the strong feature in PF. It is this last strategy that is taking place in (53a).

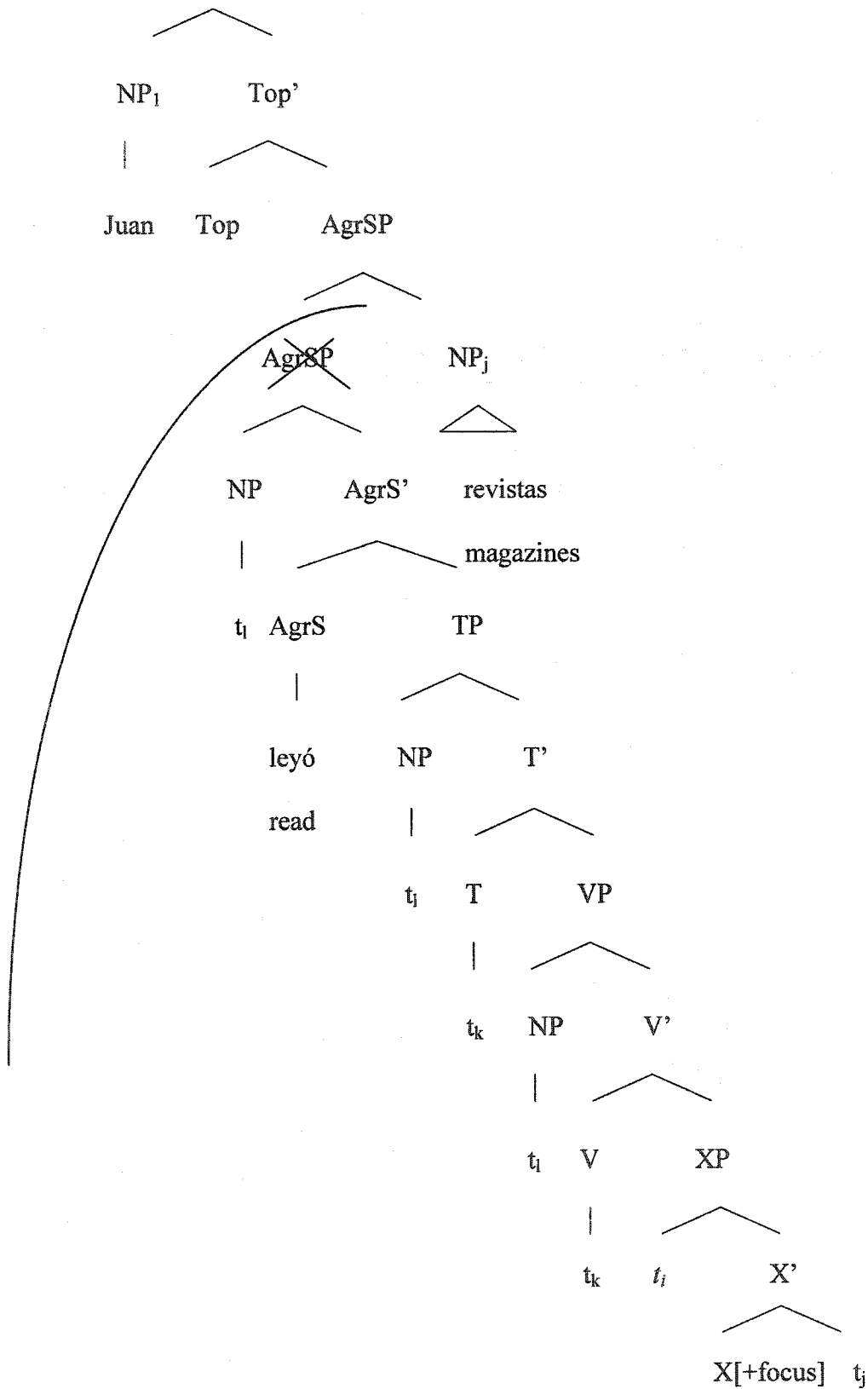
Let me offer the derivation for (53a):

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compatible with the affix hopping analysis, where the verb is lower than Foc, namely, in AgrS. At this point, the data point to two different directions. I will leave this issue open for further research.



(55) ...TopP



#### **4.6.1 Motivating the analysis**

There are three main aspects of the derivation in (55) that need to be argued for. As the tree makes clear, the subject 'Juan' is located pretty high in the structure, namely, Spec of TopP. This high placement for the subject is not that surprising. Ordóñez (1997), Ordóñez and Treviño (1999), Ausín and Martí (2001), among others, have already argued for the possibility of this high position for the subject in declarative and interrogative clauses. I will show that the subject is also located in Spec TopP in subcomparative sentences. Second, there is an extra projection in the tree called XP. This projection contains a strong focus feature. The NP '*t<sub>i</sub> revistas*' is the complement of X at some point but then it moves so that it escapes the deletion site. I will provide evidence for the existence of XP in the tree. The relevant evidence comes from Kennedy and Merchant (2000) and Rivero (1981). Finally, the movement of the DO needs to be argued for. I will propose that the object undergoes Heavy NP shift (HNPS).

##### **4.6.1.1 Subjects as Topics**

Let us start by discussing the position of the subject 'Juan' in the subcomparative clause. The first possibility that comes to mind is that the subject is located in Spec AgrSP. However, there is evidence that the subject is located higher, namely in Spec TopP. Belletti (1990) mentions that negative quantifiers such as 'nessuno' (nobody) cannot undergo topicalization. The relevant examples are provided in (56). Spanish behaves like Italian, as in (57):

- (56) a. \*Nessuno, l'ho incontrato ieri  
           nobody CL have see yesterday  
           'Nobody I saw him<sub>CL</sub> yesterday'
- b. \*A nessuno, gli daranno il premio  
           to nobody CL will-give the prize  
           'To nobody, they will give him<sub>CL</sub> the prize'

- (57) a. \*A nadie, lo ví ayer  
           to nobody CL saw yesterday
- b. \*A nadie, le darán un premio  
           to nobody CL will-give the prize

If the subject in the subcomparative clause behaves like a topic, then a negative quantifier will not be able to occur in that position. Unfortunately, the test cannot be run since the resulting output is not pragmatically sound:

- (58) # María read more books than nobody magazines

Belletti offers some additional tests for topic-hood. According to her, in sentences containing a subject followed by a sentential adverb, the adverb is in a high position and the subject is in a left peripheral position, topicalized or left-dislocated. An Italian example is given in (59a) and the Spanish counterpart in (59b). Recall that we already discussed this possibility for Spanish in section 4.5.2. If we combine the negative

quantifier test with this new test, an interesting result emerges. If the position preceding ‘probablemente’ is a topic position and if negative quantifiers cannot be topicalized, we correctly predict that a sentence such as (60) should be ungrammatical.

(59) a. Gianni probabilmente telefonerà alle 5

John probably will-call at 5

b. Juan probablemente llamará a las 5

John probably will-call at the 5

(60) ??Nadie probablemente llamará a las 5

nobody probably will-call at the 5

Let us apply this test to our subcomparative example. In (61), the subject ‘John’ precedes the sentential adverb, which is consistent with the idea that ‘John’ is located in a topic position. Note that ‘probablemente’ has a sentential reading in the subcomparative clause.

(61) María probablemente leyó más libros que Juan probablemente revistas.

Mary probably read more books than John probably magazines

Let us now focus on another example which further suggests that ‘Juan’ is behaving like a topic in subcomparative constructions. The relevant data is provided

below. Under the assumption that ‘probablemente’ cannot occur higher than topics,<sup>17</sup> the ungrammaticality of (62) is explained if ‘Juan’ is indeed a topic. That is, if the subject is in a topic position and the adverb cannot occur higher than that position (i.e. it is AgrSP-adjoined), we expect the word order adverb-subject to be impossible.

- (62) ?? Probablemente María leyó más libros que probablemente Juan revistas  
 probably Mary read more books than probably John magazines

In summary, the evidence presented in this section suggests that the claim that the subject in the subcomparative clause is behaving like a topic. In the next section I provide support for AgrSP-deletion and XP.

#### 4.6.1.2 AgrSP-deletion and XP

Recall from the discussion on the “Inversion Strategy” that the DO had a strong focus feature which was checked off by overt movement of the DO to a Focus projection. I would like to suggest that the DO ‘revistas’ also has a strong focus feature in the “Obligatory Gapping Strategy”. Following Lasnik (1995), I assume that strong features can be eliminated from the derivation either via movement or via PF deletion of the strong feature. Once PF deletion takes place, the strong feature is literally gone at that level.

Lasnik applies this system to explain the behavior of pseudogapping examples such as (63):

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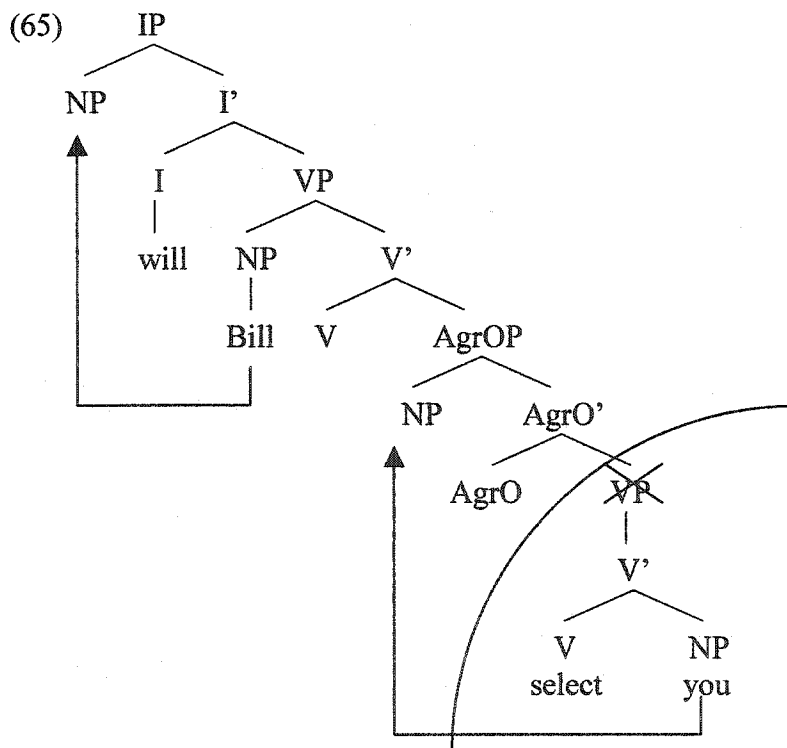
<sup>17</sup> This possibility is quite likely given the discussion in section 4.5.2. where it was argued that ‘probablemente’ is AgrSP-adjoined in the sentential reading.

(63) John will select me, and Bill will ~~select~~ you.

At first glance, it seems that Pseudogapping structures only involve elision of the main verb ('select' in this case). However, (64) shows that other elements can be elided as well:

(64) The DA proved Jones guilty and the assistant DA will ~~prove~~ Smith guilty.

In order to account for this apparently discontinuous type of ellipsis, Lasnik (1995) proposes that Pseudogapping is an instance of VP ellipsis with the remnant having moved out of the VP to Spec AgrOP overtly.<sup>18</sup> The derivation Lasnik gives for (63) proceeds as follows:<sup>19</sup>



<sup>18</sup> Lasnik assumes that English may have overt object shift (i.e. movement to Spec AgrOP).

<sup>19</sup> Lasnik assumes Koizumi's (1993, 1995) 'split VP hypothesis'.

As (65) makes clear, the remnant 'you' raises to Spec AgrOP. After this raising takes place, the VP containing the verb 'select' is elided. One of the questions arising in this derivation is the following: Why is (66) ungrammatical given that the derivation in (65) is possible? In other words, why doesn't the verb raise in the Pseudogapping examples?

(66) \*Bill will you select

In order to offer an answer to this question, Lasnik makes use of Chomsky's (1993, 1995) theory. In Chomsky (1993), an unchecked feature causes a PF crash. Under this view, the moving element has a strong feature that needs to be checked against a matching feature upstairs. In contrast, Chomsky (1995) proposes that an unchecked strong feature needs to be immediately checked (Virus Theory of feature strength). This theory is based on Attract. A category containing a strong feature attracts an element with a matching feature downstairs. Bearing these ideas in mind, let us see how the ungrammaticality of (66) can be accounted for. First, we need to postulate that V has a strong feature that needs to be checked<sup>20</sup>. After Formal Features raise, V becomes defective. In (66), either the Formal Features of 'select' did not raise or the features were raised but pied-piping did not take place. In both cases the derivation crashes. So, why doesn't the verb raise in Pseudogapping examples? Let's go back to (65). As I have already explained, when the matching features of V are attracted, the lower V becomes phonologically defective. We also know that one of the reasons why (66) is ungrammatical is because pied-piping did not apply. It seems that we have two options:

either we do pied-piping and we get ‘Bill will select you’ or we delete the phonologically defective V (‘Bill will ~~select~~ you’). In the Pseudogapping examples we have decided to hide the PF damage by deleting the defective structure. Once deletion applies there is no longer a problem with PF because the damage is literally gone at that level.

Let us suppose that the same process is at stake in the subdeletion cases under discussion. The strong focus feature can be checked by overt movement (this would be the “Inversion Strategy”) or by PF deletion. If PF deletion is taking place in the “Obligatory Gapping Strategy”, the projection containing the verb and the strong focus feature would have to be deleted. That we also need to delete the verb is obvious from the ungrammaticality of examples containing an overt verb (see (53b) above).

The ellipsis process cannot be VP ellipsis (see (67) for an English example illustrating this ellipsis process). If this were the case, we would predict sentences containing modal verbs to be grammatical in Spanish (the modal would be in AgrS and the verb in V). This is a wrong prediction, as illustrated in (68). It must be the case that a higher projection is deleted. I will assume based on my discussion below that the deletion site is AgrSP

(67) John sleeps every afternoon, and Mary should too.

(68) \*María puede leer más libros que Juan puede revistas

Mary can read more books that John can magazines

One immediate question arising from the structure in (55) is: Why do we need the extra projection XP? It would be easier to propose that there is only an NP bearing a

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<sup>20</sup> Lasnik (1995) suggests that the feature driving the raising of V could be a  $\theta$ -feature.

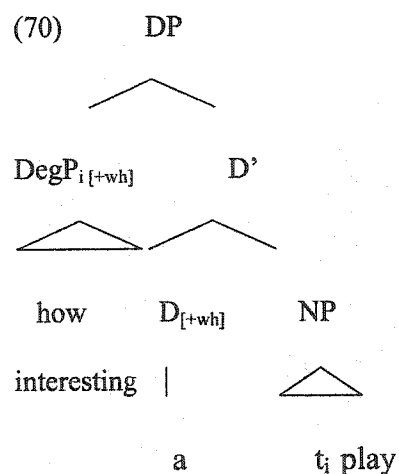


strong focus feature. This alternative would be simpler but it wouldn't give us the output in (53a). This is so because at the point of deletion of the strong focus feature, there would not be a way to eliminate the strong feature without eliminating the NP 'revistas' as well. It seems that we need a way of deleting the focus feature without deleting the DO.

A similar problem was faced by Kennedy and Merchant (2000) in their analysis of attributive comparative deletion. They note that pseudogapping of the verb is obligatory in the construction in (69a):

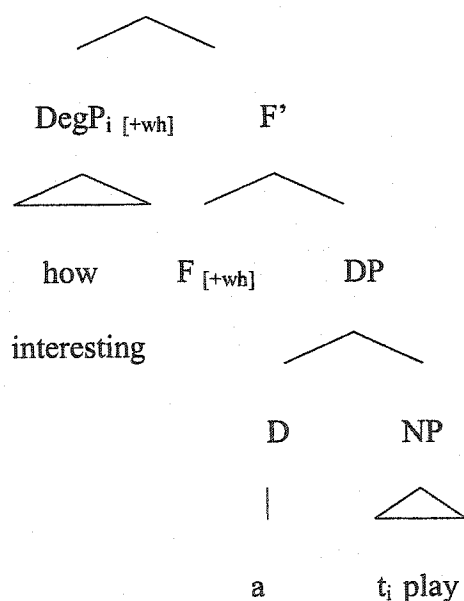
- (69) a. \*Pico wrote a more interesting novel than Brio wrote a play  
 b. Pico wrote a more interesting novel than Brio did a play

They propose that the underlying structure for the phrase "how interesting a play" looks like (70) below:



The idea is that ‘how interesting’ originates inside the NP. Then, it moves to spec DP and passes its strong wh-feature to the head of the DP (see Webelhuth (1992), Chung (1994)). Kennedy and Merchant also assume, following Lasnik, that an offending strong feature can be eliminated from the derivation via PF deletion of the projection containing the verb and the strong feature. Let us go back to (69b) now. If PF deletion were to occur in this case, there would be no way to delete the strong +wh-feature without deleting the survivor ‘a play’. In order to solve this problem, they suggest that the structure for ‘how interesting a play’ is more complex than (70). They propose the structure in (71). Note that there is an extra layer of structure, namely, FP. Given this richer structure, it is now possible to delete the strong feature without deleting ‘a play’. The idea is that the DegP with its +wh-feature raises to Spec FP. The +wh-feature, which is now in Spec FP is transferred to F via spec-head relation. The DP ‘a play’ right-adjoins to VP and VP deletion applies and deletes the FP containing the strong +wh-feature. Crucially the DP is outside the deletion site.

(71) FP



One piece of evidence which supports the rich structure in (71) is given in (72). According to Kennedy and Merchant, 'of' in (72) occupies exactly the F position in (71):

(72) [How long of a novel] did Brio write?

Could it be the case that the structure of the NP 'revistas' in (53a) is also more complex than it seems at first sight? If this could be maintained, it would give us a way of deleting the offending strong focus feature without deleting 'revistas'. I would like to propose that this is indeed what happens in the construction under consideration. According to Rivero (1981), left-branch modifiers belonging to the general class of degree/quantity/measure/quality phrases can be moved in isolation from the constituent they modify by wh-movement (the judgments hold only for some dialects of Spanish):

(73) a. Cómo dices que llegaron de cartas?

How say-you that arrived of letters

'How many letters do you say arrived?'

b. Cómo dices que es de inteligente?

How say that is of intelligent

c. Cómo dices que corre de rápidamente?


How say that runs of fast


d. Cómo dices que hay de pocos libros?

How say that are of few books

The 'cómo' (how) modifier is the spec of a X'' category (where X ranges over N, A, Adv. and Q). The preposition 'de' is inserted by transformation.<sup>21</sup>

(74) X''

  
 Cómo de X'



cartas (letters)

inteligente (intelligent)

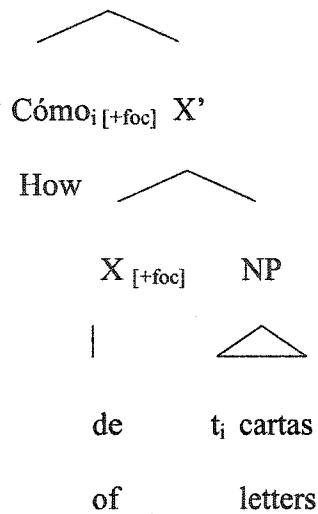
rápidamente (fast)

pocos (few)

I propose to update (74) as in (75) (note that XP is the equivalent of Kennedy and Merchant's FP). Maintaining the intuition that there is a connection between the two subcomparative strategies, I propose that a strong [+focus] feature is involved in this case, too.

<sup>21</sup> Rivero (1981) is not very explicit in this regard.

(75) XP



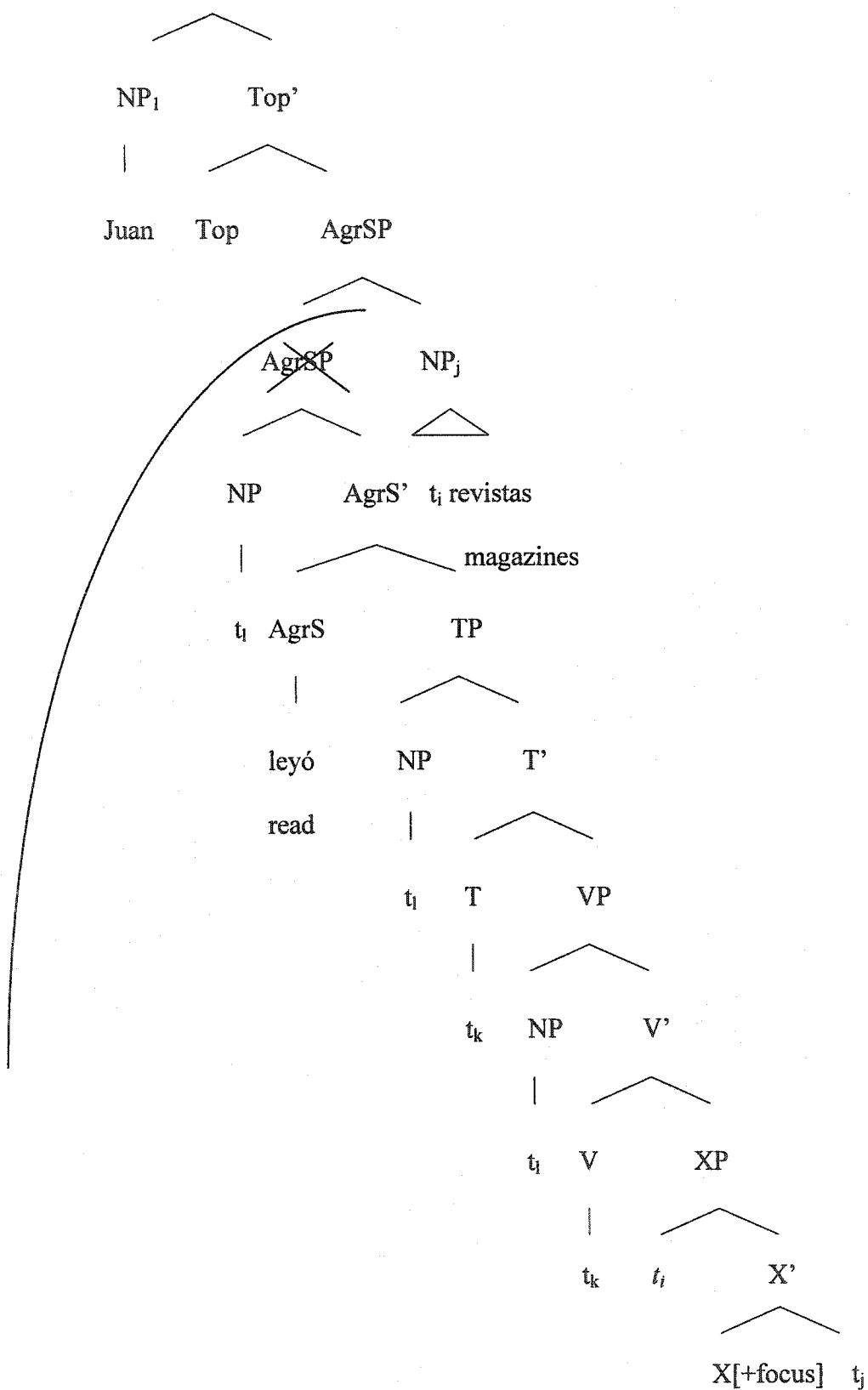
If the structure in (75) is correct it gives us a way to delete the strong focus feature without deleting the NP. I repeat the big structure here for convenience (see (76) below and (55) above).

So far, we know that the subject 'Juan' in (53a) is a topic. We also know that the AgrSP containing the verb and the strong feature get deleted in PF.<sup>22</sup> What we need to discuss is the position and the nature of the movement of the DO 'revistas'. This is the topic of the next section.

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<sup>22</sup> Note that TP could also be the relevant projection. However, if that were the case the verb would be outside the deletion site. See section 4.6.1.4. for a TP-deletion possibility.

(76) ...TopP



#### 4.6.1.3 Heavy NP Shift of the object

One of the claims made in the derivation in (76) is that the DO ‘revistas’ is AgrSP-adjoined. Is there evidence that the object is that high in this kind of structure? Let us compare (77) with (78). The floating quantifiers are ruled out in the first set of data, not in the second one. As discussed in section 4.5.3 (ex. (50)), ‘todos’ is located in Spec TP in (78). According to this, (77a) indicates that the object is even higher than the floating quantifier in the grammatical (78). If ‘todos’ is in Spec TP and ‘revistas’ is higher, the ungrammaticality of (77a) is expected. (77b) seems to indicate that the ellipsis site is very high, so that the floating quantifier is caught in it. These two pieces of data together support the idea that the object is very high in the structure and that the ellipsis site is very high as well.

- (77) a. \*María leyó más libros que los estudiantes todos revistas  
Mary read more books than the students all magazines  
b. \*María leyó más libros que los estudiantes revistas todos

- (78) Los estudiantes leyeron todos el libro  
the students read all the book

So far we know that the object is located quite high in the structure but what kind of movement is the object undergoing? I will claim that the object is undergoing Heavy

NP Shift (HNPS).<sup>23</sup> Lasnik (1995) uses the following tests to determine whether the object is undergoing HNPS in pseudogapping constructions. He compares HPNS and pseudogapping in double object constructions. He tests whether the first and the second object can undergo pseudogapping and/or HNPS. He also tests data with pronouns. Since there is no one-to-one parallelism between pseudogapping and HNPS, Lasnik claims that the pseudogapping remnant is not undergoing HNPS. Let us see whether the remnant 'revistas' is undergoing HNPS or not. (79) is the baseline data to show that HNPS is possible in Spanish (see Fernández-Soriano (1993) and Ordóñez (1997)):

- (79) a. ?Trajeron al hombre que estaba siendo interrogado a la habitación  
 (they) brought to-the man who was being interrogated to the room  
 'They brought the man who was being interrogated into the room'
- b. Trajeron t a la habitación al hombre que estaba siendo interrogado

As the examples above make clear, a heavy NP such as 'al hombre que estaba siendo interrogado' can either stay in its base-generated position or can undergo movement to the right. In fact, the HNPS-ed version sounds more natural (note that 't' in (79b)) stands for the trace of the displaced heavy NP).

In (80a), we have the first object as a remnant in an "Obligatory Gapping Strategy" (note that this is the base order for the sentence: S V DO IO). (80b) shows that

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<sup>23</sup> I'm assuming the traditional approach to HNPS where the object ends up in a right adjoined position in the structure. Nothing would go wrong if the object is left-adjoined instead. I will assume the right adjunction hypothesis here for ease of exposition.



the first object in a ditransitive construction can undergo HNPS.<sup>24,25</sup> The parallelism is maintained with the second object: it can survive in the subcomparative clause (cf. (81a) and it can undergo HNPS (cf. (81b)). Jayaseelan (1990) notes that only one element can be HNPS-ed in English (he attributes this observation to Stowell (1981)). As shown in (82b), this is not the case in Spanish: more than one element can undergo HNPS in this language. Interestingly, multiple remnants can appear in subdeletion constructions too, as in (82a)).

- (80) a. María le dio libros a más alumnos que Juan revistas  
 Mary CL gave books to more students than John magazines

- b. María le dio t a Pedro los libros de aventuras que más le gustaban.  
 Mary CL gave t to Peter the books of adventures than more CL liked

- (81) a. María le dio libros a más chicos que Juan a chicas  
 Mary CL gave books to more boys than John to girls
- b. María le dio libros t ayer al estudiante que había sacado las mejores notas  
 Mary gave books yesterday to-the student who had obtained the best grades

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<sup>24</sup> Note that it would make more sense to compare the number of books to the number of magazines in (80a) (see (i) below). The reason I didn't do this is because I wanted to have a neutral word order in both (80a) and (81a):

- (i) María le dio a Pedro más libros que Juan revistas  
 Mary CL gave to Peter more books than John magazines

<sup>25</sup> Spanish lacks dative shift:

- (i) \*María le dio María un libro  
 Mary CL gave Mary a book

- (82) a. Juan le compró (a María) más libros (a María) que Pedro revistas a Antonia  
           John CL bought to Mary more books than Peter magazines to Antonia
- b. Provó t t al jurado su culpa que Juan fuera visto con el arma del  
           proved to-the jury his guilt that John was seen with the weapon of-the  
           homicidio  
           murder
- ‘It proved his guilt to the jury that John was seen with the murder weapon’

Given the parallelism between the movement of the remnant and HNPS, I will claim that the object is undergoing HNPS in the subcomparative clause.<sup>26</sup> I will assume the traditional approach to HNPS whereby the object is right-adjoined to some maximal projection. Given the evidence we have found for the high position of the object, adjunction to AgrSP seems to be a reasonable assumption.

#### 4.6.1.4 A prediction

Given the discussion in sections 4.5. and 4.6., one could raise the following question: Is one derivation more economical than the other? At first sight one could argue that the “Obligatory Gapping Strategy” is more economical than the “Inversion Strategy” since overt movement has taken place in the latter. If so, one might expect the more economical derivation to block the less economical one. This conclusion would be true if both derivations were identical. However, the “Inversion Strategy” has an extra

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<sup>26</sup> It would be very interesting to find cases where HNPS cannot occur. In that scenario we would expect subdeletion constructions to fail too. Unfortunately, I haven’t come across this kind of examples. Note however that in the examples discussed above there is always a one-to-one parallelism between HNPS and

projection, namely, FocP. As shown above, FocP is not present in the “Obligatory Gapping Strategy” (see (55) for details). In other words, the numerations for those derivations are not identical, and for Chomsky (1995) they thus cannot be compared regarding economy of derivation.

In order to show that the “Inversion Strategy” actually involves an extra projection, we can run the following test. Are both strategies available at the same time? In other words, can overt movement of the object and obligatory verb gapping take place simultaneously? As (83) shows, this is possible. In the example, the object ‘revistas’ has moved to FocP (i.e. “Inversion Strategy”), the verb has been elided and the subject has survived the deletion process.<sup>27</sup>

- (83) María compró más libros que revistas Juan  
 Mary bought more books than magazines John

#### 4.7 An extension: Comparative Deletion

In this section I show that it is possible to extend my analysis to Comparative Deletion constructions.

Comparative Deletion constructions are sentences of the type in (84a) (cf. Bresnan, 1973, 1975).<sup>28</sup> These constructions differ from Comparative Subdeletion in that something other than a variable is deleted in the comparative clause, as in (84b):

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subdeletion. It is not the case that HNPS fails in some cases whereas subdeletion is perfectly grammatical (or viceversa). This seems quite suggestive regarding what’s going on in these constructions.

<sup>27</sup> Note that in this case we cannot be deleting AgrSP or the subject would be deleted. I’m assuming that in this case TP is deleted. See footnote 21 for related discussion.

<sup>28</sup> There is a long debate as to whether Comparative Deletion and Comparative Subdeletion derive from the same source. For example, Chomsky (1977), den Besten (1978), Bresnan (1973, 1975), Izvorski (1995) and Kennedy (2000) argue that the two constructions are the same underlyingly, the only difference being the

- (84) a. Mary read more magazines than John read  
 b. Mary read more magazines than Mary read [~~x-many-magazines~~]

The Spanish counterpart of (84) is ungrammatical, as shown below:

- (85) \*María leyó más revistas que Juan leyó  
 Mary read more magazines than John read

Once again, if the verb is elided, the sentence becomes fully grammatical, as in (86):

- (86) María leyó más revistas que Juan  
 Mary read more magazines than John

It could be argued that 'que Juan' is indeed a phrasal construction (i.e. a PP) in (86). If so, then there is no issue as to whether obligatory gapping strategy is available in Comparative Deletion in Spanish. If there is no verb to start with in 'que Juan', one could argue that Spanish lacks the Comparative Deletion construction all together. What I will argue next is that 'que Juan' in (86) is not phrasal but clausal. Therefore, there are reasons to believe that the verb has undergone obligatory gapping in these constructions, too.

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amount of material deleted in each construction. In contrast, Grimshaw (1987), Corver (1990, 1993) and Kennedy (1998, 1999) argue that the two constructions are fundamentally different. Shedding light on this debate is beyond the scope of this chapter. For the purposes of my discussion, I will follow the first group of authors and assume that the two constructions derive from the same source.

In English, it has been argued that the comparative sentence in (87) contains a PP rather than a full clause (cf. Hankamer, 1973).

(87) John knows more lawyers than me

Supporting evidence for this claim comes from the following set of facts. While it is possible to have a clausal counterpart of (87) after the Nominative 'I' (cf. (88a)), it is impossible to have it after 'me' (cf. (88b)). Given the ungrammaticality of (88b), it is fair to conclude that 'than me' in (87) does not have a clausal source. If so, we would expect to be able to follow the sentence with a verbal form, as in (88a).

- (88) a. John knows more lawyers than I do  
b. \*John knows more lawyers than me do

The state of affairs in Spanish is quite different. As shown in (89), only the Nominative form of the first person pronoun is allowed after 'que':

- (89) a. María leyó más revistas que yo  
Mary read more magazines than I (Nom)  
b. \*María leyó más revistas que me  
Mary read more magazines than me (Acc)  
c. \*María leyó más revistas que mí  
Mary read more magazines than me (Dat)

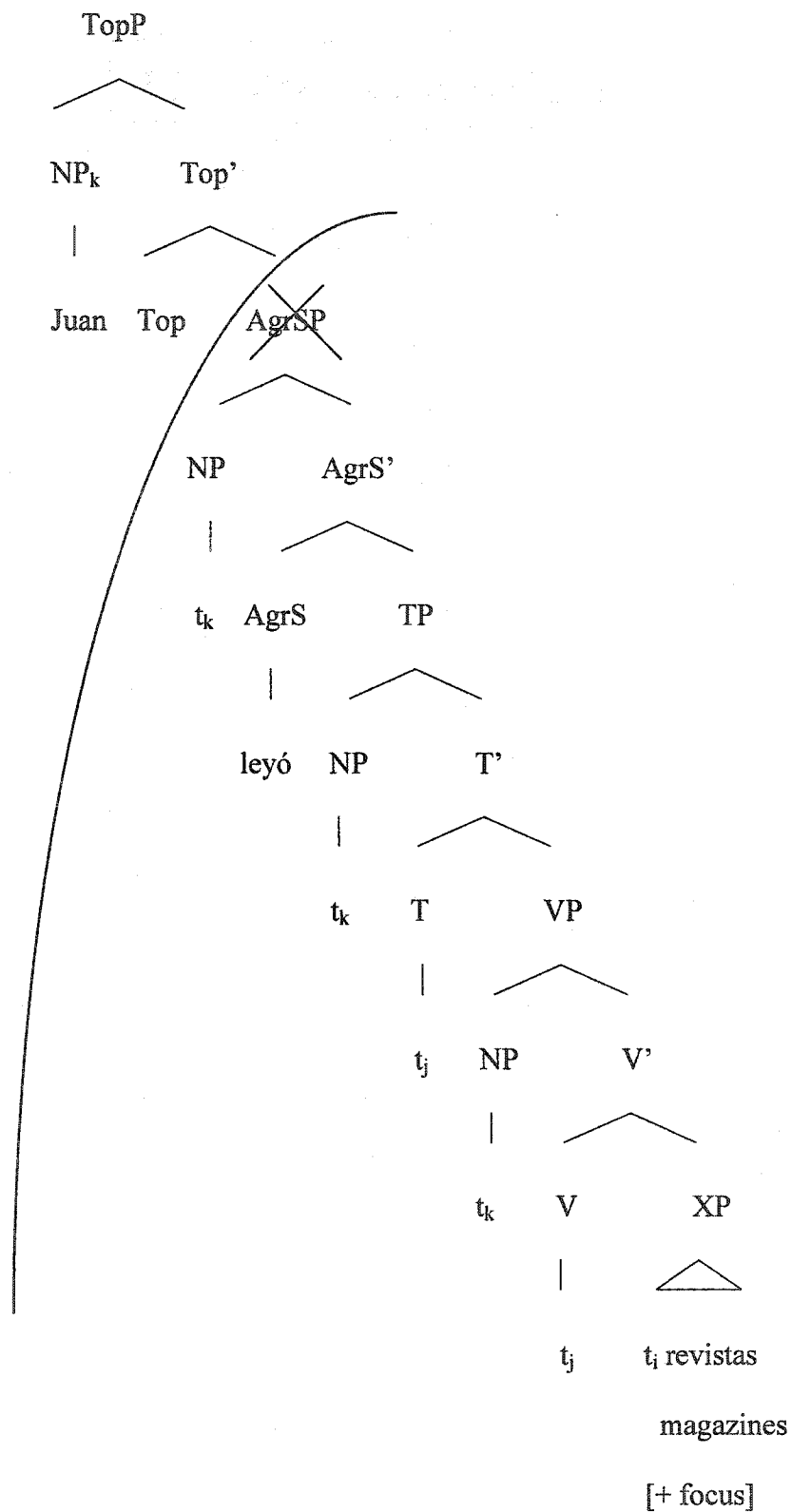
Furthermore, objects following a preposition bear Dative Case in Spanish, as shown below:

$$(90) \quad \begin{array}{ll} \text{a.} & \text{a (to)} \left\{ \begin{array}{l} \surd \text{ mí (Dat)} \\ * \text{ yo (I-Nom)} \\ * \text{ me (I-Accus)} \end{array} \right. \\ & \text{b.} \quad \text{de (of)} \left\{ \begin{array}{l} \surd \text{ mí (Dat)} \\ * \text{ yo (I-Nom)} \\ * \text{ me (I-Accus)} \end{array} \right. \end{array}$$

The evidence presented above suggests that ‘que’ is not prepositional in nature. If this were the case, we would expect the pronoun in (90a) to bear Dative Case, contrary to fact. Furthermore, the form the pronoun surfaces in (i.e. Nominative) is the only form which would allow a clausal counterpart, as in (89a). The interfering factor in Spanish is that a verb can never appear in the comparative clause. Let us now explain why this is the case.

In order to account for the obligatory gapping of the verb in (86), I will propose a very similar derivation to (18). In fact, I argue that Comparative Deletion in Spanish is another manifestation of the “Obligatory Gapping Strategy”. The derivation I propose for (86) is as follows: once again there is a strong feature that needs to be checked. In order to salvage the structure, we need to delete the AgrSP containing the verb and the offending feature. In this case, the object does not undergo HNPS. The relevant derivation is given in (91):

(91) ...



## 4.8 Conclusion

In this chapter I have explored the role of contrastive focus in Spanish Comparative Subdeletion constructions. As shown above, Spanish has two strategies to form these constructions. Under the “Obligatory Gapping Strategy”, the verb undergoes obligatory gapping. Under the “Inversion Strategy”, the word order of the elements in the comparative clause is modified. I have argued that there is a strong focus feature that needs to be checked in both cases. In the “Inversion Strategy” overt movement takes place and the relevant strong feature is checked off. In the “Obligatory Gapping Strategy”, the AgrSP containing the verb and the offending strong feature are deleted and literally disappear at the PF level. My analysis has not only offered an account of Comparative Subdeletion but has also proved successful in capturing Comparative Deletion structures in Spanish.



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