

Prenominal Relatives in Basque and Antisymmetry

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Abstract.

The antisymmetric framework developed by Richard Kayne (1994) has been the source of new insights into a number of constructions, relative clauses being one of them. There are several analyses that deal with this topic (Bianchi 1999, 2000; Borsley 1997; Koster 2000; Platzack 2000; Zwart 2000) but all of them focus on postnominal relatives. Kayne himself proposed that pronominal relative are derived in the same way as postnominal ones, with one further movement of the relative clause to the left of the head noun. The aim of this dissertation is to examine this hypothesis in detail, focusing on pronominal relative clauses in Basque.

The first half of the dissertation is devoted to the discussion of the ideas I build my analysis on. Thus, in section 1 I discuss a number of approaches to relative clauses that fit in Kayne's framework but that, for some reason or another, I have decided not to follow. In section 2, I critically examine at length the analysis first proposed by Kayne and further developed by Valentina Bianchi (1999, 2000). The second part of the dissertation deals with the implementation of all the previous concepts to Basque pronominal relatives: in section 3, I show that Kayne's IP fronting hypothesis does not yield the right results and propose a new way to derive pronominal relatives; in section 4, I examine the CP layer of Basque –building on some facts about wh- movement, focus and word order- in order to determiner what is the exact category that undergoes fronting; in section 5, I argue that the raising analysis defended throughout this piece of work can explain the accessibility constraints that Basque displays. Finally, in the last section I bring together all the previous discussion before reaching any conclusions.

Chapter 1. A Review of the Analyses of Relative Clauses.

The purpose of this section is to outline a number of different analyses of relative clauses that have been proposed in the literature. Specifically, I will review the traditional adjunct analysis as well as some more recent ones more in the line of the framework I am assuming here (Koster 2000, Platzack 2000, Rebuschi 2001, Zwart 2000). I will try to make it clear why I have not followed any of these proposals instead of the Kayne-Bianchi line of research.

1.1 The Adjunct Analysis.

This is the most extended analysis of relative clauses in the GB-Minimalism framework. One of its defining features is that relative clauses are taken to be CPs that are adjoined to the NP they modify, usually referred to as the *head noun*. In order to link the gap in the relative clause to the head, an empty operator is posited that is generated in the position of the gap and subsequently raises to SpecCP.

- 1) [DP the [NP [NP man_i] [CP Op_i that I saw t_i]]]

It is assumed that the operator gets the phi-features (gender, number and person) of the head noun through a fairly complex process described by Marguerite Browning (1987). The movement of the operator to SpecCP turns the CP into a predicate. In this configuration, the phi-features of the head noun are transmitted to the CP and percolate down to C. Finally, the relative operator and C agree through spec-head agreement. In my view, this operation is quite controversial. Notice that, although the operator eventually acquires the same number, person and gender features as the head noun, it does not follow from this that both items should have the same reference. In other words, co-reference of the head noun and the operator looks to me much like a stipulation¹. As we shall see, one of the advantages of the analysis proposed by Kayne and Bianchi is that, since there is no operator present, there is no need for a stipulation to link it to the head noun. Another problem is that it is usually assumed that an adjunct can appear on either side of the maximal projection it adjoins to. According to this analysis, however, many languages require the adjoined relative clause to be on one specific side of the head noun (e.g., to the right in English). As far as I know, there is no principled reason behind this constraint.

One of the main advantages of this analysis, though, is that it is possible to maintain a very similar analysis for relatives introduced by a complementiser (2a), by a relative pronoun (2b) and by neither of the latter (2c):

- 2) a. This is the woman_i [Op_i that I love]
b. This is the woman_i [who_i Ø I love]
c. This is the woman_i [Op_i Ø I love]

As we can see, the assumption is that SpecCP is always taken up by either an operator or a relative pronoun, which can be regarded as the phonetically realised counterpart of the former. Thus, the islandhood of relative clauses follows, since if a wh- element raised to the matrix clause, it would violate the Shortest Move Condition². On the other hand, it is difficult to explain why it is not possible to have a relative

¹ I will discuss this objection in more detail later in this section.

² In any event, the island status of relative clauses would also follow from the fact that they are adjuncts.

clause with both a relative pronoun and an overt complementiser (3a) or why a zero relative is wrong if it is the subject that is relativised (3b):

- 3) a. *This is the woman_i [who_i that I love]
b. *This is the woman_i [Op_i Ø kissed me]

The usual assumption is that (3a) is ruled out by the Doubly Filled Comp Filter, which states that C and SpecCP cannot be both overtly filled. However, in the framework I will be assuming, both SpecCP and C will quite often be overtly filled, leaving this filter useless. As regards (3b), in the traditional analysis it was ruled out because, by the ECP, the subject trace is not properly bound. However, it is not clear to me how this explanation can be implemented in a minimalist framework, where it is assumed there is no such thing as head government³.

1.2. Platzack's Complement-of-N° Analysis.

Christer Platzack (2000) develops an analysis fairly similar to Kayne's (1994) in that the relative CP is taken to be a complement rather than an adjunct. However, the crucial difference is that Platzack takes the relative CP to be a complement to N –and not to D, as Kayne originally proposed:

- 4) [DP the [NP man [CP that I saw]]]

Although the difference might seem minimal at first sight, it results in a completely different analysis of relatives, actually more similar to the traditional analysis than to Kayne's. To begin with, this analysis requires the relative SpecCP position to be filled in order to explain the island effect relatives display. This leads Platzack to argue that the head noun originates in its surface position outside the clause, and that the SpecCP slot is taken up by a phonetically null operator.

To my view, this proposal has several disadvantages. On the one hand, it shares with the traditional adjunct analysis the stipulation that the operator and the head are co-referential for no apparent reason. On the other hand, as also happens with Kayne's proposal, D and N do not form a constituent, therefore the analysis of extraposition as CP stranding would not work here either. Platzack's main motivation for this analysis was to explain a number of differences between Swedish restrictive and non-restrictive relatives in structural terms. However, I believe that the drawbacks this hypothesis comes up against largely undermine its potential benefits. Therefore, I will not pursue it any further.

1.3. Koster's Parallel Structure Analysis.

Jan Koster (2000) argues that both the analyses presented above and some more recent ones are defective in that they do not account in the right way for some aspects of extraposed relatives. As regards the adjunct analysis –where extraposition is viewed as adjunction to a higher projection through rightward movement-, Koster points out that it would certainly violate some well-established constraints. To give a clear single

³ Actually, the problem is even more serious because of the fact that these sentences are not universally ungrammatical. Structures like (3a) were right in Old English, and so is (3b) in some present-day varieties of Irish English. While it is possible to argue that the Doubly Filled Comp Filter is subject to parametric variation (thus explaining the contrast between Old and Present Day English), the ECP is supposed to hold universally. Therefore, it is unexpected that (3b) is right in Irish English.

example, he points out that PPs are very strong islands in Dutch, so nothing can be extracted out of them. Thus, the following sentence is ungrammatical:

- 5) **[Welke vrouw]_i heb je [PP met [NP de moeder [PP van t_i]]] gesproken?*
 which woman have you with the mother of talked

However, right extraposition is fine precisely in the same contexts in which extraction out of a PP is wrong. This suggests that analysing extraposition in terms of movement (as done, e.g., by Büring & Hartmann 1997) is on the wrong track:

- 6) Hij heeft [PP met de moeder [PP van de vrouw]] gesproken [die alles wist]
 he has with the mother of the woman talked who all knows

On the other hand, Koster argues that Kayne's (1994) analysis of extraposition as CP stranding faces even greater problems. For instance, in Kayne's proposal, the raised head noun *de vrouw* "the woman" in (7) does not form a constituent. Therefore, it cannot be affected by any movement rule that strands the CP complement⁴:

- 7) Hij heeft met [de vrouw]_i gesproken [t_i die alles wist]
 he has with the woman talked who all knows

In short, Koster's point is that neither analysis can account for extraposition in the right way. His proposal is to conceive relative clauses as instances of parallel structure, a wider notion that comprises constructions such as coordination and gapping. The main property of parallel structures is that they are dependent on the main structure they are associated to through an operator⁵. The operator is taken to be the head of the whole constructions, the main structure being its specifier and the parallel structure its complement. As Koster himself acknowledges, this is very much like Kayne's (1994, ch. 6) analysis of coordination⁶:

- 8) *[[licensing constituent] [: [relative clause]]]*

One property of parallel structures is that they need not be directly attached to the constituent of the main structure they are licensed through. Instead, parallel structures can attach to a bigger, more inclusive constituent that contains the licensor. Specifically, Koster claims that the limit to how big the bigger constituent can be is the limit to the percolation of the features of the licensing constituent. Since extraposition is strictly clause-bound, the conclusion is that the features of the licensing constituent of a relative clause can percolate as far as the minimal CP containing them. According to

⁴ Admittedly, this is a great problem, since I will be following Kayne's line of analysis. However, I will not touch extraposition in this paper, and the problem is irrelevant for all the data I will bring up, so I will ignore it.

⁵ This operator is characterised by Koster as a *Boolean operator of some sort*, which can be phonetically realised or not. In the case of relatives, he dubs it *Colon*, so the resulting structure is a *Colon Phrase*. Needless to say, this kind of operators do not bear any relation to the ones used in other analyses.

⁶ One problem of analysing *and* as the head of the conjuncts (pointed out by Sag 2000) is that *and* should project its features over its complement and specifier. Therefore, the category of the phrase would be *Conjunction (And) Phrase*. But, on the other hand, distributional evidence shows that the category of the phrase is that of the conjuncts. Sag's conclusion is that either the head can modify its categorial features to match those of the conjuncts or that the phrase assumes the category of the conjuncts instead of the head. Both alternatives are unattested elsewhere, what makes them look highly implausible.

Koster, this explains some constraints on extraposition that had not been accounted for until now (see his paper for the whole argumentation).

Nonetheless, it is not clear to me how this analysis should be implemented to pronominal relatives. Koster's follows Kayne's hypothesis that phrases are universally head-initial. This implies that one would expect to find only postnominal relatives, since in Koster's theory relative clauses occupy the complement position of the Colon Phrase. In order to derive pronominal relatives, it would be necessary to raise the relative clause to a higher position. However, Koster argues that all parallel structures abide by the Coordinate Structure Constraint, whereby no conjunct can be extracted out of the phrase that contains it. Therefore, any attempt to move the relative clause to a higher position would violate the CSC.

One way out of this problem would be to abandon the antisymmetric hypothesis and assume that the position of the complement and the specifier with regard to their head is language-specific. Thus, one could generate pronominal clauses by simply assuming that the complement is located to the left of the head, and not to the right. However, this analysis seems to predict that relative clause extraposition in Basque would be to the left as well, and not to the right as in English. In principle, sentences like the following (from Oyharçabal 2000) are counterexamples to this prediction:

- 10) Zerbait gertatu zitzairen orduantxe [ederki lotsatu zituen]

something happen AUX then well embarrass AUX.C

“Then, something happened to them which embarrassed them a lot”

1.4. Relative Clauses as Instances of Coordination.

Georges Rebuschi (2001) proposes a somewhat different structure for restrictive relatives as a result of a semantic analysis of this type of construction. Specifically, he claims that all the analyses made so far miss one point of the semantics. Below, (11a) represents the syntactic structure of a relative clause, and (11b-f), its translation into semantic terms:

- 11) a. $[_{DP} \text{ every } [_{NP} [_{NP} \text{ man}_i] [_{CP} \text{ Op}_i \text{ that } [_{IP} \text{ John saw } t_i]]]]$
 b. $[_{IP} \text{ John saw } t_i] \Leftrightarrow \text{saw}'(j', x)$
 c. $[_{CP} \text{ wh-}_i/\text{Op}_i \text{ (that) } [_{IP} \text{ John saw } t_i]] \Leftrightarrow \text{lx.saw}'(j', x)$
 d. $[_{NP} \text{ man}] \Leftrightarrow \text{lx.man}'(x)$
 e. $[_{NP} [_{NP} \text{ man}]] [_{CP} [_{CP} \text{ wh-}_i/\text{Op}_i \text{ (that) } [_{IP} \text{ John saw } t_i]]] \Leftrightarrow \text{lx } [_{\text{man}'(x)} \text{ saw}'(j', x)]$
 f. $[_{NP} \text{ every } [_{\text{man that John saw}}]] \Leftrightarrow \text{l}\forall [[\text{man}'(x) \text{) saw}'(j', x)] \rightarrow P(x)]$

As Rebuschi points out, this structure “is not totally transparent for semantic interpretation, since there is one element on the right hand side of the arrow that has no counterpart in the syntactic structure: it is the connector in boldface in [11d]” (Rebuschi 2001:3). The same objection can be made to the Kayne-Bianchi raising analysis, to the adjunct analysis and to Platzack's analysis (discussed above), but not to Koster's analysis examined in the previous section. However, Rebuschi brings about the analysis of Dutch relatives made by Jan Zwart (2000). In his paper, Zwart advocates for introducing a Restrictor Head (and Phrase), as in the following tree:

- 12) $[_{DP} \text{ every } [_{\text{REST P}} [_{\text{book}_i} [_{\text{REST}' } \emptyset] [_{CP} [_{DP} t_i] [_{D'} \text{ which } t_i]]]] [_{C'} \emptyset] [_{IP} \text{ I read } t_j]]]]]]$

Rebuschi observes that there are some problems with this approach as well –for instance, the fact that “it is no longer the [+REL] DP that will be interpreted as a lambda operator binding t_j , but the [+REL] head D° itself, thereby leaving t_j uninterpreted” (Rebuschi 2001:6). In order to overcome them, Rebuschi proposes eliminating Zwart’s Restrictor Head and introducing a Conjunctive Head in its place. This head would take the relative CP as its complement and the head noun as a bare NP base-generated in its specifier slot. The whole phrase would be of category NP and would sit in the complement position of a determiner. As independent evidence in favour of his analysis, Rebuschi provides data from Kurdish and Zulu/Xhosa, showing that the Conjunction Head is phonetically realised in some languages.

Nonetheless, I find that this proposal looks suspicious in at least two aspects. As happens with the traditional analysis as well as with Platzack’s, the fact that the head noun originates outside the clause forces Rebuschi to postulate an empty operator in the SpecCP slot –an objection I will argue against in more detail in the following section. Second, as also happens with Koster’s analysis, the fact that the whole construction is headed by a conjunction makes it subject to the Coordinate Structure Constraint. Therefore, any attempt to derive a prenominal relative by leftward movement of the relative CP would violate the CSC. As regards the latter point, one could (again as in Koster’s analysis) reject the assumption that all languages are head-initial. However, since this is not possible in the framework I am using here, I will not go further into this problem.

1.5. Against Operators in Relatives.

As I have stated repeatedly in the preceding discussion, I regard the use of empty operators in relatives as specially suspicious. The main objection is that their co-referentiality with the head noun is not the result of any operation but, rather, is a mere stipulation. All the analyses that make use of this device assume as something straightforward that the operator and the head noun are co-referential, without ever questioning the motivations behind this assumption. Notice that there is nothing wrong with assuming that both elements have to be co-referential (otherwise, it would be impossible to get the right meaning); instead, the problem is the mechanism whereby they come to be co-referential. Bianchi (1999), referring back to Browning (1987), explains that the phi-features of the head noun are transmitted to the operator through a fairly complex process of feature percolation and Spec-Head agreement. However, this is not enough. All that process ensures is that both elements are going to have the same gender, person and number features. By no means does this entail that their reference should be the same. For instance, *Ben* and *Tim* have the same phi-features, but different referents.

In short, the problem is that constituents are forced to be co-referential without any independent justification. With regard to this, it could be argued that the same problem turns up with regard to pronoun binding contexts like *Dan_i said he_i had to leave*, where *Dan* and *he* are co-referential but there is no apparent reason why they should. I believe, though, that this is a different issue. To begin with, it is important to bear in mind that although both words can be co-referential, they haven’t got to. If the above sentence was uttered out of the blue, a reading in which *he* referred to *Dan* would be as acceptable as one in which it did not. The situation changes, though, if the sentence is contextualised:

- 13) Myriam is Dan's wife. While at an important meeting, Phil told Dan that Myriam had been badly injured in a car crash. Despite the importance of the meeting, Dan said he had to leave for the hospital (he=Dan)
- 14) Dan owns a night-club only people over 18 are allowed to enter. When James, aged 16, was caught inside the club asking for a beer, Dan said he had to leave (he≠Dan)

Tanya Reinhart (1983) claims that true binding creates sloppy identity effects in the pronoun, as exemplified in the out-of-the-blue sentence, where the referent of *he* is ambiguous (as a matter of fact, it would be possible to force an alternative, ambiguous reading in the contextualised examples, although it would describe highly improbable situations).⁷ These facts make the co-referentiality of the head noun and the operator even more suspicious, because it is not possible to obtain an ambiguous reading in this construction: both elements have always to be coindexed. If the operator ever referred to something different to the head noun, the sentence would be unintelligible. Nor it seems plausible to try an analysis in the same line of the *I said I had to leave* sentences. In these sentences, what blocks ambiguity is the deictic nature of the pronouns involved (which one could argue is not part of 3rd person pronouns). While one could argue that some nouns have a deictic meaning, it does not seem reasonable to say that *all* nouns are deictic, a necessary condition to develop this line of analysis.

Consider now a situation in which there is no ambiguous reading of coindexed constituents. This situation is the one involving a moved constituent and its trace. Thus, the lack of ambiguous reading in relatives clauses suggests that the operator and the head noun should be related via movement, rather than through a operation similar to the one used in pronoun binding⁸. Moreover, a quick glance at both structures is enough to reveal a fundamental difference: in "true" pronoun binding sentences, the binder need not c-command the bindee –as exemplified below- while it is universally accepted that a constituent can only move to a position from where it can c-command its trace.

- 15) [The man who caught James_i in the club] said he_{i/j} had to leave.

In the framework I am assuming, it is always the case that the head noun c-commands the putative operator. As expected, no ambiguity ever arises, which seems to confirm that a movement analysis is far more appropriate than one involving empty operators. In analyses where the head noun does not c-command the operator (cf. the traditional adjunct analysis), the fact that no ambiguity can arise (as in pronoun binding) would be an exception quite tough to explain.

Evidently, it would be desirable that this line of argumentation could be extended to other constructions that are usually considered to involve constituents that are coindexed for no reason, such as parasitic gaps, *tough*-sentences and control. While I do not know of any attempt to analyse the first two constructions in this way, there is

⁷ Sentences with 1st and 2nd person pronouns are not counterexamples to Reinhart's claim, since the lack of ambiguity in sentences like *I said I had to leave* is probably due to the deictic nature of these pronouns. A more thorny problem is why anaphors and reflexives have no ambiguous reading either. It might be due to the fact that they lack referential content at all (and thus need to assume some other element's reference), whereas pronouns can either have their own reference or adopt their antecedent's.

⁸ Jan Zwart (2001) argues that pronoun binding is also the result of movement: the antecedent and the pronoun are a single item in the numeration. Then, the antecedent raises stranding the pronoun in the base position. However, his analysis predicts (wrongly) that a pronoun could never have a non c-commanding antecedent, as in (15).

an analysis of PRO in terms of movement. Norbert Hornstein (1999) argues that a number of properties of PRO (such as the requirement that the controller c-command PRO, the requirement that PRO be phonetically null, or the requirement that PRO appear in exclusively non-finite contexts) just follow, rather than need to be stipulated if one assumes that the controller originates in the position of the putative PRO and then raises (that is, if one analyses control sentences in the same way as raising). The point here is that Hornstein’s proposal is appealing in that it dispenses with quite an *ad hoc* empty category that gets its reference through a stipulation and reduces its properties to the fact that it is an instance of movement. In the same way, the raising analysis defended by Kayne and Bianchi also explains certain difficult points of the empty operator analysis, such as coindexation, lack of ambiguity, or the very presence of a gap inside the clause.

It is also possible to give an empirical argument against the use of empty operators in relative clauses⁹. Basque auxiliary verbs carry a set of morphemes that agree for person and number (occasionally, also for gender) with the subject, direct object and indirect object of the clause, as shown below. This set of morphemes is also present in the auxiliary verb of a relative clause:

- 16) Guk hari liburuak eman di - zki - o - gu
 we.ABS him.DAT books.ERG give PRES-ERG.PL-DAT.3.SG-ABS.1.PL
 “We have given the books to him”
- 17) [Guk hari *e* eman dizkiogun] liburuak
 we him give AUX.C books
 “The books we have give to him”

Let us assume, for the sake of the discussion that empty operators do actually exist. According to Browning’s hypothesis mentioned above, the operator would originate in the position of the gap of the relative clause and then raise to the SpecCP position in order to receive the phi-features of the head noun. However, these features are only passed to the operator once it has reached the SpecCP position, not any earlier. The features are not present in the base position, therefore there is no way in which the operator can trigger the relevant agreement morpheme in the embedded auxiliary. In (16), the object of *give* is a plural object, and so it forces the presence of the morpheme *zki* in the auxiliary. In (17), on the other hand, the object of *give* is an operator that lacks phi-features. I cannot see how the right agreement morpheme can appear in the embedded auxiliary –unless one argues that, once in SpecCP, the features of the operator percolate all the way down to its base position and trigger the right agreement. But, as far as I know, this option has no serious support whatsoever, neither empirical nor theoretical. In the raising analysis, the agreement pattern follows without any further stipulation, because the object of *give* in (17) is a plural object, the same as in (16).

⁹ Although I give a Basque example, this argument can be carried over any language that shows rich verb agreement morphology for at least one of the arguments of the verb.

Chapter 2. The Raising Analysis of Relative Clauses

2.1. Consequences of Antisymmetry.

The aim of this section is to describe and discuss the line of analysis first suggested by Kayne (1994) and further developed by Valentina Bianchi (1999, 2000). Their core claim is that relative clauses are CP complements to a determiner. The configuration that Kayne proposed at first (1994, ch. 8) is the following (although it will be revised later on):

$$19) \quad [_{DP} D [_{CP} N_i [_{CP} C [_{IP} \dots t_i \dots]]]]$$

The main motivation for this approach is that adjunction is extremely restricted in the current framework, therefore it does not seem plausible to analyse relative clauses as adjuncts. Although adjoined constituents are still allowed (in the form of a single adjunction to the left of the head-complement group), following this line of research would raise far more problems than seeking an alternative would. First of all, this is what the structure would be like:

$$20) \quad [_{DP} [_{CP} \dots]] [_{DP} D [_{NP} N]]$$

Since adjunction has always to be to the left of the head noun, the prediction is that, in principle, all relatives would be prenominal. The only way to get a postnominal relative would be to stipulate a higher head to which the head noun could raise. However, there would be no motivation whatsoever for that required projection. Also, for theory-internal reasons, it would be difficult to justify movement of the head noun without the adjunct. Kayne (1994, ch. 3) explains that the head-complement group is a segment of a larger category formed by that XP and the specifier adjoined to it. In order to allow specifiers, it is necessary to view them as one single category (unit) rather than as two segments bearing the same label. Therefore, it is not possible to split that category and move only one part of it.

$$21) \quad *[_{XP} [_{DP} \dots]_i [_{XP} X [_{DP} [_{CP} \dots] t_i]]]]$$

Moreover, since the head noun would no longer raise from within the relative CP, one would have to rely on an empty operator to link the gap in the relative clause and the head noun. As I argued extensively in the previous section, I regard the use of empty operators quite controversial in that their co-reference with the head noun has to be stipulated.

The possibility that relative clauses could occupy the only adjunct slot still available having been discarded, the only option left is that they sit in a complement position. In the previous section, I discussed a number of analyses that argue that relative clauses are complements to N°. Plausible though they might be, in the remainder of this dissertation I will focus exclusively on the raising analysis proposed by Kayne and Bianchi. The figure in (19) represents the structure he proposes for *that* and zero relatives. The proposal for *which* relatives is somewhat more complex. According to Kayne, a sentence like *The girl which I saw* would be derived from the base structure (22a) *The I saw which girl*. Now two different movements follow: first,

movement of *which girl* to SpecCP (22b); second, movement of *girl* to the specifier position of the DP headed by *which* (22c)¹⁰.

- 22) a. [DP the [CP C [IP I saw [DP which [NP girl]]]]]
 b. [DP the [CP [DP which [NP girl]]_i [CP C [IP I saw t_i]]]]
 c. [DP the [CP [DP [NP girl]_j [DP which t_j]]_i [CP C [IP I saw t_i]]]]

Thus, the conclusion is that in *which* relatives it is a full DP that raises. On the other hand, in *that* and zero relatives the raised constituent is a bare NP. The latter conclusion has a serious flaw, however, spotted by Robert Borsley (1997). He showed that the raised head noun in a *that* or zero relative cannot be a bare NP. Rather, it should be analysed as a full DP, since it shows the behaviour of DPs with respect to tests involving coindexation of traces, controlled subjects, licensing of parasitic gaps, case marking and extraction out of weak islands (Borsley 1997:632-633). The consequence, therefore, is that the raised head noun has to be a DP. But if we accept that the head noun has to originate as a DP, the structure for a sentence like *The picture that Phil liked* is the following:

- 23) [DP the [CP [DP e [NP picture]]_i [CP that Phil liked t_i]]]

The question Borsley raises is: if we assume that the head noun originates as the object of *like* and then raises, then it should have an overt determiner, since *like* does not accept an object with an empty determiner. But if what raises is a DP with an overt determiner, then we would get a sentence with two determiners. In short, the hypothesis that it is a DP that raises forces one to explain the grammaticality-ungrammaticality of the following set of sentences:

- 24) a. Phil liked [the picture]
 b. The [e picture] that Phil liked
 c. *Phil liked [e picture]
 d. *The [the picture] that Phil liked

Clearly one has to find a way to license an empty determiner in the raising DP, but not elsewhere. Valentina Bianchi (1999, 2000) offered a solution to this problem drawing concepts from the HPSG framework (cf. Pollard & Sag 1994). Her proposal is the following:

“Let us assume that before Spell-Out the terminal symbols dominated by functional heads are not concrete morphemes, but sets of [...] feature structures. [...] After a functional head F_1 incorporates to a host F_2 , an operation of unification can apply to combine F_1 and F_2 into a single feature structure. In the morphophonological branch of the derivation, this feature structure is spelled out as a single morpheme: since the trace of the

¹⁰ The main piece of evidence Kayne offers supporting this analysis is that, allegedly, there is no language in which prenominal relatives display relative pronouns. This follows from his analysis, since that construction could only be achieved by moving something that is not a constituent. Thus, the very architecture of the clause restricts relatives with relative pronouns to appear only in postnominal position. Since I am not concerned with postnominal relatives in this dissertation, I will not discuss the motivations behind all the movements required.

incorporated head F_1 is not spelled out in its original position, in the resulting PF F_1 appears to have been deleted.” (Bianchi 2000:125)

In order to prevent both determiners from remaining separate, Bianchi (2000:126) proposes a principle of economy that makes incorporation obligatory whenever possible:

25) *Economy of representation:*

Incorporate a functional head to a host whose feature structure is consistent with its own.

Thus, (24d) is wrong because the second determiner has failed to incorporate to the higher head, while in (24b) incorporation has taken place. In the same way, (24c) is ungrammatical because the determiner has no head to incorporate to, therefore an empty determiner cannot be licensed. However, this proposal raises a number of questions. First of all, it seems obvious that, for the two determiners to be unified, they have to be linked by some kind of relation. At first sight, there is no such relation: the lower determiner is the head of the specifier of the complement of the higher one. Rita Manzini (1994) develops a complex theory of locality that might do to establish a link between both elements. In any event, I reserve the discussion of her hypothesis for a later section.

Let us assume, for the sake of the argument, that such a relation can be established in a principled way. We would still have the question of how unification proceeds¹¹. In HPSG there is no movement, so unification is just the intersection of two sets of feature structures. But, would there be movement in the current framework? The easiest answer is that there would certainly be. I cannot see how both determiners could otherwise be unified. Without movement, their feature structures could not intersect. This assumption, although highly speculative, at least provides an answer to question of why the upper determiner should be the host to which the lower one incorporates, rather than the other way round. Given that unification involves movement, and that movement can never be downwards, the only option left is for the lower determiner to raise to incorporate to the upper one¹²:

- 26) a. $[_{DP} D_1 [_{CP} [_{DP} D_2 [_{NP} N]] [_{CP} \dots]]]$
 b. $[_{DP} \{D_1 + D_2\} [_{DP} t_i [_{NP} N]] [_{CP} t_i [_{CP} \dots]]]$
 c. $[_{DP} \{D_{1+2}\} [_{DP} t [_{NP} N]] [_{CP} t_i [_{CP} \dots]]]$

A third problem has to do with the set of features that intersect. Unification, as conceived in HPSG, requires both feature structures to have the same values for the attributes they share, although they need not have the same attributes. One of the attributes shared by the two determiners is case, so one would expect the only possible relative clauses to be those in which the relative determiner and the external determiner carry the same case. In other words, this approach, as such, wrongly rules out the following example:

¹¹ An even more puzzling problem is why *which* does not incorporate to the upper determiner. The simplest answer is that *which* and the upper determiner have different values for a shared attribute. For instance, *which* could be characterised as being [+WH] whereas the upper determiner would be [-WH]

¹² However, this solution violates the Left Branch Condition, which (roughly) states that the leftmost constituent of an NP/DP cannot be extracted out of its containing phrase. I will not go into this problem, though. See Boskovic (2002) for discussion.

27) Ben kicked the man that kissed Sarah

In (27), the external determiner heads the object of *kicked*, therefore it carries accusative case. On the other hand, the raised head noun originated as the subject of *kissed*, therefore it carries nominative case. Due to this clash of values for a shared attribute, it is predicted that the two determiners should not be able to undergo unification, and the sentence should be wrong. But since it is fine, and since it seems one cannot dispense with case, one has to find a way of excluding case from the unification process. With regard to this problem, Bianchi assumes that “being case marked is a property of the D position” (Bianchi 2000:129)¹³. That is, the nominative or accusative case that each determiner carries in (27) is a property of the position they are in, not a property of the determiners themselves. Under this view, case is not an attribute of the feature structures of the determiners, and it is not included in the unification process. Thus, no case clash arises.

To finish with this section, I want to mention a problem pointed out to me by Jon Ortiz de Urbina. If we assume that the head noun is the complement of a PP, what would happen to the preposition once the head noun raises? In English, a preposition can be stranded at the end of the relative clause (f.i., *The girl [I was in love with]*). However, prepositions (or, rather, postpositions) in Basque are clitics that attach to the right of the DP that sits in their complement position. This is a problem because postpositions cannot be stranded, nor are they expressed at all once the head noun has raised.

- 28) a. [Haiek t_i bizi ziren] [bailara]_i-k zortzi etxe zituen
 they live AUX valley-ERG eight house had
 “They valley they lived in had eight houses”
 b. *[Haiek t_i -n bizi ziren] [bailara]_i-k zortzi etxe zituen
 they in live AUX.C valley-ERG eight house had
 c. *[Haiek t_i bizi ziren] [bailaran]_i-k zortzi etxe zituen
 they live AUX.C valley-in-ERG eight house had

It is usually assumed that Basque has only three “true” cases, namely ergative, absolutive and dative (see Laka n.d.). All other declensional forms of nouns (locative, comitative, instrumental, and so on) are taken to be postpositions that cliticise to the noun, as I have just explained. However, there exists a second class of postpositions, which differ from the former in that they are phonologically independent items. Also – following the assumptions outlined so far-, some of these postpositions take a DP as their complement, while some others take a PP headed by one of the clitic postpositions. For instance, *zehar* “through” requires its complement to carry the genitive postposition (*r*)*en*; on the other hand, *buruz* “about” requires a dative DP (*-ri*):

- 29) a. Basoa-ren zehar ibilka iritsi gara herrira
 woods-with through walking arrive AUX village-to
 “We have arrived at the village walking through the forest”
 b. Zure liburua-ri buruz hitz egin dugu
 your book-to about speak AUX
 “We have talked about your book”

¹³ Giuliana Giusti (1993) is cited as the source of this hypothesis.

What I would like to propose is that the postposition belonging to the first group (i.e., those that cliticise to a DP) are not postpositions actually. Rather, I believe they should be treated as morphemes marking different cases¹⁴. This proposal has a number of implications. To begin with, all the constituents headed by a putative clitic postposition are no longer PPs, but instead they have to be analysed as DPs. Therefore, the number of cases increases far above the three traditionally assumed.

Second, we achieve the generalisation that all true postpositions take a DP as a complement. Otherwise, it would be a mystery why some of them would take a PP (29a) whereas some others would take a DP (29b). And third, analysing these constituents as DPs allows us to explain the sentences in (28). The locative marker does not appear in the raised head because it is just a case marker, analogous to an ergative or absolutive morpheme. Following the assumption, mentioned above, that being case marked is a property of the D position, it is clear why (28b) and (28c) are wrong. What blocks the locative marker from appearing once the head noun has raised is the hypothesis that a DP must carry the case marking of the position it occupies. Since in (28) the raised head occupies a position that is assigned ergative case, the case marker that is present is, precisely, ergative. The locative marker is out in (28c) because that is not a position where it belongs, and in (28b) because there is no DP that could sustain it in the base position.

2.2. The Raising of the Head.

As we have seen, Kayne and Bianchi defend an analysis in which the head noun is generated inside the relative clause and then raises, rather than being outside the clause and linked to the gap through an operator. In this section I will report some arguments (taken from Bianchi 1999:49-54) that support this hypothesis.

One of Bianchi's arguments (originally due to Jean Roger Vergnaud 1974) is that some idioms, such as the French *prendre part* "to take part", allow one to relativise their object if the idiomatic verb is stranded within the relative clause, but not if it is external to the clause:

- 30) a. Il décrit dans son livre la part [qu'il a prise *e* aux travaux du 9^{ème} congrés]
 "He describes in his books the part he has taken at the workings of the 9th conference"
 b. *Il a pris aux travaux du 9^{ème} congrés la part [qu'il décrit *e* dans son livre]
 "He has taken in the workings of the 9th conference the part he describes in his book"

The argument relies on the hypothesis that idiomatic meanings are subject to an adjacency requirement: the verb and the idiomatic object have to be generated next to each other. Let us assume this is true. A traditional analysis could predict that (30a) is right because, even if the head is generated outside the clause, the operator that refers to the head noun originates as the object of *prendre*. However, it would also be predicted that (30b) should be grammatical as well, because the head noun is actually the object of *prendre* in the main clause. In the raising analysis, on the other hand, (30b) would be predicted to be wrong because *la part* originates as the object of *decrit* in the embedded clause.

¹⁴ This proposal has the disadvantage that it obviates the fact that these case morphemes are not cross-referenced in the auxiliary, as opposed to ergative, absolutive and dative markers. On the other hand, it is supported by the fact that (like ergative, absolutive and dative, but unlike true postpositions) they show number agreement with the object.

Another argument, also due originally to Vergnaud (1974) is based on relativisation of predicative DPs, which is impossible if the features of the matrix and the embedded subject do not match. An adjunct analysis would predict that the sentence below is right, because the operator does not get its features until it raises to SpecCP – therefore there would be no feature clash in the base position. A raising analysis does predict (31) should be wrong, because the head noun originates within the embedded clause as a singular DP, therefore it cannot match that plural specification of the matrix clause.

- 31) *Ce ne sont pas le comédiens que leur père était”
 “They aren’t the comedians that their father was”

Finally, I believe the soundest argument in favour of a raising analysis is the existence of internally headed relatives. This type of relatives receives a quite simple account under the hypothesis that the head noun originates inside the clause. The only difference with externally headed relatives is which copy of the head noun is spelt out, the one in the base position or the one that has been raised. In the adjunct analysis, it is necessary to posit that the head noun originates inside the clause, and that the relative CP is adjoined to an external empty N. As a result, the structure for internally headed relatives is radically different to externally headed ones. In the raising analysis, though, the hypothesis that the only difference between both types is which link of a chain is pronounced weighs in its favour, since the two types of relatives are derived in the same way. Nonetheless, Georges Rebuschi (2001) makes a highly speculative remark suggesting that internally headed relatives should be reanalysed as correlative clauses. I will not discuss his proposal here, though.

2.3. The External Determiner.

The analysis sketched at the beginning of this section assumes that the determiner heading a relative clause does not form a constituent with the head noun, which is quite a counterintuitive assumption. In this section, I will review some arguments put forward by Bianchi (1999:41-49) in favour of this hypothesis. I will finish the section with a new argument based on the assumption –discussed above- that the head noun raises from inside the clause.

To begin with, many languages do not allow names to be the complements to a determiner, unless the former is modified by a relative clause, as shown below. This is taken by Bianchi to suggest that the determiner and the head noun are not generated independently:

- 32) The Paris *(I love)

This is quite a weak argument, though. What probably prevents the use of the determiner if there was no relative clause present is that there is only one Paris. Therefore, it is not possible to qualify *Paris* by using a determiner (as is possible with nouns, such as *a girl*, *the girl*, and so on, where the function of the determiner is to denote that the noun refers to one girl (in particular) out of the set of all the existing girls). As a matter of fact, determiners are allowed to head names in English provided that the name in question refers to more than one entity. In the following sentence, there are two distinct referents for *Bangor*: the town in Wales and the town in Maine:

- 33) I think that *this Bangor* is more beautiful than *that Bangor*.

The function of a restrictive relative clause like (32) is to restrict the reference of a noun to a particular instance of it. Thus, (32) can only be interpreted as expressing the love felt towards one Paris in particular as opposed to other possible Paris (for instance, the Paris of the sixties as opposed to present day Paris or the 18th century revolutionary Paris). Therefore, this is not a valid argument in favour of the external determiner.

A better argument¹⁵ involves head nouns whose traces are obligatorily indefinite but can be introduced by a definite determiner. Instances of such head nouns are the associates of expletive *there* constructions (34) and objects of verbs that subcategorise exclusively for indefinite complements (35). Since the definite determiner could not have generated in the base position of the head noun (because it must be indefinite), the only option left is that both are independent constituents¹⁶:

- 34) a. There were (*the) men in the garden
b. The men that there were *t* in the garden

- 35) a. They played (*the) football
b. The football they played *t*

Finally, the new argument is based on the problems one would come up against if one assumed that the head raises from the relative CP but there is no external determiner¹⁷. First of all, consider a sentence like *I saw the girl [that lives next door to you]*. If one assumes that the head noun raises from inside the relative CP, there are only two possibilities to derive the relative clause in the sentence above: either there is an external determiner or there is not. Suppose the latter. Then, the determiner has to be the one directly associated to the head noun, that is, the structure would be like this:

- 36) [CP [DP the girl]_i [CP ... *t*_i ...]]

Notice that the conclusion of this hypothesis is that relative clauses are CPs. This conclusion is wrong, though, as is easy to prove. There are some verbs, such as *to beat*, which cannot take a CP object. Therefore, if one accepted the structure in (36) it would wrongly be predicted that those verbs cannot have a relative clause in their object position. On the other hand, if we follow Kayne in assuming that there is an external determiner and that relative clauses are DPs, the contrasts below follow without further stipulation:

- 37) a. *We beat [CP that the team played against us]
b. We beat [DP that team]
c. We beat [DP the team that played against us]

¹⁵ Bianchi cites Marguerite Browning (1987) as the source of this argument.

¹⁶ However, assuming the conclusions of section one, both (34) and (35) are problematic for the unification operation because, in principle, there would be a clash between the definiteness of the determiner and the indefiniteness of the head noun. The simplest solution is that the definiteness value is ignored –for whatever reason– as regards unification. Nonetheless, I cannot see any reason why this should be so.

¹⁷ Note that this argument holds only if one assumes that the head noun generates inside the relative CP and then raises. However, since the conclusion of section 2 was that the head noun does actually raise from within the clause, I believe this is a good argument in favour of the existence of an external determiner.

In sum, I believe that the last two arguments provide evidence sound enough to assume that Kayne's proposal is basically on the right track: relative clauses are CP complements to a determiner, the head noun occupying the SpecCP position.

2.4. More on the raising of the Head Noun.

In order to complete this section, two questions remain to be answered: why does the head noun raise to SpecCP?; and how does it come to be related to the external determiner?

As regards the first question, I know of two solutions: one of them (Zwart 2000) is based on the semantics of relative clauses. He argues that movement of the head noun into SpecCP is "a standard procedure to turn a proposition into a property (lambda abstraction). [...] Being a property, the relative clause denotes a set which intersects with the set denoted by the head noun" (Zwart 2000:354). The trigger of movement under Zwart's hypothesis has nothing to do with syntax. Rather, it arises from the need for both sets to intersect and thus get the right semantic interpretation¹⁸.

Bianchi's (1999:54) proposal, on the other hand, has a purely morphosyntactic nature. Following Kayne (1994), she argues that the head noun raises because it has to reach a position from which it can be governed by the external determiner –such position being SpecCP. Her approach makes a crucial use of head government as a licit agreement configuration, a notion that has been abandoned in recent years. Also, it is necessary to resort to quite a complex definition (which I discuss below) of what can be included in the government domain of the determiner. In this respect, the raising analysis is worse than the traditional one, in that in the latter the determiner and the head noun, by virtue of forming a constituent, were related in the same way that a determiner and a noun are related in an ordinary DP.

Moreover, I find Bianchi's proposal somewhat defective in that, although it explains that the head noun raises because it has to be governed by the external determiner, the fact that the external determiner has to govern the head noun is nothing but a stipulation. The facts suggest that this might be the right approach, but there is no explanation whatsoever of why such a configuration should obtain. For this reason, I believe Zwart's proposal is more appropriate here. The motivation for the head noun to raise to SpecCP is, as argued above, to achieve the right semantic interpretation. The observed agreement between the external determiner and the head noun can then be regarded as a by-product of the resulting structure, and not as the actual trigger of the raising.

2.5. The Determiner-Noun Relation.

In order to answer the second question (i.e., how can one relate the external determiner to the head noun if they are not in a direct head complement relation), Bianchi (2000:55-61) adopts from Rita Manzini (1994) a modification of the notion of the minimal domain of a head in order to explain both the nature of the relation between the external determiner and the head noun and the fact that certain extractions from Italian relative clauses are impossible. Her definition of the minimal domain of a head states that:

- 38) The minimal domain of a head X, notated (X), includes all elements that are immediately dominated by, and do not immediately dominate, a projection of X.

¹⁸ This reasoning can also be used to explain why the operator in a traditional analysis should raise to SpecCP as well.

This definition holds for categories and not for segments, thus including the complement of the head in question, the specifier of the complement, the specifier of the specifier of the complement, and so on. From these premises, Manzini elaborates a theory of locality that runs as follows:

- 39) a. A minimal domain (Y) is superior to a minimal domain (X) iff all categories that dominate (Y) dominate (X);
 b. (Y) is immediately superior to (X) iff (Y) is superior to (X) and there is no (Z) such that (Z) is superior to (X) and (Y) is superior to (Z);
 c. Let (X_i) be the minimal domain to which A_i belongs. $(A_i \dots A_n)$ is a dependency only if for every i , (X_i) is immediately superior to (X_{i+1}) .

From the above definitions, Manzini claims that it follows that a dependency between a head and another element is well formed only if both constituents can be related through a chain of constituents, the minimal domain of each of which is immediately superior to the next one. Manzini also states that every two adjacent constituents have to be related through a thematic or checking relation for the dependency to hold. Thus, the relation between an external determiner and the head noun (which is the specifier of the complement of D) is well formed, as the relation between D and NP in an ordinary nominal structure is. Agreement between the external determiner and the head noun is then a result of whatever forces it in ordinary DPs. Moreover, Bianchi claims that this hypothesis allows one to explain why it is possible in Italian to extract a PP complement of the head noun, but not if the PP is embedded within the relative CP (examples from Bianchi 2000:54-55):

- 40) a. Questo è il libro [di cui]_i non ho ancora letto [DP la [recensione t_i]_j [che hai scritto t_j]]
 “This is the book of which I haven’t yet read the review that you wrote”
 b. *Questa è la rivista [per cui]_i non ho ancora letto [DP la [recensione]_j [che hai scritto $t_j t_i$]]
 *”This is the review for which I haven’t yet read the paper you have written”

Bianchi’s claim is that sentence (40a) is fine because the extracted PP is in a well-formed dependency with the external determiner: it is the complement of the head noun, thus forming another link of a chain of licit dependencies. Therefore, there is a chain of elements that relates the external determiner and the PP. On the other hand, (40b) is out because no such chain can be established between PP and D. It is possible to establish a chain PP-V-I-C, but –Bianchi argues- the categorial features of C do not match those of D, thus blocking the necessary last step for the chain to reach D. Moreover, D and C are not related by any thematic or checking relation, therefore their syntactic relation is not enough to extend the dependency needed to license (40b).

Although Manzini’s theory does in fact seem to provide an explanation of how the external determiner and the head noun come to be related, I believe it should be taken with some scepticism. For one thing, this hypothesis is built on what seems to me a large number of unmotivated assumptions. Also, it relies heavily on the notion of head government, which is now believed not to play any role at all in syntax. Therefore, although Manzini’s hypothesis gets the facts right, one should always keep an eye on it as something that needs to be revised and improved.

Chapter 3. Prenominal Relatives in Basque

Kayne (1994, ch. 8) argues that prenominal relatives are derived in the same way as postnominal ones, with the difference that, in the former type, the relative clause undergoes one further movement to the left of the head noun. His proposal immediately raises three questions: first, what position does the relative clause move to?; second, what is the constituent that undergoes fronting?; and third, why does it move?

As for the first question, Kayne claims that the landing site for the preposed clause is SpecDP. This is quite uncontroversial. As a matter of fact, SpecDP is the only available slot for the relative clause to move to. Any other option would require postulating a higher abstract head with the only purpose of providing a landing site for the clause. As far as I can see, there is no motivation whatsoever for having such an element, so I will ignore this possibility outright and assume that Kayne's proposal is the right one: the landing site for a preposed relative clause is SpecDP¹⁹.

The other two questions are tougher to answer. Kayne attempted an answer as regards the second one, but his analysis has to be modified because his original proposal, as will be shown, cannot account for Basque prenominal relatives. As for the third one, I am not aware of any attempt to explain why the clause should undergo fronting. I will try to give an answer for this in section 2 of this section.

3.1. Kayne's IP Fronting Hypothesis.

Kayne's answer for the question of what category it is that undergoes fronting is that it is IP (ignoring distinctions like Tense vs. Agreement), stranding a zero complementiser to the right of the head noun. The derivation is as follows:

$$41) \quad [_{DP} IP_i [_{DP} D [_{CP} C t_i]]]$$

This hypothesis is supported by Kayne's claim that, crosslinguistically, "the verbs of prenominal relative clauses are non-finite or participial, having reduced tense possibilities with respect to those of postnominal relatives" (Kayne 1994:95). He argues that this follows if finiteness requires keeping the C-I complex together. This is what actually happens in postnominal relatives, since IP does not undergo fronting and the C-I structure is preserved. However, in (41) the IP has been fronted, leaving C behind it, since the C-I complex has been destroyed, Kayne's conclusion is that no finite verb form can appear there. The issue that no overt complementiser is present is not tackled by Kayne, but he suggests it might have some resemblance to the *that-trace* effect.

As I have said, Kayne's hypothesis is entirely built on the claim that prenominal relatives do not display finite verbs. This observation is wrong, though. As pointed out to me by Jon Ortiz de Urbina, it is true that there are some languages, like Quechua, which have prenominal relatives whose verbs have to be non-finite. Nonetheless, this seems to be the result of a more general constraint on embedded clauses. In any event, Basque prenominal relatives have finite verbs, as shown by the presence of an auxiliary in the examples below, so Kayne's finiteness test would fail here. Moreover, these

¹⁹ Recall that Kayne equates specifiers to adjuncts. Thus, we can also use his system to explain Elordieta's (2002) claim that Basque relative clauses, by virtue of being adjoined elements (in the traditional analysis), cannot bear sentence stress. However, the traditional analysis predicts that postnominal relatives, being also adjuncts, cannot bear sentence stress either, while Antisymmetry predicts they could, since postnominal relatives are in complement position. I am not aware of any data supporting either option.

examples also show that the complementiser in Basque is located to the left of the head noun. This is the opposite of what Kayne’s proposal predicts.

- 42) a. [Jonek Amaiari eman dio – n] liburua oso interesgarria zen
 Jon Amaia give AUX-C book very interesting was
 “The book Jon has given to Amaia was very interesting”.
 b. [Ikusi berri duda – n] filmak aspertu nau
 see new AUX-C film bore AUX
 “The film I’ve just seen has bored me”.

As is easy to see, it is impossible to get the right word order (namely, relative clause, complementiser, head noun) if one follows Kayne’s IP fronting hypothesis. Rather, the data suggest that the category that undergoes fronting in Basque must be larger than IP, so as to include the complementiser as well. Therefore, the conclusion is that the fronted constituent is CP or, more specifically, some projection of a split CP (along the lines of Rizzi 1997). Let us assume for the time being –to keep things simple– that the category that moves is just CP, without getting into the question of what exact projection of CP is the one that moves to SpecDP. I will tackle this issue in the next section.

3.2. Motivation for Fronting.

The third question (why should the relative clause move to the front at all?) is the toughest one, and I know of no direct attempt to answer it. Following the convention that movement is always motivated by need to check a feature that could not be checked otherwise, one way to solve this problem would be to postulate a feature (say, *f*) either in the determiner or in the relative clause. This feature could only be satisfied by overt movement of the relative clause to SpecDP, thus yielding the observed word order.

Nonetheless, this hypothesis has to face a serious problem: what would the exact nature of *f* be? Other movement-triggering features (such as case, tense, agreement, focus, *wh*- and so on) have overt realisation in some languages, whereas –as far as I know– no language displays any element that could do for justifying the existence of such a feature. That is, it seems as though the only purpose of this feature was to force prenominalisation of the clause. This is very much unlike all other features, whose purpose is to represent some grammatical property of the sentence, and the movement they trigger might be considered a by-product of the checking operation. In this case though, there would be no grammatical property for *f* to represent –unless one wanted to say that “being prenominal” is a grammatical relation. In any event, I cannot see how this position could be defended.

The conclusion is that the hypothesis outlined above looks suspicious from the very beginning, since it is based on a stipulation for which it seems there is no independent motivation. Therefore, I will ignore this possibility and examine, in the remainder of this section, two other proposals that explain movement without resorting to feature-checking needs: Fukui’s (1993) Free Movement Hypothesis, and Hawkin’s (1990, 1994) Parsing-Driven Constituent Ordering Hypothesis. I will try to make it clear that the latter proposal is the one which best explain the prenominal nature of Basque relatives.

3.2.1 Fukui’s Free Movement Hypothesis.

This hypothesis, developed by Naoki Fukui (1993), was conceived as a way to determine the place of optional movement in a system like Minimalism, which requires

every movement operation to be justified in one way or another. Fukui's intuition is that there is an algorithm (the Parameter Value Preservation measure) determining whether a certain movement is costless (hence, optional) or has to be independently justified:

43) *Parameter Value Preservation (PVP) measure.*

A grammatical operation (Move, in particular) that creates a structure that is inconsistent with the value of a given parameter in the language is costly, whereas one that produces a structure consistent with the parameter value is costless. (Fukui 1993:400)

English and Japanese are compared in order to exemplify how this measure works. The Head Directionality Parameter states that in English heads precede their complements, while in Japanese it is complements that precede their heads. Therefore, according to (43), it is predicted that, in English, any movement operation after which the complement is still located to the right of its head will be costless –i.e., optional. The opposite situation obtains for Japanese: costless movement is to the left.

- 44) a. I read a review of John's book last week
 b. I read a review t_i last week [of John's book]_i

- 45) a. John-ga sono-hon-o katta
 John-NOM that-book-ACC bought
 "John bought that book"
 b. [Sono-hon-o]_i John-ga t_i katta

The examples above show what the PVP measure predicts: movement is optional as long as it respects the head initial (English) or head final (Japanese) value of the Head Parameter for a given language. Instances of movement that result in a head complement order that does not fit the parameter value (such as wh- movement or focalisation in English, whereby a complement appears to the left of the head it is associated to) are not optional. Instead, since they have to be motivated by independent reason (i.e., feature checking), they are obligatory.

In principle, a similar logic could be applied to Basque. This is a heavily head final language: determiners follow nouns, verbs follow their objects (in the unmarked ordering), prepositions appear to the right of their complements, and so on. Therefore, it seems plausible to argue that relative clauses would fit this pattern if they followed the noun they are associated to. As a result, the relative clause undergoes movement from a postnominal to a prenominal position.

However, there are two main difficulties with this approach. First of all, note that the solution sketched above makes a crucial use of the Head Parameter, assuming that each language conforms to an underlying head initial or head final pattern. This assumption is done away with by Antisymmetry, where heads are always assumed to precede their complements, even in languages that are superficially head final. One would have to argue that it is the surface pattern of the language that matters for issues of optional movement, regardless of what the structure of the sentence is like. In any event, it seems at least strange that a distinction like head initial-final that does not even exist in the structure should be useful with regard to the surface.

Second, notice that what Fukui's hypothesis allows for is optional movement. Thus, in the examples above, there is no difference in grammaticality between the sentences with extraposed constituents and their non-extraposed counterparts. But

prenominalisation of relative clauses is not optional in Basque. While this approach explains (46a), it also allows (46b), with an unpreposed clause.

- 46) a. [Irakurri dudan]_i liburua *t_i*
 “The book that I have read”
 b. *Liburua [irakurri dudan]

In order to explain this contrast, it would be necessary to argue that prenominalisation of relative clauses has been grammaticalised as a result of the fact that it fits the pattern of the language, while postnominal relatives do not. But, as already noted, this approach comes up against the problem that it has to make a distinction at the surface level that has been dispensed with as regards inner structure.

3.2.2 Hawkins’ Parsing-Driven Movement Hypothesis.

John Hawkins (1990, 1994) develops a theory of constituent order in response to the following question: to what extent are grammatical properties of sentences determined by processing considerations? He argues that parsing has been highly influential in shaping languages into what they look like. Specifically, he claims that the constituent orderings that languages display are those that allow for the most efficient on-line left-to-right parsing. Eventually, the preferred orders have been grammaticalised as a result of the need for quick and reliable sentence processing. As an example, consider the Heavy NP Shift Rule in English.

- 47) a. I [_{VP} introduced [_{NP} some friends that John had brought to the party]] [_{PP} to Mary]]
 b. I [_{VP} introduced [_{PP} to Mary]] [_{NP} some friends that John had brought to the party]]

Allegedly, (47b) is easier to process than (47a). This contrast has traditionally been attributed to the fact that the NP was “heavy” and, therefore, it can be placed at the end of the sentence, without offering any explanation of why this should be so. Hawkins explains this by claiming that sentences whose Constituent Recognition Domain is smaller are preferred to those with a larger one, since the former permit quicker processing:

48) *Immediate Constituent (IC) Attachment*

An IC that can be attached to a mother node in accordance with the phrase structure rules of the language will be so attached, as rapidly as possible. ICs may be encountered *after* the category that constructs the mother node in the left-to-right parse, or they may be encountered *before* it, being placed in a look-ahead buffer for ICs that do not uniquely determine a mother node. In either event, the attachment of all sister ICs to a mother node, either backward or forward, proceeds as fast as possible. (Hawkins 1990:228)

49) *Constituent Recognition Domain (CRD)*

The Constituent Recognition Domain for a node *x* is the ordered set of words in a parse string that must be parsed in order to recognise all ICs of *x*, proceeding from the word that constructs the first IC on the left to the

word that constructs the last IC on the right, and including all intervening words (Hawkins 1990:229).

In the sentences above, the mother node in question is VP, which consists of three daughters, namely V, NP and PP. According to Hawkins, the parser has to go through the words that construct those categories –i.e., *introduced*, *some* and *to-* in order to determine the structure of VP. Thus, the CRD (the fragment between the slashes) for (50a) consists of eleven words, whereas it is only four in the case of (50b):

- 50) a. I /introduced some friends that John had brought to the party to/ Mary
 1 2 3 4 5 6 7 8 9 10 11
 b. I /introduced to Mary some/ friends that John had brought to the party
 1 2 3 4

In other words, the first sentence is more difficult to process because the parser cannot establish the structure of VP until the eleven words that constitute its CRD have been processed, which increases the burden on the memory. On the other hand, the second sentence’s CRD consists of only four words, thus making it much faster and easier to recognise the inner configuration of VP²⁰. However, rearrangement is not possible with shorter NPs:

- 51) a. I [_{VP} introduced [_{NP} John][_{PP} to Mary]]
 b. *I [_{VP} introduced [_{PP} to Mary][_{NP} John]]

Hawkins’ point with these examples is that rearrangement takes place as a means to shorten the CRD. He argues that NPs are normally shorter than PPs, since the former can consist of one single word, while the latter must have at least two. Therefore, the [V NP PP] has been grammaticalised as optimal, since it is the one that –in the great majority of cases- allows for the fastest parsing. However, when NP is significantly longer than PP, as is the case in (47), rearrangement applies so as to shorten the CRD. This is not the case in (51). As a matter of fact, the [V PP NP] order even lengthens the CRD for (51), so this order is banned.

Turning now to the case of head final languages, Hawkins argues –as quoted in (49) above- that “constituents that are encountered before the category that constructs the mother node in the left-to-right parsing are placed in a look-ahead buffer for unattached constituents”. This is, the word count for the CRD does not start until the constituent that constructs the first IC turns up. Take the following Japanese sentences as an example:

- 52) a. /Mary-ga [kinoo John-ga kekkonsi-ta to] it-ta/
 1 2 3 4 5 6
 Mary yesterday John married that said
 “Mary said that John got married yesterday”

²⁰ Jon Franco (p.c.) points out contrasts like *He drove all the people from the department bananas* vs **He drove bananas all the people from the department* as an argument against this theory. The impossibility of rearrangement, though, might be due to other causes, for instance, the requirement in English that the verb and the object be adjacent (*He read all the volumes of The Lord Of The Rings quickly* vs. **He read quickly all the volumes of The Lord Of The Rings*). See Franco (1998) for discussion of this kind of word order problems in Spanish and English small clauses.

- b. [Kinoo John-ga kekkonsi-ta to] /Mary-ga it-ta/
 1 2

Assuming that the ICs of both sentences are the subject NP, constructed by *Mary*, and VP, constructed by the verb *it-ta* “said”, the CRD for (52) comprises as many words as have to be processed until those two constituents appear. In the case of (52a), it is the whole sentence, since each element are placed at a different edge of it. But in (52b), where the embedded clause has been fronted, the two relevant constituents are adjacent, its CRD being therefore far smaller than that of (52a). Thus, it is correctly predicted that the latter sentence is easier to process.

The importance of not beginning the word count until the first IC constructing constituents comes up must also be emphasised. If it wasn’t so and the CRD consisted in both cases of all the words that appear until *it-ta*, both sentences would be wrongly predicted to be equally difficult to process. In fact, a further consequence would be that one would not expect there to be head final languages at all, since these would be more difficult to process than head initial ones in all cases.

Turning now to the case in point –namely, why Basque relative clauses should be prenominal-, let us first consider what the CRD for a relative clause would be. It seems quite clear that it consists of all the words comprised between the head noun and the complementiser-auxiliary verb complex that constructs the relative CP –leaving the external determiner aside. Thus, compare the CRDs for a prenominal and a postnominal relative clause:

- 53) a. Jonek irakurri /duen liburua/
 1 2
 Jon read AUX.C book
 “The book that John read”
 b. */Liburua Jonek irakurri duen/
 1 2 3 4

As we can see, the CRD for postnominal relatives will be, in all cases, longer than that for prenominal ones. Therefore, it can be argued that this order has been grammaticalised in Basque as being optimal, since no other option would improve the CRD. In fact, Hawkins (1990:242) claims that relative clauses of the kind exemplified in (53b) are not attested in any language. This is not surprising, since that structure would always require a bigger memory load than its counterpart. The logical conclusion is that such a structure is banned altogether.

One of the most appealing aspects of Hawkins’ hypothesis is that it doesn’t presuppose any theoretical framework. Therefore, it is flexible enough to be adapted to whatever theory one is working with. This is an important advantage, because what Hawkins advocates in these cases is for rearrangement of constituents, a possibility that is excluded in an antisymmetric framework: what actually counts for linear ordering are c-command relations, therefore it is irrelevant at what side of the c-commander the c-commanded constituent is. However, it is possible to express that rearrangement in terms of movement. More specifically, as movement of the relative clause into the only free slot above the head noun –namely, SpecDP.

As a final point, let us have a look at a problem this approach raises. The observation that a prenominal relative in Basque has a shorter CRD than a postnominal one relies completely on the fact that Basque relative complementisers are clause final. This raises an interesting question: why are Basque relative complementisers clause

the right of the NP²² they modify. This process need not involve syntactic movement at all. It would be enough to suppose that the enclitic nature of Basque determiners forces them to be spelt out attached to the right of the noun they head, without any need for that noun to actually raise to some position to the left of the determiner²³. Under this view, it is also possible to explain the following contrast.

- 55) a. [PP [DP /aranari] buruz/]] hitz egin genuen
 1 2
 valley about speak AUX
 ‘‘We talked about the valley’’
 b. *[PP /buruz [DP aranari/]] hitz egin genuen.

With single-word DP complements, the CRD for a PP is the same, namely two words, independently of what side of the complement P is at. Thus, following the above discussion, it is predicted that both options would be as acceptable and equally easy to process. However, the ungrammaticality of (55b) suggests that determiners are treated as independent units in sentence processing even if phonologically the form a single unit with the noun. The following reanalysis of (55) makes it clear why the second sentence is wrong:

- 56) a. [PP [DP /aran - /ari] buruz/]] hitz egin genuen
 1 2
 b. *[PP /buruz [DP aran – ari/]] hitz egin genuen
 1 2 3

Taking the determiner and the noun as separate constituents makes it clear why prepositional structures are wrong in Basque: the CRD for these structures will always be larger than that for postpositional Ps. Therefore, they are banned altogether. Notice in passing that taking oblique cases as DPs rather than PPs (cf. the discussion in ch. 2, where it was argued these cases should be analysed as determiners inflected for the relevant case rather than postpositions heading a DP) is quite appropriate for examples involving one of these oblique cases and a postposition. Consider, for instance, the following example:

- 57) a. [PP [DP baso – /aren] zehar/] ihes egin nuen
 1 2
 woods DET through escape AUX
 ‘‘I escaped through the forest’’
 b. [PP [DP /baso – aren] zehar/] ihes egin nuen
 1 2 3
 woods PREP through escape AUX

²² Notice that it has to be stipulated that determiners attach to NPs and not to bare nouns. Otherwise, one could get an order (ungrammatical) in which the determiner would appear sandwiched between the noun heading the NP and a possible complement of that noun.

²³ Jon Ortiz de Urbina has pointed out to me that this looks like a circular argument: NP raises because of that property of D and the property of D of being placed to the right of the NP follows from raising. This is not so. My proposal is that Basque determiners have two inherent properties: first, they are clitics, so they need to be attached to some other element to be licensed. Second, they have to be attached to one specific side of their host, namely to the right. Thus, D being to the right of NP is something that follows from the properties of D itself, not from raising of NP.

c. *_{[PP /zehar} [_{DP baso – aren/}] ihes egin nuen
 1 2 3

As we can see, if we take the genitive marker *–aren* to be a postposition (57b), the word count would be the same as for the ungrammatical (57c), thus leaving the contrast unexplained. The only solution would be to posit an empty determiner, which would include the word *baso* “woods” in (57c) but not in (57b). This would make the word count larger for the former sentence, and it would be ruled out. However, empty determiners are not usually allowed in Basque (except for certain contexts like questions or numeral expressions, neither of which is the case here), therefore it would be quite a thorny problem to justify the presence of an empty determiner. On the other hand, if one accepts that *–aren* is a determiner inflected for genitive, then there is no problem.

As a side remark, the fact that determiners have to be counted as separate entities from nouns as regards sentence processing seems to suggest that cliticisation of the determiner to the noun is just a phonological issue, with no syntactic movement involved at all. Although this could be taken as a piece of evidence in favour of this viewpoint, I consider it to be too meagre to take it as a sound argument, so I will leave this issue open. Also, a final caveat is that the previous discussion is built on a concept (namely, that word order is the way it is because of processing considerations) that does not seem to be related to the core part of the language production capacity. The approach does in fact explain the contrasts discussed, but it is somewhat weird that it does so making no reference at all to the operations by which sentences are built up²⁴.

²⁴ Jon Franco (p.c.) asks how this hypothesis could capture the contrast between (ia) and (ib) below:

- ia) neska polit - a ib) *polita neska
 girl beautiful-the

Assuming that having a DP final determiner is a phonological issue, this contrast implies that in Basque it is adjectives that take nouns as complements, and not the other way round. According to Hawkins’ theory, the NP would afterwards move to the left of the adjective so that the parser could recognise the structure [D AdjP] more easily. As a matter of fact, this is the configuration assumed by Abney (1987, ch. 4), although I do not know of any further evidence either in favour or against it in Basque. Also, it is important to know that it just follows, without further assumptions, from the hypothesis that Basque determiners always cliticise to the right edge of their complements.

Chapter 4. Left Periphery in Basque

The goal of this section is to establish what the exact CP projection that undergoes fronting in Basque is. In order to do this, I will examine the properties of Basque relative complementisers as opposed to other kinds of left-peripheral elements. From their different properties and word order variations, I will determine what position each element occupies. However, one must bear in mind that I will be dealing here only with the most basic facts, since a detailed account of the distribution and properties of these elements would be far beyond the scope of this dissertation.

4.1. Rizzi vs. Ortiz de Urbina.

Luigi Rizzi (1997) claims that a single CP projection is not enough to account for certain properties of complementisers. He proposes that, in the same way as IP and VP have been split into a number of separate projections, so should CP. His hypothesis is that the CP layer consists of at least two projections, namely a Force Phrase and a Finiteness Phrase, which are placed respectively at the upper and lower end of the CP layer. Sandwiched between these two projections, one can optionally find one Focus Phrase and an indefinite number of Topic Phrases. In short, he proposes the following hierarchy for the left periphery of a clause:

58) Force P >> (Topic P*) >> (Focus P) >> (Topic P*) >> Finiteness P

However, Jon Ortiz de Urbina (1999a) has proposed a somewhat different ordering of these projections in Basque, based on the co-occurrence restrictions of Topic and Focus phrases in a number of constructions. His claim builds on the assumption that the particle *ea* is an illocutionary force marker, thus occupying the head position of ForP. This being so, (58) implies that topicalised constituents can only appear to the right of *ea*. The following examples (with topicalised constituents in italics) show that this is not right:

- 59) a. Galdetu dute *liburua Jon*ek ea nori erregalatu dion
ask AUX book Jon Q who give AUX.C
“They have asked who John gave the book to”
b. Galdetu dute ea *liburua Jon*ek nori erregalatu dion
c. Galdetu dute *liburua* ea *Jonek* nori erregalatu dion.

Moreover –and again unlike in (58)–, focalised elements and wh-words have to be strictly left adjacent to the finite verb in Basque, with no elements whatsoever intervening between the two. Thus, the conclusion is that the CP layer in Basque has the structure in (60) below. I will be assuming this hierarchy in what follows.

60) (Topic P*) >> Force P >> (Topic P*) >> (Focus P) >> Finiteness

4.2. Basque Complementisers.

It is usually assumed that Basque has two different complementisers: on the one hand, *-(e)la/-(e)nik*, used in declarative complement clauses²⁵, and *-(e)n*, used to introduce both relative clauses and embedded questions. In this section I would like to

²⁵ Although for the sake of simplicity I will only use *-(e)la* in the remainder to refer to both complementisers, since both show identical properties.

claim that, despite superficial appearances, the morpheme $-(e)n$ comprises two different complementisers, one for relatives and one for embedded questions. The similarities and differences in their behaviour show that they have different properties, although they occupy the same position.

To begin with, relative $-(e)n$ has to be obligatorily clause final, while neither interrogative $-(e)n$ nor $-(e)la$ have to (although they can). Nevertheless, the three elements show the same behaviour as regards focalisation. The material to the right of the complementiser in (61b-c) receives a normal interpretation as known, old information²⁶. The material to the left in all three sentences can receive a wide focus reading or a neutral interpretation provided that the default order S – IO – DO is preserved. If not, the constituent immediately left adjacent to the verb is interpreted as the focus of the clause, and it is not possible to get a wide focus reading (see Elordieta 2001 for a more detailed account).

- 61) a. [Irakurri duda – *n*] liburua aspergarria da
 read AUX – C book boring is
 “The book that I’ve read is boring”
 b. Galdetu dizut [ea norekin ikusi duzu – *n* Miren]
 ask AUX Q who see AUX – C Miren
 “I have asked you who you saw Miren with”
 c. Uste nuen [Mirenek gaindituko zue – *la* azterketa]
 think AUX Miren pass AUX- C exam
 “I thought that Miren would pass the exam”

Second, both $-(e)n$ complementisers trigger island effects for wh-movement in the clauses it heads, whereas $-(e)la$ does not. This suggests that the same specifier position a wh- word has to go through to raise to a higher clause is taken up by the specifier of these complementisers. Following Jon Ortiz de Urbina (1999b:315), I will assume that the $-(e)n$ complementiser occupy the head of Focus P. Evidence in favour of this hypothesis is the mutual exclusion of wh- words and focused constituents. Moreover, wh- extraction is also banned from $-(e)la$ clauses if they contain a focused constituent:

- 62) a. *Norentzat_i jan dituzu [aitak *t_i* ekarri zituen] sagarrak?
 who-for eat AUX dad bring AUX.C apples
 “You ate the apples that dad brought for who?”
 b. *Norentzat_i galdetu dizut [aitak *t_i* ekarri zituen] sagarrak?
 who-for ask AUX dad bring AUX.C apples
 “Who did I ask you whether dad brought the apples for?”
 c. Nork_i uste duzu [*t_i* egingo duela lana]?
 who think AUX do AUX.C work
 “Who do you think will do the work?”
 d. *Nor ikusi du MIRENEK kalean?
 who see AUX Miren street
 “Who has MIREN seen in the street?”
 e. *Zer_i uste du Mikelek [ETXEAN aurkitu duela *t_i* Jonek]
 what think AUX Mikel home find AUX.C Jon
 “What does Mikel think that Jon found AT HOME?”

²⁶ As pointed out to me by Rikardo Etxepare.

Third, the lexical verb has to be immediately left adjacent to the auxiliary-complementiser complex in all affirmative clauses, both main and embedded. However, the picture is more blurry if negation is involved. Main clauses, *-(e)la* clauses and interrogative *-(e)n* clauses require the negative particle *ez* to be immediately to the right of the auxiliary verb, and the lexical verb can be stranded away. On the other hand, relative *-(e)n* requires these elements to be in a fixed order, namely verb-*ez*-auxiliary.

- 63) a. Mikelek *ez dio* Mariari muxu bat *eman*.
 Mike no AUX Maria kiss one give
 “Mikel hasn’t kissed Maria”
 b. Uste dut [Mikelek *ez diola* Mariari muxu bat *eman*]
 think AUX Mikel no AUX.C Maria kiss one give
 “I think that Mikel hasn’t kissed Maria”
 c. Galdetu dizut [nork *ez duen* Mireni muxu bat *eman*]
 ask AUX who no AUX.C Miren kiss one give
 “I have asked you who hasn’t kissed Maria”
 d. [Mikelek Mariari *eman ez dion*] liburua
 Mikel Maria give no AUX.C book
 “The book that Mikel hasn’t given to Mary”

In the light of these examples, I will follow Arantzazu Elordieta (2001, ch. 5) in assuming that the auxiliary verb in Basque is a bound morpheme that needs to be attached to other element to be licensed. Further evidence in favour of this assumption is that, in sentences with topicalised material, an auxiliary cannot be fronted unless it is attached to the particle *ba*, which forces a focus reading of the auxiliary:

- 64) Mireni, *(ba)diot muxu bat eman
 Miren AUX kiss one give
 “Miren, I have indeed kissed her”

In affirmative sentences, the licenser is the lexical verb, hence the strict adjacency that is observed. In negative sentences, the licenser is the negative particle *ez*, therefore the lexical verb can appear displaced. The fact that in relative *-(e)n* clauses the lexical verb cannot be displaced at all, even in negative contexts (as opposed to what happens in all other clauses), is quite striking.

4.3. IP Fronting.

As evident from what has been seen above, the main problem for the framework I am assuming comes from the strictly clause final position of relative *-(e)n*. In other kinds of embedded clauses, the most natural thing is to assume that the material found to the left of the complementiser is there because it receives a topic or focus interpretation, while the material to the right receives a neutral interpretation (as a result, most probably, of the fact that it has not moved to a focus/topic projection). However, in relative clauses, the only way to get the right word order is moving *all* IP material to the left of the complementiser. In this section, I try to find a motivation for this operation.

Let us begin by looking at other examples where we find multiple fronting of elements. Zeljko Boskovic (1999) explains that in Serbo-Croatian all the *wh-* words of a sentence must undergo fronting, as exemplified below. If any *wh-* word is left in-situ,

the sentence is wrong. Moreover, the ordering in which the fronted wh- words appear does not seem to be constrained in any way²⁷:

- 65) a. Ko sta gdje kupuje?
who what where buys
“Who buys what where?”
b. *Ko kupuje sta gdje?
c. Sta ko gdje kupuje?

Boskovic’s claim is that all wh- words move to adjoin to the same position, namely SpecCP. He argues that this helps to explain the free order in which they can appear. Since all wh- words move up to the same SpecCP position (that is, the *same* SpecCP, not different specifiers of the same C), they have to adjoin to each other. And since there is no constraint whatsoever about their ordering, they can appear in whatever order one wishes. Something similar happens, also in Serbo-Croatian, with double participle constructions, where all verbal elements have to form a cluster, but their relative order is free:

- 66) a. Cekali ste bili Mariniju prijateljicu
waited are been Mary’s friend
“You have been waiting for Mary’s friend
b. Bili ste cekali Mariniju prijateljicu
c. *Cekali ste Mariniju prijateljicu bili

The assumption Boskovic makes is that there is a head that attracts all the relevant constituents (that is, an *Attract All X* head). This is explained by him in the following terms:

“We can think of multiple attraction by the same head as follows: (a) there are elements that possess a formal inadequacy that is overcome by attracting one feature F, (b) there are elements that possess a formal inadequacy that is overcome by attracting two features F, (c) there are elements that possess a formal inadequacy that is overcome by attracting three features F, and so on. In this system, it seems natural to have elements that possess a formal inadequacy that is overcome by attracting all features F.” (Boskovic 1999:169)

That is, in Serbo-Croatian, the wh- feature of C can only be satisfied if all elements bearing that same feature move to SpecCP. Equally, the head I has a feature that can only be satisfied if all verbal elements raise and adjoin to that position. On the other hand, English C has a wh- feature that is satisfied by moving a single wh- element, multiple wh- fronting being disallowed by reasons of economy. In languages like Chinese, with no wh- fronting at all, the feature in C is satisfied without any need for any wh- element to move²⁸.

²⁷ Although it might be the case that the relative position of fronted wh- words makes a difference as regards their prominence in the discourse. Boskovic does not mention anything in this regard, though, since his point is to show that the different orders do not affect the grammaticality of the sentence.

²⁸ Boskovic makes a speculative side remark in the line that, given there is no counting in natural language, one should not expect to find heads that attract two, three or any other specific number of

I would like to propose something similar for Basque relative complementisers. Let us assume that relative *-(e)n* differs from interrogative *-(e)n* and from *-(e)la* in that it has a feature that can only be satisfied if all IP material moves up (I will not try to characterise the exact nature of this feature. Nonetheless, since *-(e)n* heads a Focus Phrase, it might be argued that it requires all material that can function as the focus of the sentence to raise. In principle, this involves every IP constituent, since there seem to be no restrictions on what can be focalisable). Since one of the conclusions of the previous section was that *-(e)n* heads FocP, it is natural to assume that the place the IP material has to move to satisfy the feature of *-(e)n* is Spec of FocP. Since this is the position a *wh*- word has to move to raise to a higher clause, it is correctly predicted that relative clauses show island effects.

Since all IP material has to reach the Spec of Focus position, the immediate question is how it moves up there. I suggest that there are two ways in which this can happen: a default, unmarked option, and a marked one. Let us begin with the unmarked one, which I take to be the one in which IP raises as a whole²⁹. The immediate consequence is that the order of arguments in IP does not change (following Elordieta 2001, I assume this order is Subject – Indirect Object – Direct Object). Let us also assume the theory of focus developed by Cinque (1993). In this theory, he develops an algorithm (the Nuclear Stress Rule) that determines which constituent receives the primary stress of a clause: the focal intonation of a sentence (wide focus) falls primarily, in the unmarked order, in the constituent that is more embedded in the recursive side of the language. Given the framework I am assuming, and the neutral word order in Basque, this constituent is the direct object of a sentence³⁰. The focus of the sentence can then be extended to any constituent that contains the direct object. It is also possible not to give any focal intonation at all, and in that case the direct object would receive the main stress of the sentence, as a default option. This last option would result in a neutral reading.

Thus, the prediction is that if IP is fronted as a whole, the wide focus/neutral reading should be preserved³¹. It seems, in fact, that this is what happens. A wide focus reading is only allowed in a relative clause if one maintains the S – IO – DO order:

- 67) a. [Jonek Amaiari eman dion] liburua
 Jon Amaia give AUX.C book
 “The book that Jon has given to Amaia”
 b. [Amaiari JONEK eman dion] liburua
 “The book that JON (and not Mikel) has given to Amaia”

In (67a), a wide focus reading is allowed. The evidence is that different question can be made depending on what one takes to be the focus of the sentence. Thus it is all right to ask *The book that Jon gave to whom?*, *The book that who gave to whom?*, or

features. Under this view, there would only be heads that would attract one, all, or none of the elements bearing the same feature.

²⁹ Excluding the verb. I return to this issue below.

³⁰ Actually, it should be the verb, since Basque is verb final in the unmarked order. One way out of this problem –at least as regards relative clauses– is that once the verb has raised to adjoin to the complementiser, the most embedded constituent left is the direct object.

³¹ Ortiz de Urbina (2002) proposes a similar analysis for clause final focus in Basque. Instead of positing a focus position to the right of the clause he argues that movement of the focalised element to (clause initial) SpecCP is followed by remnant movement of the rest of the sentence to a higher Topic Phrase. The known fact that topics undergo reconstruction in Basque explains why the remnant moved material behaves as though it had not moved at all.

even *Which book?*. On the other hand, (67b) can only be interpreted as having a narrow focus reading on *Jonek*, not extensible to a larger constituent. It is fine to ask *The book that who gave to Amaia?*, but it would be unfelicitous to ask *The book that who gave to whom?*, or *Which book?* For this reason, I will take this to be the unmarked option for IP fronting.

68) [FOC P [IP ...]_i [FOC ... [*t_i*]]]

Let us now turn to the marked option, which is exemplified by (67b) above. As already stated, the main feature of this option is that the neutral order is not respected (and, therefore, the Nuclear Stress Rule no longer holds). Rather, one element is displaced –for instance, the subject in (67b)- to the right edge of the complex, so that it comes to be immediately left adjacent to the verb. In this configuration, the displaced element is interpreted as the focus, and it is not possible to have a wide focus reading of the preposed material.

69) [FOC P [IP *t_j* [IO][S]_j] [FOC P ... [*t_i*]]]

This hypothesis raises an interesting question. The figure in (69) entails that the subject has moved rightwards in order to be at the right edge of the raised IP. However, rightward movement is banned in the current framework. Therefore, the rightmost position of the focused constituent must be derived by other means. There are two ways in which this can be done: the first one is that every element that is found to the left of –(*e*)*n* raises there independently, forming a cluster in the Spec of FocP, and the element that occupies the rightmost position of that cluster is interpreted as focus; the second one is that the element that is going to be interpreted as focus raises first and subsequently, the rest of IP raises and adjoins to the left of the focalised element. These two options are represented below:

70) a. [FOC P {DO_i, Adv_j, S_k} [FOC P ... [IP *t_k* *t_j* *t_i*]]]

71) a. [FOC P Adv_i [FOC P ... [IP S DO *t_i*]]]
 b. [FOC P {[IP S DO *t_i*]_j, Adv_i} [FOC P ... [*t_j*]]]

Out of the two options, the sentences in (72) weigh in favour of the second option. If the option in (70) was the right one, one would expect that the non-focused constituents of preposed IP could be ordered in any way one wished. However, the stark awkwardness of a relative in which that occurs (72a) –as opposed to the full grammaticality of the example construed preserving the canonical order of non-focused constituents (72b)- suggests that (71) represents the way in which IP moves to the left of the complementiser³².

72) a. ?* [Amaiari Jonek BILBON eman dion] liburua
 Amaia Jon Bilbao give AUX.C book
 “The book that Jon gave to Amaia IN BILBAO”
 b. [Jonek Amaiari BILBON eman dion] liburua

³² Thanks to Elena Martínez for judgements on these sentences.

One last issue is what happens to the lexical verb if negation is involved. It was determined earlier that the auxiliary verb needs to be attached to some other element in order to be licensed. If that element was the negative particle *ez*, then the lexical verb is free to appear away from the auxiliary –except in relatives, as shown in (63a-d). And one cannot assume that it raises along with the rest of IP, because in that case one would not expect to find it always in the same position –namely, immediately to the left of *ez*–irrespective of the order of the rest of the fronted material. Therefore, the only solution left is that relative *-(e)n* forces raising not only of the auxiliary and the *ez* attached to it, but of all verbal material, lexical verbs been attached to the left of the *ez* + auxiliary complex (but not in Spec of FocP, but under the very Foc head, forming a cluster with the auxiliary and the negation). Although at present I cannot offer a detailed account of this phenomenon, I wish to bring about the following contrast.

- 73) a. Jonek liburua eman egin dio Amaiari
 Jon book give do AUX Amaia
 “Jon did indeed give the book to Amaia”
 b. [Jonek Amaiari eman (*egin) dion] liburua
 Jon Amaia give do AUX.C book
 “The book that Jon did give to Amaia”

Egin, “to do”, can be used to focalise verbs in ordinary clauses, very much like English emphatic *do*. The impossibility of having *egin* in an embedded clause suggests that it must occupy the same position as *-(e)la*. Let us then assume that *egin* is the head of FocP in (73b). Now, neither of these sentences allows any material at all to intervene between *-(e)n/egin* and the lexical verb, as shown below. On the other hand, if there a focalised constituent, but no overt focus marker, there might be some elements intervening (provided, as always, that negation is involved so that the lexical verb hasn’t got to attach to the auxiliary):

- 74) a. Jonek liburua eman (*atzo) egin zion Amaiari
 Jon book give yesterday do AUX Amaia
 “Jon did indeed give the book to Amaia yesterday”
 b. [Jonek Amaiari eman (*atzo) zion] liburua
 Jon Amaia give yesterday AUX.C book
 “The book that Jon did indeed give to Amaia”
 c. JONEK ez zion atzo Amaiari liburua eman
 Jon no AUX yesterday Amaia book give
 “JON didn’t give the book to Amaia yesterday.”

With these facts in mind, let us propose (speculatively) that overt focus markers in Basque (namely, *-(e)n* and *egin*) have the property that they force all verbal material to raise and adjoin to them. This is not the case, though, with focus marker without phonetic content. I believe this hypothesis provides an explanation for the sentences above.

4.4. The Head Noun.

The conclusion of the previous section is that FocP is the minimal constituent containing all the material that has to undergo movement to SpecDP in order to get a prenominal relative. Since the head noun is not included in this constituent, it follows that it must raise to some position above FocP. According to the figure in (60), there are

only two options: either Topic or Force. Bianchi (1999, ch. 7) argues that the default option is that the head noun raises to the Spec of ForceP³³, and posit one parameter to the effect of allowing Spec of TopicP to host the head noun provided the complementiser is not (overtly) present.

My belief, though, is that, in Basque, the position to which the head noun raises is always the former, namely Spec of ForP. There are two reasons for this. The first one is that, according to Rizzi (1997), Force is an obligatory projection of the CP system, while Topic is optional. Therefore, it seems more plausible to me that Force should be the relevant projection, since it must always be present. Second (assuming Bianchi's speculative parameter that allows Topic to host the head noun *if* no complementiser is present), the relative complementiser is always present in Basque finite relatives, therefore Topic could never be licensed as the host of the head noun.

To sum up, the process described in this section is, very roughly, as follows: the head noun raises to the Spec of ForP. After that, all verbal material in IP raises and adjoins to the relative complementiser (which heads FocP) and forms a cluster with it, and the rest of IP raises to the Spec of FocP, thus getting the complementiser final word order³⁴. This latter movement can be done in two ways: either moving IP as a whole (which result in a wide focus/neutral reading) or raising first one constituent and then adjoining the rest of IP to its left (which results in a narrow focus reading of the constituent that raised first).

4.5. Declarative Complements & Embedded Interrogatives.

In order to finish this section, let us add a brief note on the position and behaviour of interrogative *-(e)n* and *-(e)la*. Beginning with the former, it was argued in section 2 that it occupies the same position as relative *-(e)n*, although they differ in certain features. One more piece of evidence in favour of the hypothesis that both complementisers occupy the same position is the impossibility of cooccurrence of *egin* (which was argued to head FocP) with interrogative *-(e)n*, the same as was shown that happened with relative *-(e)n*:

- 75) Galdetu dizut [ea norekin ikusi (*egin) duzun Miren)
 ask AUX ea who-with see do AUX.C Miren
 ‘I have asked you who have you seen Miren with’

The difference between these two complementisers is that interrogative *-(e)n*, unlike relative *-(e)n*, does not require all IP material to be fronted. Rather, its *wh*-feature can be satisfied by attracting only one element that bears that same feature (thus triggering V2-like phenomena). More elements can be found to the left of interrogative *-(e)n*, other than the constituent needed to satisfy its *wh*-feature. Nonetheless, in this case fronting of these constituents is the result of different operations (f.i., topicalisation).

On the other hand, *-(e)la* does not occupy the head of FocP, as shown by the fact that it is compatible with *egin*. Moreover, since we know that *egin* belongs in FocP, and *-(e)la* appears to the left of focus, it follows that *-(e)la* must head a projection lower than focus. The only option, according to (60), is that *-(e)la* occupies the head position

³³ However, she assumes that the relative complementiser (*that*) is the head of ForceP. This would not be possible in Basque, though, because there would be no room left between the complementiser and the head noun to accommodate the fronted IP material.

³⁴ Nonetheless, this process might be problematic if one adopts a strictly derivational point of view, since it would require to raise the head noun to the Spec of ForP *before* a lower projection (FocP) has been created.

of Finiteness P. Also, as shown in (75b), the complementiser (and the auxiliary attached to it) can occur to the left edge of the complement clause, from which we infer that – (*e*)*la* does not require any element to raise to its specifier position to check any features (as also happens with English *that*)

- 76) a. Uste dut [Jonek eman egin diola liburua Amaiari]
 think AUX Jon give do AUX.C book Amaia
 “I think that Jon has indeed given the book to Amaia”
 b. Uste dut [eman diola Jonek liburua Amaiari]

Chapter 5. Constraints on Relativisation

A property of Basque relative clauses is that the set of elements that can function as the head noun of the clause is somewhat restricted, as usual in languages that resort to the gapping strategy for relativisation. Beñat Oyharçabal (2000) adapts the Accessibility Hierarchy in (77) to Basque, yielding the figure in (78):

77) *Accessibility Hierarchy (Keenan & Comrie 1977)*
Subject > Direct Object > Indirect Object > Adverbial

78) *Accessibility Hierarchy (adapted to Basque)*
Absolutive & Ergative > Dative > Subcategorised Adverbial > Adjunctive Adverbial

The assumption behind this hierarchy is that, the higher one element ranks in it, the easier it is to relativise that element. That is precisely the conclusion Oyharçabal arrives at:

“Ergative and absolutive NPs can always be relativised without any kind of restrictions, and no hierarchy seems to exist between them in inflected relatives.

[...] relativisation of indirect objects, though possible for all speakers, doesn’t seem to be as easy as for subjects and indirect objects [...] On the contrary, dative NPs associated with psych-verbs are easier to relativise than indirect objects.

Adverbial cases can be relativised, but accessibility is linked to syntactic (subcategorisation), morphological (morphologically simple or complex cases) and semantic-contextual constraints (when the information carried by the relative is already known, relativisation is easier).” (Oyharçabal 2000, § 1.1.5.1)

From a descriptive point of view, the turning point is quite clear-cut. As matter of fact, all languages have the possibility of relativising constituents up to a certain point in the Accessibility Hierarchy; beyond that point, relativisation is barred. Since this point varies from language to language, it is usually considered that its exact place is something inherent to each language. The explanation I will propose in section 3, however, tries to link these constraints to other properties of the language, such as verbal morphological agreement, subcategorisation frames and free vs. fixed word order.

5.1. Artiagoitia’s Analysis.

Xabier Artiagoitia (1992), working with the adjunct analysis in a non-Kaynean framework, argues that these constraints result from Subjacency violations. Specifically, he claims that the examples (d-e) below are ungrammatical because the operator has to cross more than one bounding node in its way to SpecCP:

79) a. Ainhoak [Asierrek e erosi duen liburua] irakurri du
Ainhoa Asier buy AUX.C book read AUX
“Ainhoa has read the book that Asier has bought”

- b. Ainhoa [*e* bizi den etxea] urrun dago hemendik
 Ainhoa live AUX.C house far is here-from
 “The house where Ainhoa lives is far from here”
- c. Ainhoak [*e* ingelesa irakasten duen eskola] nahiko berria da
 Ainhoa English teach AUX.C school quite new is
 “The school where Ainhoa teaches English is quite new”
- d. * Jon [*e* ezkonduko den neska] Bilbokoa da³⁵.
 Jon marry AUX.C girl Bilbao-from is
 “The girl Jon will get married to (lit. “with”) is from Bilbao”
- e. * Jonek [*e* hizkuntzalaritza ikasten duen jendeak] jai bat antolatu du
 Jon linguistics study AUX.C people party a organised has
 “The people Jon studies linguistics with have organised a party”

Artiagoitia’s proposal is that P is a bounding node in Basque, therefore no more than one P head at a time can be crossed by a moved element. In the (d-e) examples above, the verbs *ezkondu* “to get married” and *ikasi* “to study” subcategorise for a complex P (see his paper on the details of how to license empty postpositions) which is formed in both cases by the genitive marker *-(r)en* and the postposition *-kin*. Thus, the operator, which originates as the complement of the lower P, has to cross two bounding nodes in order to reach SpecCP, with the consequent ungrammaticality. On the other hand, examples (a-c) contain a single P (or none, in the case of the first example, therefore no Subjacency violation takes place. The relevant configurations are as follows:

- 80) a. ... [NP [CP Op_i ... [NP e_i] ...] N_i] ...
 b. ... [NP [CP Op_i ... [[NP e_i] Ø PP] ...] N_i] ...
 c. * ... [NP [CP Op_i ... [[[NP e_i] Ø PP] Ø PP] ...] N_i] ...

He claims that relativisation of structures like (80c) above is possible if there is a resumptive pronoun within the clause, bearing the relevant case assigned to it by the embedded verb. On the other hand, the use of resumptive pronouns is banned in structures where ordinary relativisation can apply.

However, this solution misses a few aspects of the discussion. Leaving aside the fact that considering P as a bounding node in Basque looks much like a stipulation to me³⁶, his analysis does not predict that some constituents should be more difficult to relativise than others. On the contrary, it is predicted that relativising indirect objects and some adverbial phrases (locatives, for instance) should be as easy as relativising subject and direct objects, since in none of these cases is Subjacency violated.

³⁵ This sentence would be grammatical if the relative clause was postnominal, using the relative pronoun *zein-*, “which”: *Neska, zeinarekin Jonek ezkonduko den, Bilbokoa da*, “the girl with which John will get married, is from Bilbao”. However, native speakers feel highly reluctant to use this strategy and prefer to rephrase the sentence as “The girl that will get married to John...”, which can be expressed as a prenominal relative without trouble.

³⁶ As a matter of fact, I find that PPs show island effects in Basque, as exemplified below:

- i) * [*Zein mahaiaren*]_i *esan du Ainarak utzi duzula liburua* [_{PP} *gainean t_i*]?
 which table say AUX Ainarak leave AUX book on
 “Which table did Ainarak say you left the book on?”
- ii) [*Zein mahaiaren gainean*]_i *esan du Ainarak liburua utzi duzula t_i*?

This seems to contradict Artiagoitia’s proposal, since apparently it is impossible to extract a DP complement out of its PP. See Abels (2002) for an attempt to link PP islandhood to the possibility of P-stranding. However, his hypothesis is incompatible with the antisymmetric framework.

Second, it is not true that ungrammaticality is the result of crossing more than one bounding node. In the sentence below, a variant of (79d), the operator has to cross two bounding nodes in its way to SpecCP and the sentence is still right, though somewhat odd.

- 81) [Arratsaledean tabernan kontu horietaz hitz egin dudan gizona] zurekin dago.
 Evening bar topic those speak AUX.C man with-you is
 “The man with whom I’ve spoken about those topics in the bar this evening is with you”

Finally, as Oyharçabal (2000, section 1.1.5.4) points out, examples (79d-e) would be acceptable if a situation of case parallelism obtained, i.e., if the case marker of the whole relative clause was identical to the one carried by the relativised DP. Compare:

- 82) a. * [Orain bizi naizen neskak] diru asko du
 Now live AUX.C girl money much has
 “The girl I live with now has a lot of money”
 b. [Orain bizi naizen neskarekin] ezkontzeko esperantza dut
 Now live AUX.C girl-with marry hope have
 “I hope I’ll get married to (lit. “with) the girl I’m living with”

Under Artiagoitia’s analysis, (81b) should be wrong, because the null operator still has to cross two empty postpositions, the same as in (81a), independently of the case the head noun carries. This case seems to be assigned by the matrix verb, thus being independent of whatever is going on inside the clause. In what follows I will attempt at an explanation of the restrictions noted above that is compatible with the antisymmetric raising analysis I am assuming throughout this piece of work.

5.2. Evidence From Ancient Basque.

Gontzal Aldai (n.d.) refers to some of the most ancient texts written in Basque that are still preserved, dating back to the 16th century. He points out that relative clauses in these texts often show the so-called case attraction phenomenon, whereby the head noun is marked for the case it is assigned within the relative clause, and not for the case assigned to it by the main clause. Consider, for instance, the following example, of a free (headless) relative, where the determiner that stands for the indefinite head of the clause is inflected for the absolutive case assigned by the embedded verb, and for the ergative assigned by the matrix verb.

- 83) ez-tai iztanda [puztxo-a-n ez-ta-n]-a
 no-AUX explode swell no-AUX the-ABS
 “(He) who doesn’t swell up won’t burst”

Aldai explains that “there appears a sort of competence between marking the role of the head in the embedded clause or that in the main clause. [...] In general, it appears more important [in ancient Basque] to mark the role of the NP within the relative, and not that of the main clause as nowadays”. Given the assumption that the head noun originates inside the clause, this phenomenon seems quite easy to explain. The head noun can only be marked for one single case out of two possible options. There was the choice in ancient Basque of marking the head noun for the case it had

been assigned inside the relative clause, leaving the case assigned by the matrix verb unexpressed. However, this option has been lost in present day Basque, and the head noun has to be obligatorily marked for the case assigned by the matrix verb. On the other hand, if we followed the adjunct analysis, we would have to assume that the head noun “ignores” the case assigned to it by the matrix verb and, instead, takes the case the embedded verb assigns to the operator.

5.3. Interpretation-Based Restrictions.

According to the hypothesis sketched above, there are two cases in competition to be marked on the head noun, but only one of them can be overtly expressed. However, it does not seem reasonable to say that the case that is not overtly expressed can be ignored outright, since that option would most probably result in a violation of the Principle of Full Interpretation. Therefore, let us make the following assumption: a relative clause is well-formed if the case that is not overtly expressed in the head noun can be inferred by other means³⁷.

There are different ways in which this deduction can be carried out. Consider English, for instance. Its word order is so rigid that any given grammatical function will always occupy the same place. Therefore, inferring the function of the head noun prior to raising comes down to identifying the position of the gap. Probably this explains the fact that English allows relativisation of a wider range of grammatical functions. This strategy is not available in Basque due to its rather free word order. Instead, the function of the gap has to be inferred by other means.

Following this assumption, it is straightforward to explain why ergative, absolutive and dative DPs can be relativised without any restrictions. These three cases are present in the auxiliary verb in the form of morphemes attached to the root, as a head-marking system. These morphemes keep track of the arguments the verb takes, even if they are not overtly present. Therefore any constituent bearing any of these three cases can be relativisable without further problems, since its case within the relative clause can be directly inferred from the auxiliary verb³⁸. One problem, though, is that this analysis, as it stands, does not reflect the fact, mentioned above, that indirect objects are somewhat more difficult to relativise than subjects and direct objects. As a matter of fact, the implication of this analysis is that there should be no difference at all, since indirect objects are represented in the head-marking system of the auxiliary as well as subjects and indirect objects.

Notice that what is at stake is that indirect objects are more difficult to relativise than subjects and direct objects. This is not a question of dative vs ergative/absolutive DPs. In fact, dative DPs do not show any difficulties of relativisation at all provided they are not indirect objects, as happens in some psychological verbs that take dative subjects (84a), or some other verbs that take dative direct objects (84b). Therefore, the contrast cannot be due to the case of the relativised DP:

³⁷ This hypothesis can also be carried over in any framework, though.

³⁸ Tenseless relative pose a problem for this approach, since the auxiliaries of this sort of relatives haven't this set of morphemes, so in principle the case of the relativised element could not be inferred. The picture, however, is far more complex, since the restrictions on what can be relativised in these clauses are more severe. For instance, while one can relativise a direct object ([*Jonek Amaiari emandako liburua*, “the book Jon gave to Amaia”), it is wrong to relativise a subject (*[*Amaiari liburua emandako gizona*, “the man that gave the book to Amaia”) or an indirect object (*[*Jonek liburua emandako neska*, “the girl Jon gave the book to”).

- 84) a. [Txirringularitza gustatzen zaion] neskarekin egon naiz
 cycling like AUX.C girl be AUX
 “I have been with the girl who likes cycling (lit. “to whom cycling is liked”)
- b. [Jonek deitu dion] neskarekin egon naiz
 Jon call AUX.C girl be AUX
 “I have been with the girl that Jon called” (lit. “to whom Jon called”)

Case cannot be, then, the cause of the slight oddity of relativising an indirect object. Neither can be its structural height in a tree, since in this framework, the neutral word order S – IO –DO can only be achieved if indirect objects are structurally higher than direct objects but lower than subjects. Instead, I propose to adopt the hypothesis by Hawkins (1994) that the Accessibility Hierarchy in (77) basically is a representation of how much structure is necessary to integrate a certain constituent. Subjects can appear on their own (in intransitive sentences); direct objects, on the other hand, cannot appear unless there is a subject (either overtly expressed or not); indirect objects need the presence of both a direct object and a subject. Speculatively, this seems as though the ease of relativisation was inversely proportional to the size of the structure one is dealing with. Since indirect objects require a larger structure than subjects and direct objects, the result is that relativisation of indirect objects, though possible, is more difficult than that of subject and direct objects³⁹.

This hypothesis receives some support from the fact that it is also odd to relativise direct objects if the clause they are included in has undergone a process of causativisation. This process adds one argument to the number of arguments a certain verb has *per se*. This can be regarded as adding more structure to the clause, so the result is that direct objects attain the same status as indirect objects in ordinary sentences:

- 85) ?[Jonek indabak janarazi dizkion] neska hantxe dago
 Jon beans eat-make AUX.C girl there is
 “The girl that Jon made (her) eat the beans is there”

This theory also provides a straightforward account of why sentences in which there is case parallelism are right, even if the cases belong to the lowest positions of the Accessibility Hierarchy. In sentences like (82a) the case assigned by the embedded verb is different to that assigned by the matrix verb. As shown above, there is a clash between these two cases and only the case assigned by the matrix verb can be overtly expressed. There is no way the case assigned by the embedded verb can be inferred (since comitative is not present in the auxiliary’s head marking system), therefore, the sentence is out. In (82b), on the other hand, both cases are the same, and as a consequence, there is no clash. Since the case expressed corresponds to both positions, it is possible to deduce what the case of the head noun was inside the clause, and the sentence is grammatical.

5.4. Relativisation of Adverbial Phrases.

As noted above, relativisation of adverbial phrases in Basque is quite marginal and subject to certain conditions. This is something expected under the assumption I am making, since adverbials are not represented in the verb morphology. Therefore, inferring their original function within the relative clause is far more tricky than it is

³⁹ Although this seems to entail that relativisation of subjects and direct objects should also be odd if they are found in sentences that also have an indirect object.

with the arguments of the verb. In this section I will discuss what the conditions are to license the relativisation of these phrases.

Oyharçabal (2000) notes that an adverbial is easy to relativise if the embedded verb subcategorises for that kind of adverbial. For example, verbs like *egon* “to be”, or *bizi* “to live” subcategorise for a locative adverbial indicating position, so one would expect relativisation of this kind of phrases to be possible, but not in the case of other adverbials. The examples below confirm this prediction.

- 86) a. [Hauek bizi ziren] bailarak zortzi etxe zituen
 they live AUX.C valley eight house had
 “The valley they lived in had eight houses”
 b. *[Hauek bizi ziren] jendeek diru asko zuten
 they live AUX.C people money much had
 “The people they lived with had a lot of money”

In (86a), the relativised adverbial is subcategorised for by the embedded verb, therefore it is possible to infer the function of the adverbial in the relative clause and the sentence is grammatical. This is not the case in (86b): the head noun functions as a comitative adverbial inside the relative, but the embedded verb does not subcategorise for such an adverbial. Therefore, it is not possible to know the original function of the head noun by any means.

Oyharçabal tries to link the different difficulty of relativising certain adverbial – as opposed to others- to whether these adverbials carry morphologically simple or complex cases. However, I believe that the actual clue to what can be relativised is the fact of whether the original function of the head noun can be somehow deduced (either by the verb morphology or by its subcategorisation frame). As a confirmation of this hypothesis, recall that Oyharçabal himself acknowledges that “with verbs which subcategorise for the comitative case [which he takes as morphologically complex] such as, for example, communication verbs like *hitz egin* or *mintzatu* “to talk”, or *ele egin* “to converse”, relativisation is much easier” (Oyharçabal 2000, section 1.1.5.2). This is illustrated in the following sentence:

- 87) [Arratsaldean tabernan kontu horietaz hitz egin dudan] gizona hemen dago
 evening bar topic these speak AUX.C man here is
 “The man I have spoken with about these topics in the bar this evening is here”

This follows if we assume that a constituent is relativisable as long as its function prior to raising is deducible from other elements in the sentence. This also seems to explain why certain nouns are easier to relativise than others. For instance, modal adverbials are easier to relativise if the head noun is *modu* “manner”, as in (88). Similarly, unacceptable relativisations of genitive phrases (89a) become grammatical if the semantic interpretation is transparent (89b)⁴⁰.

⁴⁰ A note of caution: although they appear as perfect (88) and (89a) should merit an interrogation mark, since they do not sound as good as “ordinary” relatives. This may be due to the fact that “transparent semantic” is not an inferring procedure as good as cross-referencing or subcategorisation. I have not assigned them any mark in order to capture the sharp contrast between the acceptable sentences and the ungrammatical ones.

- 88) [Zuk lan egiten zenuen] moduak denak harritzen gintuen
 you work AUX.C way all impress AUX
 “The way you worked impressed all of us”
- 89) a. *[Etxea argazkian atera dudan] gizona da
 house picture take AUX.C man is
 “(This) is the man whose house I took a picture of”
 b. [Izena ahantzi dudan] gizon batek erran dit
 name forget AUX.C man one tell AUX
 “A man whose name I have forgotten told me”

5.5. Relativisation out of Adjunct Phrases.

In Basque, it is not possible to relativise any element from inside an adjunct clause, as the following sentence shows:

- 90) *[[joaten direnean] afaltzen hasiko garen] lagunak
 leave AUX.C dinner start AUX.C friends
 “The friends such that we will start having dinner when they leave”

In order to explain what is wrong with (90), it is first necessary to clarify the status of adjuncts in this framework. Recall that in this theory adjuncts are equated to specifiers and, therefore, still have a place a single adjunction to the left of the head-complement group. I will follow Cinque (1999) in assuming that adjuncts are actually specifiers to some abstract functional head⁴¹. Under this view, (90) would be derived from the following structure:

- 91) [FP [CP [IP lagunak]_i joaten direnean t_i] [FP F [IP afaltzen hasiko gara]]]
 friends leave AUX.C dinner start AUX
 “We will start having dinner when our friends leave”

As we see, *lagunak* “friends” –which should be the head noun in the resulting relative- is in the specifier position of the CP which, in turn, is the specifier of the FP that constitutes the whole sentence. Therefore, relativisation of this noun would require raising *lagunak* to a SpecCP slot higher than FP. This would result in the following structure:

- 92) [CP lagunak_i [C' ... [FP [CP₂ t_i [C'₂ [joaten direnean][IP t_i]]] [IP ...]]]]

The whole problem reduces to determining whether this is a licit movement, this is, whether it is possible to establish a relation between the base position and the landing site of *lagunak*. For this purpose, let us adopt the locality theory developed by Rita Manzini (1994) and already outlined in section 2, based on head-to-head dependencies. With those definitions, it might be argued that the impossibility of forming a relative clause like (90) is a consequence of the impossibility of forming a chain of head dependencies between the landing site and the base position. The crucial point is that CP* is the specifier of FP. The latter projection is the complement of CP, to which specifier position *lagunak* should move. Now, FP and CP bear no thematic or checking relationship, therefore the chain breaks there that would make for linking the landing

⁴¹ Although I do not agree with Cinque in that these projections follow a fixed hierarchy.

site and the base position of *lagunak*, and the needed dependency cannot be established (see Bianchi 1999:54-61 for details).

Chapter 6. Conclusion

The main goal of this dissertation was to determine how pronominal relatives can be derived in an antisymmetric framework. As usual in this system with superficially head-final structures, the main difficulties come from finding a suitable landing site for the preposed element and finding a motivation for the movement. The main conclusions to be drawn from this piece of work are the following:

1) Kayne's (1994, ch. 8) analysis of pronominal relatives as involving IP fronting was shown to be wrong, at least for Basque. Rather, the order IP-C-head noun suggests that what moves is a larger projection.

2) That "larger projection" cannot be CP, since that would also include the head noun. It is one of the projections of a split CP à la Rizzi (1997). Specifically, it must be one including the relative complementiser and the IP and excluding the raised head noun. From the facts presented in section 4, the fronted category was argued to be FocP.

3) The C-final nature of Basque relatives was claimed, along the lines of Boskovic (1999), to follow from a property of the Focus Head that requires all IP material to adjoin to the SpecFoc slot. This operation could proceed in two ways, thus accounting for the differences between narrow and wide focus: either in one single step (unmarked option) or in two (marked option).

4) Once a C-final relative is derived, it was argued that parsing considerations force movement of the relative clause to the left of the head noun (see Hawkins 1990, 1994). Similarly, a small set of Basque constructions was examined for which the head-final word order seems also to be accounted for by this hypothesis.

5) Finally (although this issue doesn't depend directly on the theory presented here), it was argued in section 5 that the relativisation constraints Basque displays are a consequence of the need to infer the function of the head noun prior to raising (and not a result of Subjacency violations, as argued by Artiagoitia 1992). Three different strategies were identified in Basque for this operation: the auxiliary verb's head marking system, subcategorisation frames and semantic transparency.

All in all, there are several aspects of Basque relatives that I have not touched here. For instance, tenseless relatives, which display different properties to tensed ones (see footnote 38), or postnominal relatives, which also have some special features (for instance, they are uttered with parenthetical intonation, as though they were appositions rather than relatives). All these issues and more, I leave for future work.

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