

ON SOME PHONOLOGICALLY-NULL ELEMENTS IN SYNTAX

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## ABSTRACT

This study investigates the principles required to account for the proper distribution of certain phonologically-null elements in syntax. Within the version of the Revised Extended Standard Theory assumed here, the inventory of empty elements has grown considerably in recent years. This increase has been accompanied by the statement of several conditions which restrict the appearance of these elements to certain well-defined configurations. These conditions are interpreted as expressing properties of Universal Grammar, given that the character of the elements involved hardly admits of a language particular interpretation.

More specifically, the behavior of two distinct empty elements, PRO and trace, are investigated in relation to the notion of 'government'. In order to provide an adequate characterization of the conditions on these elements, this notion is factored into two distinct notions: s-government and c-government. An analysis of object clitics in Romance is constructed using these notions. Special attention is given to 'clitic doubling': the situation which holds when an NP object is reduplicated by a clitic. In connection with this, a base analysis of displaced quantifiers is proposed.

Subject clitics in French are analyzed in the spirit of the analysis of object clitics mentioned above. This leads us to revise the traditional analysis of post-verbal subjects in French.

Finally, we provide a characterization of the so-called 'Pro-drop Parameter', and integrate this with a reformulation of the Empty Category Principle in terms of the notion 'identification'.

Thesis Supervisor: Noam Chomsky

Title: Institute Professor

*A mis padres*

education.

The European linguistics community in Cambridge was a constant source of new ideas and helpful suggestions. Among those who contributed most directly, I should mention: Adriana Belletti, Jean-Roger Vergnaud, Henk van Riemsdijk, Luigi Rizzi, Giuseppe Longobardi, and Guglielmo Cinque.

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## INTRODUCTION

Several current versions of the theory of transformational generative grammar assume the existence of a variety of phonologically-null elements. A conservative inventory of these would now list at least the following three [+N] elements: PRO, [e], [e, +Case]. A fourth one remains controversial: [PRO, +Case]. (Cf. Chomsky (1978, 1979). There is a lot of evidence for these elements from the study of syntactic, phonological and semantic problems. (Cf. Chomsky (1973, 1975, 1978, 1980) and sources cited in these works.) The necessity to place constraints on their appearance became obvious as soon as they were postulated. It is not surprising, then, that a number of such constraints have appeared in the literature of the past ten years. (See Koster (1978) for a review of some of these.) This thesis will investigate some of the conditions on the distribution and behavior of these different empty elements.

It is crucial to notice that the principles which regulate the distribution and the behavior of these elements may be very different from the principles which are concerned with the behavior of phonologically filled elements. In particular, implausible as it may seem, it may be possible to claim that phonologically realized elements are 'learned', in some inductive sense of that word. But this would make no sense with respect to the phonologically-null objects which occupy us here. Rather, we make the natural assumption that these elements are controlled by principles of Universal Grammar. An investigation of the behavior of these elements, then, gives us a direct window into the functioning of those principles which are part of the state of knowledge

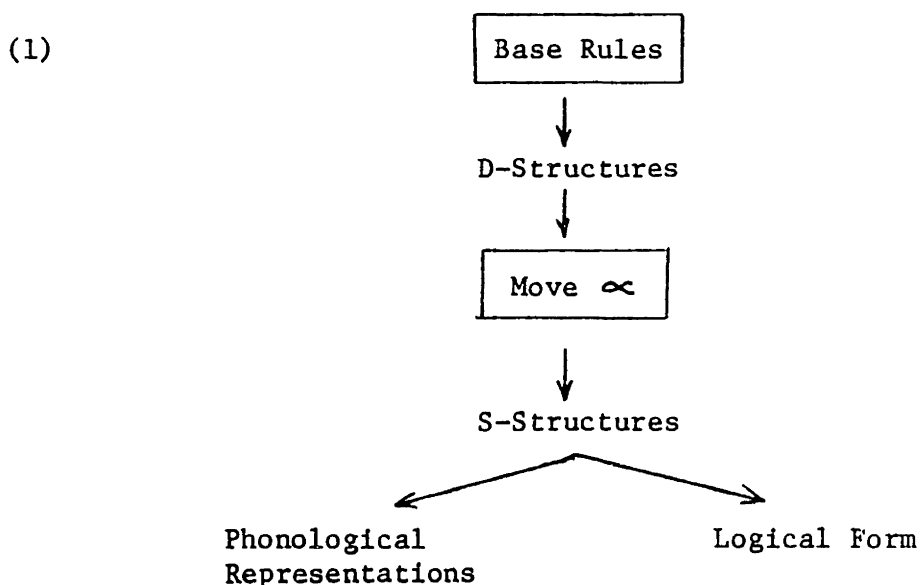
attained by someone who knows a language. These principles, we believe, express deep generalizations about the human language faculty.

Whereas the epistemological character of these principles is sufficiently clear, their relation to the data of linguistic analysis is not so. There is no straightforward way to 'observe' the properties of these elements in the data. Traditional linguistic methods of segmentation and classification are not available to us in this inquiry. Instead, we are forced to adopt the traditional methodology of the natural sciences. This involves the construction of sufficiently complex theories making crucial use of the notions we are interested in, and evaluating the explanatory power of these theoretical constructions. If these theories enter into explanations for a sufficiently wide set of facts which were previously unaccounted for, or if, more generally, they provide interesting deductive accounts which would not otherwise be available to us, we assume that we are on the right track. Otherwise, we reconsider our initial assumptions.

This research program is much slower than one which has the 'dubious privilege' of direct observation. It requires a much richer background of assumptions. In fact, without such a background, the investigation loses all its meaning. In other words, without a sufficiently detailed theory of Universal Grammar, the question of the distribution and behavior of empty elements of the sort mentioned above cannot even be adequately posed. Therefore, it is very important that we establish clearly what are the main theoretical assumptions with which we begin this investigation. These assumptions will be modified in different ways in the course of this study. We turn to a statement of these next.

Clearly, it is impossible to list all of the assumptions involved in any one version of the theory of Universal Grammar. But there are certain points which we feel are important enough to bear an explicit statement, even if the result is slightly repetitious. Our goal is to present enough material to enable the reader to place the discussion in the forthcoming chapters with a more general picture of the organization of UG.

As a general framework, we presuppose the Revised Extended Standard Theory, particularly those versions which have been developed since Chomsky and Lasnik (1977): Chomsky (1978), Rouveret and Vergnaud (1978), Chomsky (1979), Chomsky (1980). We assume that 'core grammar' is organized roughly as in (1) below:



The base rules produce D-structures which get mapped onto S-structures via the transformational rule 'Move  $\infty$ '. S-structures then get mapped onto Phonological Representations by a variety of different rules which include: deletion rules, stylistic movement rules, filters, late Case-

assignment rules, and phonological rules proper. S-structures also get mapped onto Logical Form, through the operation of rules of construal (cf. Hale, Jeanne, and Platero (1977)), further movement rules, the application of well-formedness principles of Binding, and perhaps other devices. We will call the mapping from S-structure to Phonological Representations the 'left side of the grammar', simply because in the above diagram it has been drawn to the left. The mapping from S-structures to Logical Form will be termed the 'right side of the grammar'. Needless to say, no grammatical significance should be attributed to these descriptive terms.

Consider next the various parts of (1).

We assume that the Base rules conform to some version of the  $\bar{X}$  theory (cf. Chomsky (1970)). More specifically, we assume the following basic expansion schema:

$$(2) \quad X^n \rightarrow (Y^n)* X^{n-1} (Y^n)*$$

The 'head-of-phrase' relation can then be defined as follows:

$X^{n-1}$  is the head of  $Z=X^n$ . (If X is a terminal node, then X is its head.)

We will assume that X ranges over feature bundles made up of  $\underline{+N}$ ,  $\underline{+V}$ . For clarity's sake, we enumerate:  $[+N, -V]$  = noun,  $[+N, +V]$  = adjective,  $[-N, +V]$  = verb, and  $[-N, -V]$  = preposition. Following Chomsky (1979), we assume that the right context and the left context of  $X^{n-1}$  is fixed through all categories; that is, that in the unmarked case, V, N, A, and P have the same complement structure. Apparent counterexamples to this statement are easy to find. Our claim is that additional mechanisms, such as Case theory and the theory of  $\theta$ -roles (see below for discussion

of both), allow us to maintain this maximally simple base schema. (See Stowell (1980) for interesting arguments in this direction, with special emphasis on the status of subject position across categories.) This claim forms part of the effort to avoid accounts which crucially have recourse to the existence or non-existence of certain base rules.

Instead, our accounts will have to find alternative ways to constrain the output of the base rules, since many more configurations will be produced than are actually attested. We will return to this topic below.

Within the Standard Theory as developed in Chomsky (1965) lexical insertion was defined as a context-sensitive process. We will assume, on the other hand, that lexical insertion is in fact context-free. (See Farmer (1980) for arguments to this effect.) Their apparent context-sensitivity will be derived from independent principles which will take into consideration special properties of lexical items. A consequence of this move is that non-sentences like \*John went Mary will no longer be excluded because went can't be inserted into a transitive structure. (See below and Chapter 1 for further discussion.)

Central to this enterprise is the theory of (abstract) Case. [Henceforth, the word Case in its grammatical sense will always be capitalized, to distinguish it from the word case meaning 'instance'.] (Cf. Chomsky (1978), Vergnaud (1979) and Chomsky (1979)). We will assume that Case is a feature of lexical NPs which is morphologically realized in some languages but not all. The principal contribution of the theory of Case is to provide an adequate characterization of those positions in which a lexical element may appear. This is achieved by assuming that all lexical NPs must be specified for Case, and that Case

is assigned by rules as in (3), following Chomsky (1978):

- (3) a. NP → [nominative] / if governed by Tense.  
 b. NP → [objective] / if governed by verb.  
 c. NP → [oblique] / if governed by P and certain verbs.

(The names [objective] and [accusative] will be used interchangeably, with no difference in meaning intended.<sup>1</sup>) Departing a bit from the interpretation of the rules in (3) given in Chomsky (1978), we will assume that Case features are not 'assigned' to an NP by a rule as in (3). Rather we will assume that Case features are optional members of the syntactic feature matrix which makes up an NP. The rules in (3) will then be interpreted as rules which specify in which contexts an NP with a particular feature specification is allowed to occur. For example, under this light, nominative NPs may be generated in any position in a phrase marker. However, principle (3)a allows nominative NPs only in a position governed by Tense. Nominative NPs in any other position will cause the sentence to block because principle (3)a will be violated. (For further discussion of this interpretation of the theory of Case, see Jaeggli (1978)). The system carefully defined and formalized in Vergnaud (1979) expresses a similar idea. See also Farmer (1980), especially Chapter 4. Following Vergnaud (1979), we assume that the Case filter of Chomsky (1978) should best be considered a requirement for morphological well-formedness. In other words, a sentence in which a lexical item does not have a Case specification will be blocked because it will not meet conditions of morphological well-formedness. This places the 'Case filter' clearly on the left side of the grammar.



Leaving these details aside, we basically assume the theory of Case developed in Chomsky (1978). Although our interpretation of the rules in (3) make it more appropriate to speak of Case as being 'checked' in certain contexts than 'assigned', we will continue to use the familiar terminology.

The theory of abstract Case constrains the outputs of the base rules by restricting the positions in which lexically filled NPs may appear. A similar, though distinct, function is accomplished by the theory of  $\theta$ -roles. Assume that a complete characterization of the grammatical structure of a sentence includes a characterization of so-called 'thematic relations' in LF. Some familiar thematic relations are: "agent", "goal", "source", "theme", "experiencer", etc. (Cf. Gruber (1965) and Jackendoff (1972) for discussion concerning the semantic aspects of thematic roles.) The lexicon of a language specifies for each lexical item the complement structure associated with it, and the thematic roles of the elements which fill this complement structure. The assignment of  $\theta$ -roles conforms to the following criterion:

(4) The  $\theta$ -Criterion

- a. Each  $\theta$ -position is assigned an R (=referential) expression.
- b. Each R-expression is assigned a  $\theta$ -role.
- c. Only R-expressions are assigned to  $\theta$ -positions.

(See Borer (1979, 1980)). PRO is considered an R-expression. When movement occurs, it is assumed that a  $\theta$ -role is inherited by the moved expression from its trace. Thus, as Borer (1979, 1980) points out, the  $\theta$ -Criterion makes an interesting and non-trivial prediction on NP

movement: it predicts that an argument can only move from a  $\theta$ -position to a non- $\theta$ -position. This principle, then, constrains representations derived from the output of the base plus the application of the transformational rule 'Move  $\alpha$ '. As for the assignment of  $\theta$ -roles, I will assume that it can be done in two distinct ways. The  $\theta$ -roles of the objects of a verb are assigned to whichever element is linked to the subcategorization feature of that verb. In Chapter 1 we will develop a notion which makes this linking more precise. The  $\theta$ -role assigned to the subject, on the other hand, can be assumed to be given to an NP by virtue of the fact that it occupies a given  $\theta$ -position, i.e., [NP,S] position. This position is assigned a  $\theta$ -role compositionally by the VP. (We follow Borer (1980) in defining 'X occupies position p' as 'p contains X or the trace of X'.)

It should be mentioned here that there is a lot of redundancy between the theory of  $\theta$ -roles and the theory of Case. There are too many instances in which they overlap. The one instance where they don't concerns the behavior of PRO. PRO requires a  $\theta$ -role but cannot receive Case (or, at the limit, admits Case only under rather special circumstances. See Chapters 3 and 4). A reasonable goal which we keep in mind is to try to reduce this redundancy wherever possible.

So far we have mentioned the theory of the base, the system of  $\theta$ -roles, and the theory of Abstract Case. We will assume that the mapping from D-structure to S-structure is accomplished via the rule of 'Move  $\alpha$ '. Considering still other parts of the diagram in (1), we would like to describe the form of the Binding theory next.

The central notion of the theory of UG as presented in Chomsky

(1979) is the notion of 'government'. It is defined there as follows:

(5)  $\alpha$  governs  $\beta$  iff  $\alpha$  minimally c-commands  $\beta$ .

Minimal c-command is defined as in (6):

(6)  $\alpha$  minimally c-commands  $\beta$  = def  
 $\alpha$  c-commands  $\beta$  and there is no  $\gamma$  such that  
 $\alpha$  c-commands  $\gamma$  and  $\gamma$  c-commands  $\beta$  and not  $\gamma$  c-commands  $\alpha$ .

Furthermore, it is stipulated that  $\alpha = \{N, A, V, P\}$ .

For the theory of Binding, it is very important to properly establish the domain within which different elements may be free or bound. For example, the theory of Binding put forth in Chomsky (1978) claimed that there were two such domains: the domain of the subject, and the domain of tense. These two domains left one position open to be bound from outside a sentence: the subject position of an infinitive. It is neither in the domain of tense (the sentence in this case is tenseless) nor in the domain of the subject. We can now ask the following question: why is it that both the theory of Binding as stated in Chomsky (1978) and the theory of Abstract Case both identify the position of subject of an infinitive as a special 'free' position? For the theory of Case, the subject of an infinitive is the only position which does not get assigned Case from within the S. (In English, this position is sometimes assigned Case through exceptional mechanisms. These options do not exist in many other languages.) Within the theory of grammar of Chomsky (1978), there was no satisfactory answer to this question. It was a coincidence that these two separate systems chose

to treat the same position as 'special' in some way.

The theory of Binding developed in Chomsky (1979) seeks to answer this question by defining the binding domains with the aid of the notion of 'government'. More specifically, the notion of 'governing category' is derived from this notion as follows:

- (7)  $\alpha$  is a governing category for  $\beta$  = def  
 there is some  $\gamma$  such that  $\gamma$  governs  $\beta$  and  $\alpha$  contains  $\gamma$ .

A 'minimal governing category' is a governing category which properly contains no other governing category. We will assume that NP and S, or  $\bar{S}$  are governing categories. The Binding conditions can now be stated in such a way as to answer the question mentioned above. We cite below the version of the theory of Binding developed in Chomsky (1979). It consists of three principles which regulate the different possibilities allowed for NPs in a certain binding domain.

- (8) a. If  $\alpha$  is a lexical anaphor, or  $\alpha$  has no phonetic matrix (i.e., [<sub>NP</sub>e], PRO) then:
- (i)  $\alpha$  is a variable; or
  - (ii)  $\alpha$  is bound in every governing category.
- b. If NP is Case-marked, then
- (i) it is a lexical anaphor; or
  - (ii) it is free in every governing category.
- c. If  $\alpha$  is pronominal (=pronoun or PRO), then
- it is free in every minimal governing category.

A 'lexical anaphor' is a (phonologically-full) lexical item which is lexically specified as needing an antecedent; e.g., English reflexives and reciprocals: myself, themselves, each other, etc. The notion 'free' is defined as 'non-bound'. An element  $\alpha$  is 'bound' iff  $\alpha$  is an argument co-indexed with a c-commanding argument. Notice that this notion corresponds to the notion 'argument-bound', which is distinct from the notion 'operator-bound'.

The Opacity Conditions of Chomsky (1978) now can be derived from these principles of Binding, although the results obtained in each theory differ in interesting ways which we will not discuss here. (See Chomsky (1979) for detailed discussion.) The question mentioned above about the convergence of properties individuated by the theory of Case and the theory of Binding can be answered quite elegantly. The subject position of an infinitive is singled out as 'free' by both theories because both theories use the notion of government to establish the domains within which they apply. The subject of an infinitive falls outside Case assigning domains: it is not governed by anything; and its binding domain is different from that of other subjects for the same reason -- it is either completely ungoverned, or governed by a higher verb, as in cases of Exceptional Case marking.

Two important theorems follow from the Binding theory stated in (8). The first one can be stated as in (9):

(9) If [<sub>NP</sub>e] is Case-marked, then it is a variable.

We can deduce (9) from (8) as follows. If [e] is Case-marked, conditions A and B apply to it. By condition B, it is either a lexical anaphor or

free in every governing category. Condition A states that everything which lacks a phonetic matrix is either a variable or bound in every governing category. Well, we know that a Case-marked [e] is not bound in every governing category, by the preceding argument concerning condition B. So it must be a variable.<sup>2</sup> Q.E.D.

A second very important theorem concerns a crucial property of PRO. A basic tenet of the theory of empty categories assumed here is that  $PRO \neq [e]$ . Rather, a PRO is simply a phonologically-null pronoun. In other words, a PRO contains features which an [e] does not contain; features for gender, number, person, and perhaps others (definiteness, etc.). PRO is the element which appears in subject position of infinitives in control structures. The following theorem about PRO can be deduced from (8):

(10) PRO is not governed.

The proof is a reductio. Assume that PRO is governed. Then there is a minimal category  $\alpha$  in which it is governed. By condition A, it must be bound in this governing category. But by condition C it must be free in this category. This is a contradiction. We must then accept that our initial assumption cannot hold. PRO can never be governed. This is a very important condition because it expresses a clear property of PRO which can be used to investigate its behavior even further. We will do precisely this in the forthcoming chapters of this thesis.

We have seen that a Case-marked trace is a variable (by condition A) and it is free in every governing category (by condition B). This means that Case-marked traces are free of the effects of Opacity. That is,

they do not obey the Specified Subject Condition or the Tensed-S Condition of previous theories. I will assume that traces of Wh-Movement are always Case-marked, as argued in Chomsky (1979). (See also Jaeggli (1978) for arguments to this effect, within slightly different assumptions.) That Case-marked traces should be free from the effects of the Specified Subject Condition is in fact argued on the basis of much empirical evidence from Italian in Rizzi (1978). This argument is extended to the Nominative Island Condition of Chomsky (1978) by Freidin and Lasnik (1979).

These results raise the problem of how to exclude the following sentence:

(11) \*Who did you say that t would arrive late?

The trace in subject position of (11) is marked nominative. Assuming that it is not bound in the  $\bar{S}$  immediately containing the S in which it is found, one might be tempted to exclude (11) via the Nominative Island Condition. This alternative was explored successfully in Pesetsky (1979). In other words, the that-t filter of Chomsky and Lasnik (1977) can be made to follow from the Nominative Island Condition, as suggested in a footnote of "On Binding". But this way of excluding (11) is at odds with the conclusion that wh-traces are not subject to Opacity.

Chomsky (1979) proposes to solve this problem by stating a general condition on all traces which would block (11). This condition can be stated approximately as in (12) below. It is called the Empty Category Principle.

(12) [<sub>α</sub>e] must be properly governed.

The predicate 'properly governed' is defined as follows:

- (13)  $\alpha$  properly governs  $\beta$  iff  $\alpha$  governs  $\beta$  and
- (i)  $\alpha = [+N, +V]$ ; or
- (ii)  $\alpha$  is co-indexed with  $\beta$ .

Consider now how (12) rules out (11). The structure of (11) at the relevant level would be:

- (14)  $[[\text{who}]_1 [\text{you say } [[t_1 - \text{that}] [t_1 \text{ would arrive late}]]]]$ .

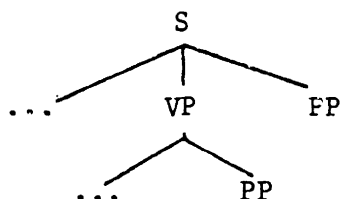
The trace in subject position does not meet (12). It is not governed by a lexical V, A, N, or P; and it is not governed by a co-indexed element. Crucially, the trace in COMP does not govern it. Thus, sentence (11) is ruled out.

The Empty Category Principle is discussed at length in Chapter 4. We will not discuss it any further here. We simply wanted to present it as one of the crucial points which will become the focus of our investigation throughout this thesis, and especially towards the end. Nevertheless, we would like to briefly present some reservations about the undefined status of the categorial variable in (12). According to this formulation of the Empty Category Principle, it should also apply to Prepositional Phrases. This raises an interesting problem which we would like to point out.

Consider in connection to the ECP as stated in (12) the traditional assumption that Prepositional Phrases may occupy (at least) two different structural positions, as shown in (15):



(15)



While it is natural to assume that the PP under VP is properly governed, according to (13), this is not so for the PP under S. In fact, this PP is not properly governed according to (13). Thus, we expect to find some PP's which cannot be extracted. For example, the following sentence is usually considered to contain an S PP:

(16) John saw the snake near Peter.

If (12) holds of Prepositional Phrases, it should not be possible to extract it via Wh-movement. This prediction is false. Cf.:

(17) Near who did you see the snake?

Furthermore, this data is compatible with the claim made in Weinberg and Hornstein (1978) that only prepositions contained in VP PP's may be stranded. A version of (17) with the preposition stranded is much worse. Cf.:

(18) ?\*Who did you see the snake near?

This data leads us to doubt that the ECP should be stated as generally as in (12). Instead, we suggest that it should be restricted to [<sub>NP</sub>e]. In the forthcoming chapters, we will present more evidence in favor of the claim that the ECP should not apply to [<sub>PP</sub>e].

This concludes the presentation of the theoretical assumptions

which underlie our research. Although many assumptions have been left unstated, we feel that enough has been brought to light so that the reader well acquainted with the Revised Extended Standard Theory will not be lost.

Chapter 1 constitutes an investigation of object clitics in Romance. We consider certain differences that exist among dialects of Spanish and Standard French regarding the distribution of the pair (clitic, lexical NP complement). Our analysis reveals the need to assume that PRO can occur in complement position and it presents evidence which supports an extension of the application of the ECP to non-subjects. Chapter 2 is concerned with the distribution of bare quantifiers, particularly in light of the analysis of some quantified expressions in Chapter 1. Chapter 3 extends the sort of analysis developed for object clitics in Chapter 1 to subject clitics in French. This analysis of subject clitics forces us to reconsider the status of post-verbal subjects in French. The account which emerges is rather different from the traditional one. Finally, in Chapter 4 we investigate the Empty Category Principle in depth. The Conclusion summarizes the main results, and integrates them in a way more harmonious than that achieved in the text.

## FOOTNOTES: INTRODUCTION

1. The same is not true of [dative] and [oblique]. See Chapter 1 for discussion. We assume that [dative] is the Case of indirect objects, while [oblique] is the Case of prepositional objects.

2. Chomsky (1979) argues that a stronger theorem can be derived. He states it roughly as follows:

(i) [e] is a variable iff it is Case-marked.

The part of (i) which corresponds to (9) can be derived as in the text.

We have our doubts as to the converse, namely:

(ii) If [e] is a variable, then it is Case-marked.

(ii) can be gotten basically through stipulation via the Case filter, but I do not think it follows simply from the Binding conditions as stated in (8) above. See Borer (1980) for further discussion.

## CHAPTER 1: A GOVERNMENT THEORY OF OBJECT CLITICS (PRO IN OBJECT POSITION)

## 1.0 Introduction

The study of clitic pronouns has always enjoyed a privileged position among investigations of Romance syntax. This has been undisputedly the case since the appearance of Kayne's seminal work on French clitics (cf. Kayne (1969), Kayne (1975)). Kayne showed that the study of clitic pronouns can be very telling about certain aspects of Universal Grammar -- for example, about the notion of the cycle, the Specified Subject Condition, the notion 'obligatory transformation', rule ordering, etc. These studies are particularly fruitful when we observe the behavior of clitics in complex structures, like causatives and/or control structures. Not surprisingly, a number of studies have concentrated on this aspect of the syntax of clitic pronouns. (Some of them are: Kayne (1975), Quicoli (1976), Rivas (1977), Strozer (1976), Radford (1977), Rizzi (1978a), Rouveret & Vergnaud (1978), Zubizarreta (1979)). In this chapter, I would like to examine the behavior of clitics in simplex structures with the same goal in mind of extracting insights into principles of UG. I will show that there are several principles of grammar which are illuminated by an examination of these facts. More precisely, I would like to concentrate on some differences between Romance languages (and their different dialects) with respect to the distribution of the pair (clitic, lexical NP object). These differences are most striking in the case of non-reflexive object clitics, and their respective lexical NP counterparts. I will have nothing to say here about those clitics which Kayne analyzed as Pro-PPs, e.g., French en/y, or their Italian counterparts ne/ci. (These do not exist in Spanish).

I am basically in agreement with Kayne's analysis of those clitics. For a detailed account of the syntax of Italian ne, see Belletti & Rizzi (1980).

The questions to which I will address myself here are:

- 1) What is the distribution of the pair (clitic, lexical NP object) in different Romance languages (and/or dialects)?
- 2) Under what circumstances may different combinations of this pair occur? In particular, when is the phenomenon which I shall call clitic doubling possible?

3) How are such constructions accounted for within different theories of clitics in the framework of the Extended Standard Theory? Are these accounts satisfactory -- descriptively adequate, explanatorily adequate?

- 4) Does clitic doubling affect other grammatical processes?

In my search for answers to these questions I will examine in detail the behavior of clitics in one dialect of Spanish -- the so-called 'River Plate' dialect -- and I will compare this to French. An examination of data from other languages unfortunately lies outside the scope of this work. (The most important case which we must leave aside is Rumanian.) The Spanish data will be the most detailed. Most of the French data comes from Kayne's work on that language, which I have found to be extremely rich both in theoretical insights and information.

The chapter is structured as follows. In the first section, I will present the data for clitic doubling in two dialects of Spanish, and note that in French this phenomenon does not exist. In section 1.2. I

will consider how the data presented in the preceding section might be accounted for within two well-known theories of clitics in the framework of the Extended Standard Theory. I will argue that both theories are defective. One of them is observationally and descriptively inadequate; the other one is not restrictive enough, i.e., explanatorily inadequate. In the third section I will present a different theory, which, I will argue, is powerful enough to describe the phenomenon at hand, but restrictive in that it limits the options in quite drastic ways. Finally, in the last section I will test this theory by exploring its interaction with other rules, such as Wh-Movement and Quantifier Raising.

### 1.1. The Pair (Clitic, Lexical NP)

Consider one paradigmatic case of clitic doubling in Standard Spanish:

- (1.1) a. Miguelito le regaló un caramelo a Mafalda.  
'Miguelito gave Mafalda a (piece of) candy.'
- b. Miguelito les regaló caramelos a unos chicos del barrio.  
'Miguelito gave some candy to some neighborhood kids.'

I will say that the dative clitics (le, les) 'double' the indirect object phrases (a Mafalda, a unos chicos del barrio, resp.). The doubling clitics must agree in number, person, and gender with the object NP. (With dative clitics, gender agreement is not visible. Accusative clitics, on the other hand, are indeed marked for gender. With them, the requirement of gender agreement is clearly observable in those dialects which double direct object NPs. Cf. sentences (1.7)-(1.9) below).<sup>1</sup>

In (1.1) the indirect object thematically expresses a goal. With

such goal non-pronominal indirect objects, clitic doubling is optional. In some cases, the clitic may be omitted, as in (1.2):

- (1.2) A las doce en punto, la dirección entregó las notas a los estudiantes.  
'At 12 o'clock sharp, the administration gave the grades to the students.'

There are some non-pronominal indirect objects, however, which must be clitic doubled. These involve indirect objects which are interpreted thematically as possessives (cases of so-called 'inalienable possession'). Consider the following sentences:

- (1.3) a. Le duele la cabeza a Mafalda.  
her-dat hurts the head to M  
'Mafalda has a headache.'
- b. Le rompí la pata a la mesa.  
her-dat I-broke the leg to the table  
'I broke the table's leg.'
- c. \*Duele la cabeza a Mafalda.
- d. \*Rompí la pata a la mesa.

Finally, all pronominal indirect objects must be clitic doubled in Spanish.

- (1.4) a. Le entregué la carta a él.  
'I delivered the letter to him.'
- b. \*Entregué la carta a él.

As is well known, the French or Italian counterparts to (1.1) are ungrammatical.<sup>2</sup> More generally, indirect objects are never clitic doubled in these languages. If the lexical object is present, the clitic must necessarily be absent.

- (1.5) a. Jean a donné des bonbons à Marie.  
'Jean gave chocolates to Marie.'
- b. \*Jean lui a donné des bonbons à Marie.
- (1.6) a. Lina ha dato una caramella a Giovanni.  
'Lina gave a (piece of) candy to G.'
- b. \*Lina gli ha dato una caramella a Giovanni.<sup>3</sup>

Of course, in all these languages the indirect object phrase may be absent, and a clitic present.

- (1.7) a. Miguelito le regaló un caramelo.  
'Miguelito gave him/her a (piece of) candy.'
- b. Jean lui a donné des bonbons.  
'Jean gave him/her some chocolates.'
- c. Lina gli ha dato una caramella.  
'Lina gave him a (piece of) candy.'

Turning now to direct objects, we find a slightly more complex situation. In Standard Spanish, Standard French, and Standard Italian there is complementary distribution between clitics and non-pronominal lexical NP direct objects; that is, there is no clitic doubling with direct objects. (I will give only Spanish examples.) This is true irrespective of the animacy of the object NP.

- (1.8) a. Vimos la casa de Mafalda.  
'We saw M.'s house.'
- b. Vimos a Guille.  
'We saw Guille.'
- (1.9) a. \*La vimos la casa de Mafalda.
- b. \*Lo vimos a Guille.



- (1.10) a. La vimos.  
'We saw her/it.'
- b. Lo vimos.  
'We saw him/it.'

In other dialects of Spanish, however, it is possible to double a direct object. For example, in the dialect spoken in the River Plate area of South America (Argentina, Paraguay, Uruguay, including some areas of Chile), animate specific direct objects may (and preferably are) clitic doubled. In this dialect, then, (1.9)b is acceptable. Note that in this dialect (1.9)a remains ungrammatical.

Pronominal direct objects must be doubled in all dialects of Spanish.

- (1.11) a. \*Vi a él.
- b. Lo vi a él.  
'I saw him.'

To summarize: Standard French and Standard Italian never exhibit clitic doubling.<sup>4</sup> In Spanish, the situation is as stated in (1.12):

(1.12)	<u>Clitic Doubling in Spanish</u>	
	Standard Sp.	River Plate Sp.
Indirect Objects		
Non-Pronominal		
Goal i. o.	optional	optional, but highly preferred
Poss. i. o.	obligatory	obligatory
Pronominal	obligatory	obligatory
Direct Objects		
Non-Pronominal		
Inanimate	impossible	impossible
Animate, Specific	impossible	optional (preferred)
Pronominal	obligatory	obligatory

Needless to say, this chart summarizes a very rough approximation of the facts. As we proceed it will become obvious that (1.12) is far from telling the complete story. However, it does provide enough data to examine two well known theories of clitics.

## 1.2. Two Theories of Clitics

During the past fifteen years, two different approaches to the study of clitic pronouns have been developed, each one successful in its own way. One approach, characterized by Kayne (1975) and further developed in Quicoli (1976) and other studies, assumes that clitic pronouns are derived via a movement transformation. The other approach, developed (among other places) in Rivas (1977) and Strozer (1976), denies the existence of a clitic placement movement rule, and assumes instead that clitic pronouns are generated by the phrase structure rules in their clitic position.<sup>5</sup>

I will consider first the movement theory. In this theory, pronouns are generated in NP position, and cliticized to the verb by an obligatory movement rule (Kayne's Clitic Placement; or perhaps a much more general rule, 'Move Clitic', a possible instantiation of 'Move alpha', as suggested by Quicoli (1976) and Rouveret and Vergnaud (1978). Kayne states this rule as follows:

(1.13)    X NP V Y Pro Z  
           1 2 3 4 5 6    →    1 2 5+3 4 6

For example, a sentence such as (1.10)a would be derived roughly as in

(1.14):

(1.14) ...<sub>V</sub>[vimos][1a]<sub>NP</sub> → ...[\_V1a [\_Vvimos]] [\_NP<sup>e</sup>]]

This theory accounts for a number of peculiar facts about clitics in French. Thus, it deserves close examination in our search for an account of the doubling facts mentioned above.

Given the logic of the movement theory, it is clear that it has no straightforward way of accounting for clitic doubled complements in Spanish. In fact, this theory was constructed to account for the impossibility of clitic doubling in French, where, as we saw above, clitics and lexical NPs are in strict complementary distribution. A movement theory of clitics maintains that complementary distribution is the normal case, indeed, the only possible distribution of the pair (clitic, NP). (Cf. Kayne (1975), pp. 75-77).

In order to account for the lack of complementary distribution found in some languages where clitic doubling is permitted (and at times obligatory), a movement theory would have to be modified, perhaps by introducing 'copying' mechanisms of some sort. One might claim that there is a rule, distinct from Clitic Placement, which copies the features of the object NP on the verb. It seems desirable, however, to restrict the theory of transformations so as to exclude 'copying' rules of this sort. (For example, within a rather restrictive theory of transformations, as the one presented in Lasnik and Kupin (1977), such a process would be formally unstatable.) A theory which allows such devices is a much more powerful one than one which excludes them. More powerful in the sense that it makes room for many more descriptive statements about a particular set of data. The greater descriptive

latitude allowed by the theory of grammar, the further away we move from the goal of explanatory adequacy. On the other hand, a reduction of the expressive power of transformational mechanisms is always welcome from the point of view of explanatory adequacy. From this point of view, then, it appears unwise to posit 'copying' mechanisms of the sort described above.

Furthermore, upon closer inspection such a copying mechanism reveals several peculiar properties. First, notice that it would not involve moving a constituent C and leaving some pronominal copy of C (a subset of the feature matrix of C) in its place. (This sort of mechanism might be argued to be rather plausible. In fact, a trace left by movement rules might be considered to be the result of such a mechanism.) Rather, what would be needed in these cases is a rule which leaves the entire constituent C in its place, and only moves a pronominal copy of C -- that is, the inverse of the 'trace-proposal'. This would be quite an unprecedented type of operation.<sup>6</sup> I will assume that such operations in fact are not allowed by the theory of grammar, pending further evidence or argumentation in their favor.<sup>7</sup>

Clitic doubling, then, poses problems of observational and descriptive adequacy for the classical movement theory. But there are also other reasons to reject the classical theory. Recall that one of the basic assumptions of the classical theory is that (object) clitics originate in post-verbal NP position, in place of the complement which they identify (i.e., in place of a direct object if it is a direct clitic, etc.). An extreme version of this theory would claim that all object clitics are generated in this fashion; that is, that there is

never any need to introduce clitics in clitic position via the PS rules. One might imagine, then, that a clitic which has no acceptable (NP) source would constitute a counterexample to this theory. Such a clitic would never be found to alternate with an overt lexical NP. In such cases, it might seem ad hoc to generate these clitics post-verbally, in position of an (impossible) complement, and to force their cliticization through some special mechanism.

French exhibits some clitics of this sort. There exists a set of se, so called 'inherent' se, for which there is no convenient postverbal NP source. Kayne examines these clitics and skillfully converts them into an argument for a movement theory of clitics. Cf. Kayne (1975), pp. 385-395. He argues that there are certain phenomena with respect to which inherent se pattern like other object pronouns, which support a transformational derivation of these clitics. These phenomena concern past participle agreement, the range of possible verbal complement structures, and the fact that there are no inherently reflexive or reciprocal adjectives. Let us examine them one by one.

There are two types of participle agreement in Modern French. One of them has the participle agreeing with the subject in the presence of the auxiliary être. It is obligatory in both literary and conversational French. The other involves agreement of the participle when the object precedes it in surface structure (as it does when it is a clitic). This type of agreement occurs mainly in the literary language. It is usually not found in conversational French. In reflexives, the agreement seems to be more literary than conversational. That is, reflexives pattern like cases of object agreement. Proposed

non-reflexive datives do not trigger agreement. Correspondingly, preposed reflexive datives do not trigger agreement either. Kayne notices that the agreement patterns with inherent se resemble those of the ordinary reflexives. (This is shown in detail for the verb se dédire, 'to recant'.) The conclusion is that the se of an inherently reflexive verb behaves as a preposed direct object with respect to participle agreement, despite the fact that that verb does not regularly take direct objects. Cf. Kayne (1975) p. 389. In other words, what this data shows is that these clitics behave like clitics which are real objects of a given verb. Kayne's way of expressing this idea is to posit that they are both derived via the same rule from post-verbal object position. Another way would involve, more simply, granting both types of clitics the same status as an 'object'.

Kayne's second argument concerns the range of possible verbal complement structures found in French. He writes:

If these (inherent) se are invariably derived from either an accusative or a dative object via [a movement rule], and if, as would appear true in general, verbs can be subcategorized for at most one accusative and one dative complement, then we would predict that inherent se could cooccur with one or the other, but not with both. That is, we could have se V NP or se V a NP, but never \* se V NP a NP, where se is "inherent" and a NP dative...The hypothesis that inherent se is generated directly in clitic position would, on the other hand, allow a verb to have both an accusative and a dative complement in addition to that se. Since there does not appear to exist any such verb (and on the assumption that that lack is not accidental), the [movement] hypothesis is to be favored.

Kayne (1975) pp. 389-390.

Once again, the conclusion is that inherent se should be granted the status of a verbal 'object', just like other clitics.

A third piece of evidence against the base hypothesis, Kayne

argues, comes from the fact that although there are inherently reflexive or reciprocal verbs, there are no comparable inherently reflexive or reciprocal adjectives. Within the movement analysis, this might be reduced to the fact that even regular reflexives do not easily cliticize to adjectives. That is, just as it is hard to find regular reflexives with adjectives, so it is at best marginal to find inherent se with adjectives. What Kayne seems to be pointing to is the impossibility of reflexive objects with adjectives. If inherent clitics are treated on a par with other reflexive objects, as we have seen above that they must be, this (presumably) non-accidental fact will also follow.

To summarize, all three arguments show that inherent clitics must be granted 'object' status ('object' now in the sense of a thematic argument of the verb). A system which captures this fact will also account for all the data mentioned in the three arguments. One way of capturing this fact is to generate all the elements which function as object arguments of a verb in the same structural position. This is what Kayne does. However, I will show below that there are other ways to capture this fact. This alternative method, which involves the notion of subcategorization-government, is needed independently of the issue of inherent reflexives to capture facts about clitic doubling.

It should be noted that the transformational derivation of inherent se raises difficult semantic questions, since typically the meaning of an inherent verb is not immediately predictable from the meaning of the lexical verb without se. (Kayne notices this fact, but dismisses it because this observation does not alter the evidence suggesting an

object origin for inherent se.) For example, the inherently reflexive verb s'en prendre bears no simple semantic relation to prendre. It is hard to see how this change in meaning can be coded into the effect of a transformational operation, without enormously increasing the functional range of structural changes of transformations. In a base analysis, on the other hand, this information would be easy to encode in the lexicon. In fact, we might argue that this is in principle the correct way to express in a grammar this type of idiosyncratic change in meaning.

Returning to our original claim that it is possible to construct an argument against the classical theory of clitics from clitics which have no acceptable post-verbal source, we may now ask if there are any (non-subject) clitics which do not exhibit those properties which Kayne was able to reveal even in inherent se. For example, can we find clitics which occur with verbs which have both direct and indirect objects? This would rule out the possibility of generating them in either one of those positions. Furthermore, if the clitic does not alternate with any other post-verbal object position, we can use this as strong evidence that the clitic is generated by the base in clitic position. Spanish abounds in examples of this type. So-called benefactive, or ethical-dative, clitics cooccur with verbs with filled direct and indirect objects. Consider the following sentences (of the sort mentioned in Perlmutter (1971)):

- (1.15) a. Me le arruinaron la vida a mi hijo.  
'The ruined my son's life.'
- b. Sin mi permiso, te me compraste la moto!  
'Without my permission, you bought (yourself) the motorcycle.'



In (1.15)a, arruinar has a direct object, la vida, and an indirect object, a mi hijo, plus a benefactive clitic, me. Similarly, in (1.15)b, comprar has both a direct and an indirect object, la moto and te, respectively, plus the benefactive me. This benefactive argument of the verb, expressed by the clitic, is never found in post-verbal position. That is, (1.15)a is not a paraphrase of any of the following, where different prepositional complements are tried:

- (1.16) a. \*Le arruinaron la vida a mi hijo a mí.  
 b. ?Le arruinaron la vida a mi hijo para mí.  
 c. ?Le arruinaron la vida a mi hijo por mí.<sup>8</sup>

A minimal conclusion given these cases seems to be that at least some clitics must be generated in clitic position. With benefactives it appears that nothing at all is accounted for by positing a transformational derivation. And the grammar would have to be complicated to force cliticization of some very abstract (impossible surface) complement, if we were to maintain a classical analysis. (In this respect, notice that Kayne has to force cliticization of inherent se (cf. Kayne (1975), p. 392)). It is not entirely clear how this should be done. On the other hand, base generation would not run into these problems. The mechanisms needed to formulate a base theory are independently required by the theory of grammar. On account of this, one reasonable course of action would be to allow the base to overgenerate (clitic, NP) pairs (either one of which might be null), and to filter out the unwanted sentences via general principles of UG. Henceforth I will assume this line of reasoning to be correct.<sup>9</sup>

Let us now consider the alternative of generating the clitics in clitic position via the PS rules of the base. For expository purposes, I will consider one version of such a theory, the one presented in Rivas (1977). In this framework, clitics and NPs are generated by the base in their appropriate position.<sup>10</sup> A Clitic/NP agreement rule then pairs a clitic with a corresponding NP. After all syntactic processes have occurred, a last rule of Clitic/NP deletion takes each pair, and deletes either the clitic, or the NP, or none of them. Rivas claims that "while the syntactic processes [of verb adjunction and clitic attraction] are invariable for the Romance languages, this last rule of clitic/NP deletion is idiosyncratically language-and-dialect dependent." (See Rivas (1977), p. ii).

This theory easily accounts for the data presented in section 1.1. In fact, this theory was designed to account for those facts. That is, Rivas realized that the classical theory of clitics simply did not provide enough latitude for the complete description of the clearly related, though slightly different, clitic systems found in Romance languages. Thus, he felt compelled to increase the descriptive apparatus needed to account for the different distribution of clitic/NP pairs found in Romance. This increase allowed for systems which were, *vis-à-vis* clitic doubling facts, observationally and descriptively adequate. But, though adequate in these two crucial respects, such a base generation theory is deficient in an important way. To see this, consider once again the sentences in (1.9) repeated here for convenience:

- (1.17) a. \*La vimos la casa de Mafalda.  
 b. (\*)Lo vimos a Guille.

Recall that (1.17)a is ungrammatical in all dialects of Spanish, while (1.17)b is grammatical in River Plate Spanish. One might wonder why this state of affairs holds, and not, say, the contrary. Rivas's theory considers this an idiosyncratic fact about different dialects of Spanish. This answer would be satisfying if one could find instances of doubling such as in (1.17)a in other dialects of Spanish, or in other Romance languages. If that evidence were present, then we could be sure that Rivas's solution is the correct one, both from the point of view of a language-particular description (for Spanish) and from the point of view of UG. However, as far as I know there are no Romance languages which allow sentences like (1.17)a.

In fact, R. Kayne has noticed that occurrences of clitic doubling seem to be rule-governed in a very specific way. He has pointed out that doubling only occurs when the doubled object NP is preceded by a preposition. Let us call this Kayne's Generalization; we can state it tentatively as in (1.18):

- (1.18) An object NP may be doubled by a clitic only if the NP is preceded by a preposition.

Looking back, we can check that (1.1), (1.3)a,b, (1.4)a, (1.9)b, (1.11)b -- all the grammatical instances of clitic doubling in the different dialects of Spanish which we have examined -- all obey Kayne's Generalization. Let us assume for the time being that (1.18) is empirically correct. If so, we would want to express it in a theory of

clitics. The base theory presented so far misses Kayne's Generalization. And the miss is not accidental. Rather, it is a clear consequence of the claims it makes. Clearly, what is needed is a theory of clitics which adequately accommodates clitic doubling, while at the same time embodying Kayne's Generalization.

Furthermore, there is a metatheoretical observation which we would like to express in the theory of clitics. Within Romance, clitic doubling appears to be the marked phenomenon. Complementary distribution (as in French and Italian) on the other hand appears to be the more common phenomenon. Clitic doubling occurs regularly only in two Romance languages: Spanish and Rumanian, and even in these two languages it has a somewhat special status in some constructions. A base-generation theory seems to make precisely the opposite claim. Within such a theory, the more common construction should be one in which both the clitic and the NP lexical object cooccur. This is so under the assumption that extra rules add 'markedness' or complexity -- an admittedly controversial, but nevertheless fairly standard assumption in linguistics. In this respect, the (classical) movement theory hits the right note. It states that complementary distribution is the simple case; and that clitic doubling requires extra machinery. This seems to be the right direction.

With this in mind, we can now state a reasonable goal for a theory of Romance clitics. What is needed is a theory sufficiently open to allow for the variety found in Romance languages with respect to the possibility of clitic doubling. But this theory should also capture Kayne's generalization, and retain a "special" status for the doubling

option. In a sense, we can say that this goal epitomizes linguistic investigations from the point of view of the search for universal principles of the theory of grammar, striking an appropriate balance between descriptive potential and explanatory success. (Cf. Chomsky (1979), pp. 1-10). In the next sections I will develop a theory of object clitics in Romance with this goal in mind.

### 1.3. Clitics and Government

The task of constructing a theory of clitics with the goals mentioned above can be reduced (in large part, at least) to the task of capturing the notion 'object-of' and formalizing it in an appropriate way. In the Aspects framework, grammatical relations are captured by defining grammatical functions which pick out elements in a particular structural configuration within a phrase marker. For example, the relation 'direct-object-of' is defined as the function (NP, VP), interpreted roughly as 'the NP directly dominated by VP'. (See Chomsky (1965), pp. 70-72). This function is associated with a rewriting rule approximately as in (1.19).

(1.19)                    VP  $\rightarrow$  Y NP Z    (where Y contains a V)

Given this conception of grammatical relation, in order to assert that a given element A bears a particular grammatical relation f to a string Z; this element A must appear in the structural position individuated by the function and its associated rewriting rule. Against this background, the study of clitics in Romance reveals perhaps the need for a looser conception of these notions.

As an example, consider the discussion of inherent se in the

previous section. The outcome of Kayne's investigations can be summarized by saying that inherent se behaves in all respects as an 'object-of' the verb to which it appears cliticized, just as much so as lexical NP objects. Within Kayne's theory, this could be captured only by assuming that at some level of structure inherent se and lexical NP objects (and other clitics) share the same structural position. But this assumption would not be necessary if we had the means to characterize pronouns in clitic position as verbal objects, just as NPs in post-verbal position. We can then bypass all the machinery involved in placing the pronoun in clitic position after it has been identified as an object, and assume a system without a rule of clitic placement. This section is devoted to sketching one possible account along these lines.

One way to express the relation between a verb and its object (whether in clitic or NP position) is through the notion of 'government'. Consider once again the definition of this notion given in Chomsky (1978).

(1.20)  $\alpha$  governs  $\beta$  if  $\alpha$  c-commands  $\beta$  and no major category boundary appears between  $\alpha$  and  $\beta$ .

Under this definition, a verb clearly governs its complements and vice-versa. However, it is not entirely clear whether we should allow phrasal categories to govern the verb. Instead, it seems that the set of possible governors should be identified with the set of lexical categories, like verb, noun, preposition, etc. Therefore, let us restrict  $\alpha$  in (1.20) to elements of  $\{N, A, V, P\}$ . We now have a unidirectional relation between a verb and other categories found in

its 'local' c-command domain.

We can now ask the following question: What happens to the relation of government in a structure with a clitic, as in (1.21):

(1.21) [<sub>VP</sub> clitic+V NP]

In particular, assume that the clitic is an accusative clitic. Does the verb still govern the (direct object) NP? Given (1.20) the answer is yes. However, we can conceive of government in a slightly different way, so that at most one element is governed by one feature. For example, we can assume that government is subject to something like a 'minimal distance' principle. Under such a conception, the clitic would absorb the government relation in the configuration in (1.21). In effect, this simply imposes a uniqueness condition on government. A verb cannot simultaneously govern an accusative clitic and a direct object NP. However, a verb with a dative clitic attached to it still appears to govern a direct object complement, as in (1.22):

(1.22) Les entregaron las notas.  
'They handed the grades over to them.'

In other words, it seems that government absorption by a clitic is selective of a particular complement. This must be so since we have seen that a verb with a clitic can still take a complement NP, as long as the right combination of (clitic, NP) occurs. (In fact, we might say that the rest of this chapter is devoted to the study of the notion 'right combination', in the above context.) In particular, let us assume that a clitic attached to a verb absorbs government of a particular NP object. For example, if a verb has an accusative clitic

attached to it, it does not govern a direct object NP, etc. This is a slightly more refined notion of government than the one defined in (1.20). Government can now be selectively suspended, as it were, by a clitic.

We can make this new notion of government more precise as follows. Let us assume that a verb matrix contains the subcategorization features associated with the verb to be inserted in that matrix. These features can be paired with an element governed (in the sense of (1.20)) by the verb. This pairing can be indicated in terms of co-superscripting (to adopt a mechanism introduced in Rouveret & Vergnaud (1978)). The co-indexed element is then said to be governed (in the more selective way) by the verb. In order to distinguish these two notions we can call one, (1.20), categorial government (or c-government), since it is defined with reference to a particular lexical category; and the other we can call s-government, since it is defined with reference to a strict subcategorization feature. It is clear that s-government is a special (more restrictive) sub-case of c-government. A clitic absorbs s-government.<sup>11</sup> S-government is subject to a uniqueness principle which allows only one c-governed element to be co-superscripted to a feature +F in a verb. We can now make the idea of absorption more precise. When we say that a clitic "absorbs s-government" we mean: a clitic is co-superscripted with a feature +F in a verbal matrix, and this co-superscripting is unique. Further along these lines we can say that an element  $\alpha$  is an 'object-of' a verb  $\beta$  iff  $\beta$  s-governs  $\alpha$ ; that is, iff  $\beta$  c-commands  $\alpha$  and  $\beta$  contains a feature +F which is co-superscripted with  $\alpha$ . I will assume that objective Case



assignment is determined by s-government.<sup>12</sup> An NP is objective iff it is s-governed by a verb.

### 1.3.1. Direct Objects

We can now return to clitic doubling with direct objects in Spanish. Consider how this theory accounts for a non-sentence like (1.9)a, repeated here as (1.23):

(1.23) \*La vimos la casa de Mafalda.

The accusative clitic la absorbs government, leaving the complement NP ungoverned. Being ungoverned, Case cannot be assigned to it. Since it contains lexical material, la casa de Mafalda, the sentence is ruled out by the Case filter. Of course, a sentence without an overt complement would be grammatical; e.g., La vimos, since here Case need not be assigned to a complement NP. So would a sentence without a clitic, e.g., Vimos la casa de Mafalda.

This theory then predicts the complementary distribution found between clitics and inanimate direct object NPs in all dialects of Spanish. It claims that a sentence like (1.23) is impossible because there is no way for the lexical direct object to receive Case, a necessary requirement of lexical NPs. We can interpret the complementary distribution which occurs with all (clitic, NP) pairs in French and Italian in the same way. In fact, this theory satisfies one of the requirements we had set for a theory of clitics: it maintains that non-doubled structures are the more common case, the expected case. It should be obvious by now that in order to allow for clitic doubling, an extra mechanism of Case assignment will be needed.

Case cannot be assigned by the verb if the verb has a clitic attached to it, since the clitic absorbs the verb's government feature.

Therefore, an extra Case assigner is needed to allow the NP to escape the fatal effects of the Case filter. This is roughly the logic of the argument. Kayne's Generalization follows within this theory rather naturally.<sup>13</sup> We assume that Prepositions are Case assigners -- as indeed we must for independent reasons.

Consider once again (1.9)b, repeated here as (1.24):

(1.24) Lo vimos a Guille.  
'We saw Guille.'

Recall that this sentence is ungrammatical in Standard Spanish. However, it is grammatical (and slightly preferred, in fact) in River Plate Spanish. How is this difference to be accounted for?

As is well known, some direct objects in Spanish are introduced by the particle a. This is true of all dialects of Spanish. This a appears preferably before animate specific direct objects.<sup>14</sup> Although the derivational origin of this particle is rather unclear, we can assume that it is introduced immediately after the base by a rule roughly as follows:

(1.25)  $\emptyset \rightarrow a / \_ [NP, +accusative]$ <sup>15</sup>

The formulation given above is extremely simple, avoiding all mention of the features [± animate], [± specific]. We prefer this formulation to a more complicated one which mentions these features. A more fully specified rule would raise non-trivial questions concerning the autonomy of such syntactic devices. The syntactic status of those

features is far from being clear. Furthermore, these are not the only factors which enter into the question. Consider in this respect the following sentences:

- (1.26) a. Llevaron (a) los heridos a un hospital cercano.<sup>16</sup>  
'They took the wounded to a nearby hospital.'
- b. Ayudaron a/\* $\emptyset$  los heridos a caminar.  
'They helped the wounded to walk.'
- (1.27) a. El sheriff quiere convencer a/\* $\emptyset$  los prisioneros a devolver lo robado.  
'The sheriff wants to convince the prisoners to return what they have stolen.'
- b. El sheriff quiere que le entreguen \*a/ $\emptyset$  el prisionero ahora mismo.  
'The sheriff wants the prisoner handed over to him immediately.'
- (1.28) a. Le entregaron \*a/ $\emptyset$  el perro a Juan hace pocos días.  
'They handed the dog over to John a couple of days ago.'
- b. Juan quiere mucho a/\*? $\emptyset$  su perro.  
'John likes his dog a lot.'

The sentences in (1.26) show that in some cases the a can be omitted, even if the direct object is [+animate], [+specific] as in (1.26)a. This sentence is understood with the direct object having almost an inanimate reading, as if 'the wounded' were nothing more than objects to be carried. If we change the verb to a verb which requires an animate object as in (1.26)b -- it is impossible to help an inanimate object -- the a becomes absolutely obligatory. The meaning of the verb thus appears to affect the obligatoriness of the presence of a. The sentences in (1.27) and (1.28) show basically the same point. I will assume, then, that rule (1.25) applies freely. We must now state, however, that the

presence of a contributes enormously to the full semantic reading of the sentence. Its contribution is partially described by features such as specificity and animacy, but this is not sufficient. a means a whole complex of semantic aspects which cannot be described fully from a purely syntactic point of view, in particular if we want to maintain an autonomous view of syntax. (See Hale, Jeanne, and Platero (1977)). Under this autonomous account, then, we are forced to claim that the utter unacceptability of sentences such as

- (1.29) a. \*Maria ama Juan.  
           'Maria loves John.'
- b. \*Juan rompió a la mesa.  
           'John broke the table.'

is due to semantic factors. In the case of (1.29)a, the direct object is clearly animate and specific, and it not marked with the appropriate marker, a. In the case of (1.29)b, the object cannot be understood as animate. Thus, the a is not possible here since it contributes something to the interpretation of the sentence which is contradicted by something else in the sentence. This is what produces complete unacceptability in these cases.

Rule (1.25) is particular to Spanish. It is a learned rule, evidence for which is easily available to the child. A comparable rule does not exist in French or Italian. Cf.:

- (1.30) a. J'ai vu Jean.  
           'I saw Jean.'
- b. \*J'ai vu à Jean.

- (1.31) a. Ho visto Gianni.  
           'I saw Gianni.'  
       b. \*Ho visto a Gianni.<sup>17</sup>

Given this rule, we can describe the dialectal variation between River Plate Spanish and Standard Spanish by saying that in the former this inserted a is capable of assigning accusative Case to the complement NP, while in the latter this is not so. Sentence (1.24) is grammatical in River Plate Spanish because Guille is assigned Case by a, thus escaping the ill effects of the Case filter. In Standard Spanish, on the other hand, the a cannot assign Case and the sentence is blocked in the familiar way.

Within this account, then, clitic doubling is not a completely arbitrary phenomenon. Rather, it depends crucially on the universal notion of 'government' (more properly, s-government). But the account is also sufficiently rich to allow for possible linguistic variation.

Returning now to sentences in which there is no lexical NP complement but only a clitic, as in La vimos (cf. (1.10)a,b), we can inquire about the nature of the element which occurs in post-verbal position in these sentences. More generally, what occurs in the position of the gap in (1.32)?

- (1.32)                                   ...clitic+verb \_\_\_\_...

Within a classical movement theory of clitics and under the trace theory of movement rules, a trace would appear in that position. That is, (1.10)a would have the following representation after movement:

- (1.33)     La<sub>i</sub> vimos [<sub>NP<sub>i</sub></sub> e]    (where [<sub>NP<sub>i</sub></sub> e] is a trace).

But this representation would be at odds with a principle of grammar governing the distribution of traces. Such a principle, discussed in the Introduction, asserts that a trace must be governed. Assuming such a principle to be true, then (1.33) would be disallowed. Instead of a trace, we are forced to look for another empty element which can occupy the gap in (1.32).<sup>18</sup> The natural candidate for such a position is the element we call PRO. Recall that PRO is basically a pronoun without phonetic content. It contains features of person, number, and gender. It is distinguishable, therefore, from a trace which is simply an unexpanded NP. A PRO is not subject to the same requirements as a trace. In fact, a PRO is subject to quite different requirements, as we saw. A PRO must not be governed! (See the Introduction). We can then assume that a PRO fits in the gap in (1.32). We can say more: a PRO will fill such a position only if there is another element which can absorb the verb's government feature. This is an interesting result. Clearly, languages vary as to whether they have clitics or not. This is a parameter left open by universal grammar. (In fact, the variation may be even more subtle than this, given that there seem to be different kinds of clitics. English, for example, lacks the kind of clitics found in Romance. Thus, sentences like

- (1.34) a. \*I hit PRO.  
 b. \*I put PRO on the table.<sup>19</sup>

are ungrammatical in English because in these sentences, we would say, the PRO's are in a governed position. In Romance, word for word translations of (1.34) are also out for the same reason, we would say.

But if a clitic is added, the sentences become grammatical. Cf.:

- (1.35) a. \*Pegué (a) PRO.  
 b. \*Puse (a) PRO sobre la mesa.  
 c. Le pegué PRO.  
 d. Lo puse PRO sobre la mesa.

An important implicit claim of this analysis is that a highly visible property of a language, i.e., the presence or absence of verbal clitics, provides evidence for a totally hidden property, i.e., the presence or absence of PRO in object position. It seems to me to be quite important to establish a correlation between abstract, null elements (like PRO) and either more visible aspects of a language (as in the case above) or principles of Universal Grammar (as in the case of PRO subjects of infinitives). Otherwise, it is hard to conceive of ways for the language learner to have information about phonologically empty categories.

Most of the examples examined until now involved direct objects. We haven't looked yet at indirect objects. Indirect objects are a bit more complicated than direct objects. We will proceed to examine these next. But before doing this, it might be useful to summarize the main points made so far.

Clitics are generated in clitic position by rules of the base, completely independently of the elements generated in object position, in keeping with the goal of minimizing the particularity of PS rules. Clitics absorb subcategorization-government, leaving the complement position which corresponds to it ungoverned. Therefore, a PRO may occur

in that position. Otherwise, PRO's may not occur in complement positions, since those positions are governed. Government absorption is a selective process: government of a direct object is absorbed by an accusative clitic, government of an indirect object is absorbed by a dative clitic, etc. Clitic doubling is possible when a language has an extra means of assigning Case to a lexical NP in object position, aside from the rule which depends on government.<sup>20</sup> If this special situation obtains, the clitic may absorb government, and the NP in object position will be assigned Case through some supplementary mechanism (perhaps from a P, as in the cases we have examined). This theory accounts for the complementary distribution of clitics and lexical NP objects in French and Italian, under the assumption that these two complements receive Case via government from the verb. In Spanish, the different dialectal possibilities can be adequately described by assuming that sometimes the element inserted before an animate, specific direct object is a Case assigner. We now turn to analyze Spanish indirect objects, some of which are optionally clitic doubled in all dialects of Spanish.

Given the theory sketched above, direct objects behave in quite similar fashion in Standard Spanish, Italian, and French. In all three languages, clitic doubling is not allowed in strings of roughly the following form:

(1.36)                    ...V [<sub>NP</sub> [Det]  $\bar{N}$  ...] (with no a, crucially)

In French and Italian, this configuration covers all direct objects.

In Spanish, it holds only for inanimate, or non-specific animate direct objects. Clitic doubling is allowed with animate specifics in some



dialects because a preposition is inserted. But this process is quite independent of clitic doubling. It is not a sufficient condition for clitic doubling. It is only necessary. (That is, there are cases where the preposition is present which are not doubled). In other words, the difference between Spanish on the one hand and Italian and French on the other is reduced to the fact that Spanish has an a-insertion rule while no such rule is operative in the other two languages.

### 1.3.2. Indirect Objects

With indirect objects, the situation is more complex. In all three languages the indirect object has the surface form P NP. But only in Spanish is clitic doubling possible. Why is this the case? The presence of a preposition-like element no longer provides an obvious answer. We will have to look a lot more closely at these objects. I will consider indirect objects in Spanish and French in more detail.

The theory presented above would account in a straightforward manner for the lack of clitic doubling in French if indirect objects were NPs in that language. The account could then proceed basically as with direct objects. If a clitic is present, it could absorb government, not allowing for a complement NP. This account would be supported by data which indicated that indirect objects are not PPs, but rather NPs. The à can then be interpreted as a Case marker.

In fact, this analysis has been argued for in Vergnaud (1974) (who refers the reader to Milner (1967), Rouveret (1970), and Fauconnier (1971) for further discussion). Vergnaud points out two ways in which indirect objects do not behave like other Prepositional Phrases. First, he points out that a conjunction of Prepositional Phrases cannot serve

as the antecedent of a relative clause. Cf. (Vergnaud's sentences):

- (1.37) a. \*Il a compté sur l'homme et sur la femme qui se sont rencontrés hier.  
'He counted on the man and the woman who met yesterday.'
- b. \*Maxwell s'est accroché sous l'électron et sous le photon qui se sont percutés.  
'M. attached himself under the electron and the photon which struck each other.'

But this restriction does not extend to indirect objects:

- (1.38) a. Il a parlé à l'homme et à la femme qui se sont rencontrés hier.  
'He spoke to the man and the woman who met yesterday.'
- b. Il a écrit à l'homme et à la femme qui se sont...  
'He wrote to the man and the woman who met yesterday.'

In this sense, indirect objects behave like NPs. Secondly, he shows that a complement of a preposition can be a conjunction of Noun Phrases.

Cf.:

- (1.39) a. Ils se sont assis sur la table et les chaises.  
'They sat on the table and the chairs.'
- b. Ils se sont cachés derrière les arbres et les buissons.  
'They hid behind the trees and the bushes.'

But this is not possible with indirect objects:

- (1.40) a. \*Ils ont acheté cette maison à Marie et le directeur.  
'They bought this house for Marie and the director.'
- b. \*Ils ont parlé à Marie et le directeur.  
'They talked to Marie and the director.'

Instead of (1.40) one finds:

- (1.41) a. Ils ont parlé à Marie et au directeur.  
 b. Ils ont acheté cette maison à Marie et au directeur.

Vergnaud (1974) concludes that à is a Case feature (see Vergnaud (1974), pp. 246-248).

Further, it appears that not all à are markers. Some act as true prepositions, by Vergnaud's tests. These are precisely those whose objects do not cliticize as dative clitics. Kayne had noticed that not all complements in à are possible sources for a dative clitic (see Kayne (1975) pp. 145-152). Some verbs like penser and courir take complements in à, but not dative clitics. Cf.:

- (1.42) a. Je pense à toi.  
 'I am thinking about you.'  
 b. Il a couru à toi.  
 'He ran towards you.'  
 c. \*Je te pense.  
 d. \*Il t'a couru.

And these à's accept complements which are conjunctions. Cf.:

- (1.43) a. Tu penses à Paul et la directrice.  
 'You are thinking about Paul and the governess.'  
 b. Tu vas aller à Rio de Janeiro et Buenos Aires.  
 'You will go to Rio de Janeiro and Buenos Aires.'  
 c. Il a pris intérêt à la photographie et le cinéma.  
 'He got interested in photography and cinema.'

In these cases, we can say that a real preposition is involved. One further test confirms this statement. Quantifiers cannot be floated from real prepositional phrases in which the object of the preposition

has been relativized. This is pointed out in Perlmutter (1972).

- (1.44) a. \*ces femmes, avec qui j'ai parlé (avec) toutes.  
 b. \*ces femmes, devant qui j'ai parlé (devant) toutes.

Prepositional à's behave just like these phrases. Cf.:

- (1.45) a. \*ces femmes, à qui j'ai pensé (à) toutes.  
 b. \*ces femmes, à qui j'ai pris intérêt à toutes.

But this is possible with NP complements and indirect objects:

- (1.46) a. ces femmes, que j'ai toutes vues, ...  
 b. ces femmes, à qui j'ai parlé à toutes.

All of this data can be accounted for quite naturally if we assume that some objects in à are PPs, while others (i.e., indirect objects) are really NPs. Both accusative and dative clitics can now be regarded as corresponding to accusative and dative NPs, respectively. This is a much more natural classification, particularly in French, where we do find clitics which correspond to pro-PPs, e.g., en and y. These pro-PP clitics behave rather differently from dative and accusative clitics. The assumption that indirect objects are NPs just like direct objects leads us to expect this situation. If indirect objects were PPs instead, we might expect just the contrary.

In fact, further support for the NP status of indirect objects in French comes from the existence of a small set of prepositionless datives. (Cf. Kayne (1975) pp. 152-160). These can be observed by considering the interaction of tous and datives. In some cases an

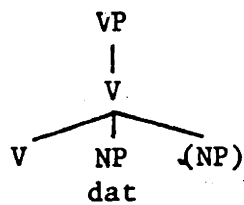
occurrence of tous not preceded by a preposition can be associated with dative clitic or a wh element. Cf.:

- (1.47) a. ?Je leur en ai tous offert.  
 'I have offered some to them all.'
- b. ??ces garçons, à qui j'en ai tous offert  
 'those boys, to all of whom I gave some'

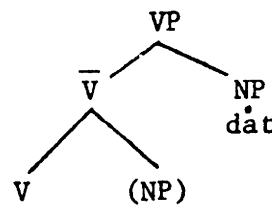
Although this is now always possible, Kayne concludes that "for those who accept (1.47), then certain instances of dative à are behaving more like non-prepositional objects...This behavior suggests that for such speakers these datives must be assigned a deep structure representation lacking a preposition; the appearance of à in (1.47)b could then be attributed to a rule inserting à." (Kayne (1975), p. 153). I will assume that this rule, needed independently for these cases, also inserts the à in normal indirect objects, perhaps as a marker of Dative Case. It should be pointed out that these 'prepositionless' datives are rather marginal. We agree with Kayne that they cannot be taken as an appropriate source for the common à NP dative occurring with other verbs. I will assume that this difference is expressed by generating them in different DS positions. Prepositionless datives are generated as the first complement to the right of the verb, much like datives in the dative construction in English. (In fact, these prepositionless datives share a number of constraints with the English cases, for example, the inapplicability of Complex NP Shift: \*John gave a book the girl he met yesterday; \*Elle leur cassera la gueule tous les deux, as pointed out by Kayne.) Unmarked indirect objects, on the other hand, are generated as sisters to  $\bar{V}$ , dominated by VP. (Cf. Quicoli (1976) and

Zubizarreta (1979) for discussion.) In the construction with two objects under  $\bar{V}$  a number of poorly understood restrictions appear to hold. These restrictions do not apply to normal indirect objects. This difference might be taken as evidence against the NP status of indirect objects. But all this really shows is that there is a difference between two types of indirect objects, and that it would be unnatural to assume a common source for them. Accepting this conclusion, we can assume a difference in structure and maintain the same categorial status. That is, we would have the following two possible configurations for indirect objects in French:

(1.48) a.



b.



(1.48)b would represent the unmarked case, while (1.48)a would stand for the marked double-object construction in which prepositionless datives occur.

Evidence for structure (1.48)b can be found if we turn to causatives. We will assume that the rule which has been called by Kayne Faire-Infinitive in fact preposes a  $\bar{V}$ . (In Kayne's analysis the rule moves a non-constituent. Assuming that only constituents may be moved, we will follow Quicoli (1976) in saying that the moved constituent is a  $\bar{V}$ .) In French, this rule does not displace indirect objects, as can be seen in the following sentences:

- (1.49) a. Je ferais téléphoner Jean à ses parents.  
'I will make Jean telephone his parents.'
- b. \*Je ferais téléphoner à ses parents Jean.
- c. Je ferais parler Jean à Marie.  
'I will make Jean speak to Marie.'
- d. \*Je ferais parler à Marie Jean.

But it does move direct objects, as can be seen in (1.50):

- (1.50) a. Je ferais manger cette pomme à Jean.  
'I will make Jean eat this apple.'
- b. \*Je ferais manger Jean cette pomme.
- c. \*Je ferais manger à Jean cette pomme.

It appears, then, that the structure presented in (1.48)b is precisely the one needed independently to account for these facts.

This analysis of indirect objects in French allows us to account for the lack of clitic doubling in a natural way. We will assume, as before, that a clitic absorbs the government feature, leaving open only the option of having a PRO. In structure (1.48)b we will assume that  $\bar{V}$  is the governor. (This involves expanding the class of governors from  $X^0$  to  $\bar{X}$  elements.)

Let us next consider Spanish indirect objects. Recall that clitic doubling is optional with goal indirect objects in Spanish. The appearance of the clitic is not dependent on any particular feature of the indirect object (i.e., animacy, specificity, and definiteness are irrelevant here). Rather, the clitic always has the option to be present. If an indirect object is in fact doubled, one perceives a 'close' relation between the verb and the object. The object is felt

to be affected more directly by the action of the verb than if the clitic is not present.<sup>21</sup> A complete analysis of the semantics of dative clitics is well beyond the scope of this chapter. I will interpret the option of clitic doubling with goal indirect objects regularly as evidence for the independence of dative Case assignment from the verb. That is, indirect objects in Spanish do not appear to depend on the verb to get Case. Rather, a lexical indirect object NP can appear regardless of whether Case has been assigned to a dative clitic or not. This makes it tempting to assign indirect objects in Spanish the status of a PP. In fact, one of Vergnaud's tests appears to point in this direction. The following sentences, with a conjunction of NPs as the complement of dative a, seem to me to be quite acceptable (compare to (1.40)):

- (1.51) a. Les compraron una casa a María y el director.  
'They bought a house for María and the director.'
- b. Pidieron permisos especiales a profesores y estudiantes.  
'They requested special papers from professors and students.'
- c. Les mandaron cartas a los padres y los abuelos del interesado.  
'They sent letters to the parents and the grandparents of the interested party.'

If dative a is a real preposition in Spanish, this should be possible. In this case, indirect object NPs could receive Case from this preposition, always allowing for a clitic.

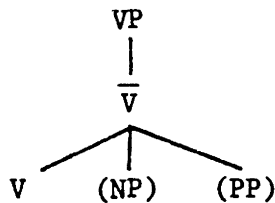
If we check the constituent structure of the  $\bar{V}$  in Spanish, we notice a remarkable difference with French. Indirect objects in Spanish do form part of the  $\bar{V}$  constituent which gets fronted by the causative rule. Thus, in contrast to (1.49), we get:



- (1.52) a. Le hicimos llamar a sus padres a Pedro.  
'We made Peter call his parents.'
- b. ?\*Le hicimos llamar a Pedro a sus padres.

Crucially, (1.52)a is grammatical, contrasting with the ungrammatical (1.49)b in French. This is evidence for the following structure of  $\bar{V}$  in Spanish:

(1.53)



This difference in structure is compatible with the difference in categorial status. It may be possible in fact to relate these two differences to the same underlying principle. Let us assume that Case assignment is a one-to-one relation. That is, a [+V, -N] can assign Case to at most one element. Assuming that verbs always assign Case to direct objects, this then leaves two options for indirect objects. If the object is governed by the verb, and not governed by any other verbal element, like indirect objects in Spanish, then they must get Case from a Preposition.<sup>22</sup> If the object is not governed by the verb, and it is governed by another verbal element (i.e.,  $\bar{V}$ ) like in French, then there is no need for it to be a PP; it can get Case from the other verbal element which governs it. In this way, a principle which limits Case assignment via government from the verb to one element makes available exactly the different possibilities which are found in Romance indirect objects. And this difference makes possible the difference in clitic doubling, we would claim.

The account given above takes care of goal indirect objects. But the question of doubling with possessive indirect objects is still left open. These are cases in which the indirect object stands for the possessor of the direct object. This relation is generally 'inalienable'; that is, the direct object is considered to be an inseparable part of the indirect object. Therefore, it is sometimes called the 'inalienable possession construction'. Examples are given below:

- (1.54) a. Le duele la cabeza a Juan.  
'John has a headache.'
- b. Le sacaron la muela del juicio a Juan.  
'They took John's wisdom tooth out.'
- c. Le examinaron los dientes al caballo.  
'They examined the horse's teeth.'
- d. Le rompieron la pata a la mesa.  
'They broke the leg of the table.'
- e. Le lavaron las manos a Luis.  
'They washed Luis's hands.'

In (1.54)a la cabeza is interpreted as being Juan's head. Similarly, in (1.54)b it is John's wisdom tooth that has been pulled out, and so on. In all these cases, absence of the clitic leads to ungrammaticality. Cf.:

- (1.55) a. \*Duele la cabeza a Juan.
- b. \*Sacaron la muela del juicio a Juan.
- c. \*Examinaron los dientes al caballo.
- d. \*Rompieron la pata a la mesa.
- e. \*Lavaron las manos a Luis.

These sentences are very different from sentences with goal indirect objects, where the clitic can be absent with no change in grammaticality.<sup>23</sup>

In inalienable possession constructions, the clitic is required. Crucially, if the clitic is absent, the sentence is not interpreted as an 'inalienable possession'. Rather, it is interpreted as an ordinary goal indirect object. With most verbs that are found in these constructions, this goal interpretation is simply nonsensical. For example, (1.55)c has the nonsensical meaning 'They examined the teeth to the horse', since the clitic is not there to signal that the indirect object phrase should be interpreted as an 'inalienable possession'. When the clitic is there, as in (1.54)c, the sentence has an acceptable meaning, namely 'They examined the horse's teeth'. From a comparison between (1.54) and (1.55) we can draw one clear conclusion: the presence of the clitic is required to fix appropriately the thematic relation of the a phrase. Presence of the clitic implies one particular thematic role, the role that is found in 'inalienable possession' constructions -- we can call it  $\theta_p$ . If the clitic is not there, the a phrase receives the usual thematic role assigned to dative NPs: goal ( $\theta_g$ ). In order to account for these sentences, then, we will have to examine the interaction of theta roles and cliticization.<sup>24</sup>

We can begin by examining the interaction of theta-roles with direct object cliticization. We can assume that the distribution of  $\theta$ -roles follows the following principles, sometimes called the  $\theta$ -Criterion (cf. Borer (1979), Borer (1980), Freidin (1978), and Chomsky (class lectures, Fall 1979)).

(1.56) The  $\theta$ -Criterion

- a. Each  $\theta$ -position is assigned an R (=referential)-expression.
- b. Each R-expression is assigned a  $\theta$ -role.
- c. Only R-expressions are assigned to  $\theta$ -positions.

Given the notion of a  $\theta$ -role, we can now ask the following question: do clitics carry a  $\theta$ -role? More generally, can clitics stand for a NP which does not carry a  $\theta$ -role? For example, it seems reasonable to assume that post-verbal NPs in idioms do not carry the same  $\theta$ -role as direct object NPs in non-idiomatic expressions -- perhaps NPs in idioms carry no  $\theta$ -role at all, especially if they are not referential expressions. That is, in the following idiom

- (1.57) El general estiró la pata ayer de tarde.  
 the general pulled the foot yesterday of afternoon  
 'The general kicked the bucket yesterday afternoon.'

the underlined NP surely does not carry the same  $\theta$ -role as the underlined NP in (1.58):

- (1.58) Juan estiró la silla hacia la mesa.  
 'Juan pulled the chair towards the table.'

If this contrast is to be described in terms of  $\theta$ -roles, as seems natural, it is relevant to our question that the underlined NP in (1.57) cannot be cliticized, while the one in (1.58) can. Cf.:

- (1.59) a. \*La pata, el general la estiró ayer de tarde.  
 b. La silla, Juan la estiró hacia la mesa.

Similarly, adverbial NPs in post-verbal "direct object" position cannot be cliticized either:

- (1.60) a. Trabajé toda la noche.  
 'I worked all night.'  
 b. Juan pesa cien kilos.  
 'Juan weights one hundred kilos.'

- (1.61) a. \*(La noche,) la trabajé toda.  
 b. \*(Cien kilos,) Juan los pesa.

The verb pesar 'to weigh' is particularly interesting in this respect.

It has two interpretations: as an intransitive verb, where the complement NP acts as a measure phrase, and as a transitive verb, where the complement NP behaves as a real direct object. In the former, the complement cannot be cliticized, as seen in (1.61)b. But if the object is interpreted as an argument of pesar, and thus given an appropriate  $\theta$ -role, cliticization is possible.

- (1.62) Anoche Juan pesó cien kilos de cocaína.  
 'Last night, Juan weighed 100 kilos of cocaine.'  
 Anoche Juan los peso.  
 'Last night Juan weighed them.'

More generally, complement NPs which are arguments and are interpreted as having the  $\theta$ -role associated with direct objects, occasionally called theme ( $\theta_{th}$ ), can always be cliticized by the clitic pronouns lo, la, los, las. One way of describing this fact is to posit that these clitics always have this  $\theta$ -role. More precisely, we can assume that an accusative clitic always has the required  $\theta$ -role; i.e., [CL, ACC,  $\theta_{th}$ ] +V. (Alternatively, if  $\theta_{th}$  is also assigned by the verb, like accusative Case, then we could claim that  $\theta$ -role absorption is just a derived result from government absorption.<sup>25</sup>) Then, a sentence with an accusative clitic will always be interpreted as having a thematic object. A sentence like (1.59)a will be interpreted as having a thematic object. Since this interpretation is presumably impossible in the idiomatic reading, such a reading will never be expressed by a clitic.

Full NPs, on the other hand, need not always express (the same) thematic readings. (This is in fact what makes idioms possible.) If they have no independent thematic reading, we can assume that a compositional interpretation is impossible. Rather, they get interpreted idiosyncratically as forming part of a larger phrase which will be listed as is in the lexicon. For example, estirar la pata will be listed with a special meaning, namely 'to die'. On the other hand, if the component parts of that phrase are granted their independent  $\theta$ -roles, the reading will be compositional. Consequently, the phrase will be given its 'literal' interpretation, namely 'to pull the leg'. This treatment predicts that idioms will never contain accusative clitics. Insofar as this prediction appears to be true, the analysis is confirmed.<sup>26</sup>

I will assume then that accusative clitics always bear a particular theta-role, call it  $\theta_{th}$ . I will assume, also, that this  $\theta$ -role must also appear on the complement NP. If not, condition b of the  $\theta$ -Criterion will be violated, the NP being an R-expression. We can circumvent this violation by assuming that there is a  $\theta$ -role transmission rule, roughly as follows:

$$(1.63) \quad \begin{bmatrix} \text{CL} \\ \alpha \text{Case} \\ \beta \theta_1 \end{bmatrix} \dots \begin{bmatrix} \text{NP} \\ (\alpha \text{Case}) \end{bmatrix} \rightarrow 1 \begin{bmatrix} 2 \\ \beta \theta_1 \end{bmatrix}^{27}$$

This rule will supply  $\theta$ -roles to object NPs which are doubled. If a clitic is not present,  $\theta$ -role absorption will not occur, and we can assume that it is assigned to the NP in its usual fashion; (see footnote 25). Thus, in a sentence like

- (1.64) Lo veo a Guille.  
'I see Guille.'

the structure previous to the application of (1.63) will be:

- (1.65)  $\left[ \begin{array}{c} \text{Lo} \\ \text{ACC} \\ \theta_{\text{th}} \end{array} \right]$  veo a  $\left[ \begin{array}{c} \text{Guille} \\ \text{ACC} \end{array} \right]$  .

(1.65) violates the  $\theta$ -criterion, since an R-expression, Guille, does not have a  $\theta$ -role. (1.63) will then produce the following structure, which does not violate the  $\theta$ -criterion.

- (1.66)  $\left[ \begin{array}{c} \text{Lo} \\ \text{ACC} \\ \theta_{\text{th}} \end{array} \right]$  veo  $\left[ \begin{array}{c} \text{a Guille} \\ \text{ACC} \\ \theta_{\text{th}} \end{array} \right]$  .

We return now to the inalienable possession construction. We can describe the obligatoriness of clitic doubling in these constructions using the mechanism introduced above. Comparing (1.54) to (1.55) we saw that the presence of the clitic is required to construct the adequate meaning of these sentences. Without the clitic, the a NP complement is interpreted as a Goal. The verbs which allow this construction do not select a Goal object. Therefore, if those NPs are assigned that thematic role, we can assume that the sentence is ruled deviant by whatever mechanism rules out sentences in which selectional restrictions are violated.<sup>28</sup> On the other hand, if a clitic is present, we can say that the clitic bears a special  $\theta$ -role,  $\theta_{\text{P}}$ . This  $\theta$ -role is then assigned to the a NP object by rule (1.63). If the clitic is not there, the a NP object simply receives the  $\theta$ -role generally associated with dative NPs: GOAL. This will be acceptable with those verbs which can take GOAL

indirect objects. (For some examples, see footnote 23.) Otherwise, the sentence will be ruled out, as stated above. Verbs that do allow the inalienable construction will then be listed in the lexicon as assigning a special  $\theta$ -role,  $\theta_p$ , to dative clitics attached to them. Crucially, this  $\theta$ -role, indispensable for the correct interpretation of the sentence, will be assigned only to the clitic. The clitic will then assign it to the complement NP via rule (1.63). The net result of this mechanism will be that the clitic will be indispensable in inalienable possession constructions. Absence of the clitic will result in an incorrect thematic interpretation of the a NP complement which must be interpreted as a possessive. This analysis, then, gives an account of the obligatoriness of clitic doubling with possessive indirect objects; while at the same time permitting optionality with goal indirect objects. The reason why clitic doubling is not required with goal indirect objects is simply that in those cases the object NP need not receive a  $\theta$ -role via rule (1.63). Instead, it can also get its correct  $\theta$ -role through the unmarked rule which assigns the  $\theta$ -role GOAL to dative NPs, a rule which is needed independently of clitic doubling altogether. But this unmarked rule does not produce the right results with possessive indirect objects. Thus, in these situations a clitic is required to trigger rule (1.63).

The obligatoriness of clitic doubling with possessive indirect objects can also be observed in French, but under a slightly different guise there, since clitic doubling is not allowed in that language. Rather, it is cliticization of these objects that is obligatory in French. A possessive indirect object may not be expressed as a full



NP in French. This is noted by Kayne, who shows that prepositionless datives never appear as such in surface structure. Cf.:

- (1.67) a. \*Elle cassera Jean la gueule.  
 b. \*Elle a tiré ces garçons le ventre.

In both of these sentences, the underlined phrases would make sense only if interpreted as possessives (Jean and ces garçons of la gueule, and le ventre, respectively). However, if we assume that a clitic is needed to provide them with the appropriate thematic role, then we have an account for why these sentences are out. Instead, if these lexical NPs are replaced by a clitic, the resulting sentences are grammatical. Cf.:

- (1.68) a. Elle lui cassera la gueule.  
 'She will break his face.'  
 b. Elle leur a tiré dans le ventre.  
 'She shot at them in the stomach.'

This is precisely what we would expect given our analysis of possessive datives. Further, notice that we need say nothing about the ungrammaticality of (1.69):

- (1.69) a. \*Elle lui cassera Jean la gueule.  
 b. \*Elle leur a tiré ces garçons dans le ventre.

The ungrammaticality of these sentences follows straightforwardly from the impossibility of clitic doubling in French. In these sentences, the lexical NP objects would not receive Case. They would not meet the SD of rule (1.63). Thus, they would be out because the object NPs would have neither Case nor an appropriate  $\theta$ -role.

A similar account can be given for:

- (1.70) a. \*On a tiré dans le ventre à ce garçon.  
 b. \*Les livres sont tombés des mains à ta soeur.  
 c. On lui a tiré dans le ventre.  
 'They shot him in the stomach.'  
 d. Les livres lui sont tombés des mains.  
 'The books fell off of his hands.'

The lack of a clitic in (1.70)a,b once again leads to unacceptability because the à NP complement will not receive a possessive interpretation. Presence of a clitic leads to a grammatical result, as seen in (1.70)c,d. (Notice that here lack of Case is not involved, since these indirect objects are not prepositionless datives.)

Another interesting result of this approach can be observed if we consider the obligatoriness of cliticization of goal datives vs. possessive datives in French. Goal dative pronouns cannot normally appear in object position in Standard French. In Kayne's terms, the nonapplication of Cl-P1 to goal datives leads to ungrammatical sentences. Cf.:

- (1.71) a. \*Elle a parlé à lui.  
 b. \*Elle téléphonera à moi.  
 c. \*Elle plaît à lui.  
 d. Elle lui a parlé.  
 'She spoke to him/her.'  
 e. Elle lui téléphonera.  
 'She will telephone him/her.'  
 f. Elle lui plaît.  
 'She pleases him/her.'

However, Cl-P1 with datives may become optional in certain configurations. Consider sentences containing two potentially cliticizable animate objects, for example,

- (1.72) Paul présentera Marie à Jacques.  
'Paul will introduce Marie to Jacques.'

If both objects are replaced by pronouns, and if the accusative is third person, a grammatical sentence results:

- (1.73) Paul la lui présentera.  
'Paul will introduce her to him/her.'

However, if the accusative is first or second person, or reflexive, the corresponding clitic combination is rejected:

- (1.74) \*Paul me lui présentera.  
\*Paul vous leur recommandera.

In these cases, what is accepted instead is:

- (1.75) Paul me présentera à lui.  
'Paul will introduce me to him/her.'  
  
Paul vous recommandera à eux.  
'Paul will recommend you to them.'

In (1.75) the pronoun is in object position, possibly because cliticization produces an ungrammatical sequence. In Kayne's terms, "the obligatory character of Clitic Placement can thus be loosened, ... in certain cases where its application would lead to unacceptable clitic combinations." (Kayne (1975), p. 174). But in the inalienable possession construction, this is not allowed. Consider the following

sentence which contains that construction:

- (1.76) On va lui mettre le bébé dans les bras. (Kayne's sentence)  
'They will put the baby in his/her arms.'

If le bébé is replaced by toi, the resulting sentence is ungrammatical because the clitic combination is not allowed:

- (1.77) \*On va te lui mettre dans les bras.

If the dative in (1.76) were identical to the one in (1.74), we would expect to find an acceptable sentence with the dative in complement position, similar to (1.75). But this is impossible with the inalienable possession construction. Cf.:

- (1.78) a. \*On va te mettre à lui dans les bras.  
b. \*On va te mettre dans les bras à lui.

In other words, the dative of the inalienable possession construction is obligatorily subject to Clitic Placement, even if cliticization is not allowed. This is just what we would expect given our analysis of the inalienable possession construction. If the object is in complement position, it will not be assigned the appropriate  $\theta$ -role. Rather, it will get an incorrect  $\theta$ -role, GOAL, which will conflict with the selectional restrictions of that sentence. On the other hand, if the clitic is present, the sentence will be out because an impossible clitic combination will result. Thus, we can account for the difference between (1.75) and (1.78).

To summarize, it appears that several properties of the inalienable possession construction can be accounted for if we assume that a special

thematic role,  $\theta_{\underline{p}}$ , is involved in these cases, and that this thematic role is assigned via rule (1.63). Crucially, this  $\theta$ -role is not the one normally associated with dative NPs. We will assume that the assignment of the  $\theta$ -role normally associated with dative NPs, namely Goal, is carried out in whichever fashion  $\theta$ -roles are assigned in unmarked cases. (See footnote (25) about this.) Note that rule (1.63) is needed independently of the need to assign  $\theta_{\underline{p}}$  to indirect objects in the inalienable possession construction. This account in fact correlates the facts of obligatory clitic doubling in Spanish to the obligatoriness of cliticization in French, as regards the inalienable possession construction. Notice that this result does not follow in a straightforward way in a movement theory. In such a theory, it could very well be the case that cliticization was obligatory in both languages, but that clitic doubling in the inalienable possession construction was not obligatory in Spanish, since clitic doubling is not obligatory in Spanish with other indirect objects or direct objects. Thus, a movement theory of cliticization would predict that in Spanish the inalienable possession construction should pattern just like other cases of clitic doubling of indirect objects; that is, it should be optional. But in fact, we saw that clitic doubling is obligatory in these cases. In other words, this construction in Spanish patterns with French. This is accounted for in our analysis, which makes crucial reference to the  $\theta$ -role of the constituent. This is the crucial difference between the indirect objects which must be doubled and those which don't necessarily have to be. An analysis in terms of  $\theta$ -roles, then, appears to make correct predictions which lie outside the scope

of the movement analysis.<sup>29</sup>

This completes our discussion of indirect objects. All of the cases discussed so far involve non-pronominal objects, both direct and indirect. The situation is quite different with pronominal objects. I will consider those next.

### 1.3.3. Pronominal Complements

Pronominal complements in Spanish differ from non-pronominal complements in that they must be obligatorily clitic doubled in all cases. (This holds true for all dialects of Spanish.) Cf.:

- (1.79) a. \*Vimos a él.  
 b. \*Encontramos a élla.  
 c. \*Juan visito a mí ayer.
- (1.80) a. Lo vimos a él.  
           'We saw him.'  
 b. La encontramos a élla.  
           'We found her.'  
 c. Juan me visito a mí ayer.  
           'Juan visited me yesterday.'

Contrast these sentences with:

- (1.81) a. Vimos a Pedro.  
           'We saw Pedro.'  
 b. Encontramos a María en el parque.  
           'We found María in the park.'  
 c. Juan visitó a sus padres ayer.  
           'Juan visited his parents yesterday.'

A further peculiarity of pronominal direct and indirect objects is that

the pronoun is always interpreted as being [+ Animate].<sup>30</sup> It is impossible to refer to an inanimate object with a pronoun in direct or indirect object position. One must use a clitic pronoun in those cases. Consider the following sentences which show this point:

- (1.82) a. \*La mesa, vimos (a) *é*lla en esa tienda.  
 b. \*La mesa, la vimos (a) *é*lla en esa tienda.  
 c. La mesa, la vimos en esa tienda.  
 'The table, we saw it in that store.'

Assuming, then, that the strong form pronouns are redundantly marked [+ Animate] in direct and indirect object positions,<sup>31</sup> we can account for the obligatory presence of the a before pronominal direct objects. A definite pronominal direct object must be preceded by an a. Cf.:

- (1.83) a. \*Vimos *é*l/*é*lla, ...  
 b. \*Lo vimos *é*l.  
 c. Lo vimos a *é*l.  
 'We saw him.'

Given the +animate marking, pronouns in this position will always be preceded by a, as required by rule (1.25). This is a crucial step in accounting for the clitic doubling requirement. This rule makes possible clitic doubling. In other words, a string like (1.83)b is doubly ungrammatical. First, an animate, specific object is not preceded by the appropriate marker a. Second, there is no way for the pronoun to be Case marked, since the clitic has absorbed government and Case. As we saw in section 1.3.1., clitic doubling with direct objects is only possible if the a is present. But the presence of a does not

explain why clitic doubling is required with pronominal objects. It only accounts for why it is allowed.

The obligatoriness of clitic doubling with pronominal objects in Spanish should be related to the impossibility of having a pronominal object in French (and Italian). In movement terms, Clitic Placement is always obligatory with direct object pronouns. Cf.:

(1.84) \*Jean voit moi/toi/lui/elle/nous, ...

The same is roughly true of indirect objects (but see below for more details):

(1.85) \*Marie montrera cette photo à moi/toi/lui/elle/, ...

Instead of (1.84-85) we get:

(1.86) a. Jean me/te/le/la/nous...voit.

'Jean sees me/you/him/her/us...'

b. Marie me/te/lui...montrera cette photo.<sup>32</sup>

'Marie will show me/you/him/her...this photograph.'

Within a base generation theory of clitics, it is impossible to account for these facts with obligatoriness conditions on cliticization rules, since there are no cliticization rules. Rather, we can interpret this data as evidence for a principle of grammar that says "Avoid Pronoun", or that one chooses not to use a pronoun if one can use a PRO. Such a principle is proposed in Chomsky (1979) quite independently of the issue of clitic pronouns. (See Chomsky (1979)). Assume the principle is stated as in (1.87):

(1.87) Avoid pronoun if PRO is possible.



Consider now the French examples in light of (1.87). (1.84-85) will constitute violations of (1.87), since one could have a PRO in those positions if a clitic were present. Thus, the sentences in (1.86) will be chosen over the ones in (1.84-85). This approach makes an interesting prediction: if a construction with a pronoun in complement position cannot alternate with a construction in which there is a clitic and a PRO in that complement position, then the pronoun should be allowed, since this would not constitute a violation of (1.87). In fact, some pronominals are allowed in object position in French. Cf.:

- (1.88) a. Marie comprend ça.  
'Marie understands that.'
- b. Marie ne montrera cette photo à personne.  
'Marie will not show that picture to anyone.'

The underlined elements above cannot appear in clitic position. Cf.:

- (1.89) a. \*Marie ça comprend.
- b. \*Marie personne ne montrera cette photo.

In a base system, we can state this very simply by saying that these elements cannot be inserted under the node CL. Then, they cannot absorb government, which is what allows PRO in object position. Since PRO is not allowed in object position in these cases, there is no constraint against the appearance of these elements in those positions, as expected if the appearance of pronominal elements in object position is regulated by (1.87).

The Spanish data can also receive an account along these lines. We can say that the sentences in (1.79) are ungrammatical because they

violate (1.87). There is a version of these sentences with PRO instead of a pronoun, namely:

- (1.90) a. Lo vimos.  
'We saw him.'
- b. La encontramos.  
'We found her.'
- c. Juan me visitó ayer.  
'Juan visited me yesterday.'

As for the possibility of (1.80), this follows simply from the possibility of clitic doubling in Spanish. Notice crucially that these constructions do not violate (1.87). Rather, it is the sentences in (1.79) which violate (1.87). It should be pointed out that sentences (1.80) are possible only if the objects are emphasized strongly. They are not possible without an emphatic interpretation. It is impossible to construct an emphatic construction analogous to (1.80) but with a PRO instead. Crucially, it is not possible to emphasize a pronoun in clitic position.

The data in (1.88) also exists in Spanish. There are some pronominal elements in Spanish which cannot appear in clitic position. These pronouns (mostly demonstrative pronouns) can appear in object position without being doubled. Cf.:

- (1.91) a. María vió eso.  
'Maria saw that.'
- b. Juan compró aquella.  
'Juan bought that one.'
- (1.92) a. \*María eso vió.
- b. \*Juan aquella compró.

Another interesting consequence of this approach is that it allows pronouns in object position precisely only when the cliticized version is not allowed. Recall that if a verb takes two animate complements, and both are cliticizable, they can be cliticized only if they are both third person. Cf.:

- (1.93) a. Paul la lui présentera.  
 b. \*Paul me lui présentera.

(This is noted by Kayne (1975) and also Perlmutter (1971) pp. 62,63.)  
 Our analysis then predicts that it should be possible to have a pronominal indirect object in (1.93)b. In fact, this is the case:

- (1.94) Paul me présentera à lui.  
 'Paul will introduce me to him/her.'

Similar facts hold in Spanish. Cf.:

- (1.95) a. \*Me le recomendaron.  
 b. \*Te le recomendaron.
- (1.96) a. Me recomendaron a él.  
 'They recommended me to him.'  
 b. Te recomendaron a él.  
 'They recommended you to him.'

Crucially, note that in (1.96) clitic doubling is not obligatory, indeed not possible. It is not altogether clear why the sequence me le in Spanish, or me lui in French, should cause ungrammaticality. (They do not violate the general filters on clitic order presented in Perlmutter (1971); the one for Spanish is: se II I III; the one for French is:

Nom ne me/te/nous/vous/se  $\begin{bmatrix} \text{III} \\ \text{Acc} \end{bmatrix}$   $\begin{bmatrix} \text{III} \\ \text{Dat} \end{bmatrix}$  y en. See Perlmutter (1971), pp. 45-57). But whatever reason is invoked to rule these sequences out, our analysis predicts that the corresponding sentences with the pronouns in complement position should be good. And this expectation is borne out.<sup>33</sup>

There is a general contrast in French which this analysis does not capture, however. Kayne has pointed out that in many contrastive environments, cliticization of indirect objects is optional, while this is not the case with direct objects. Cf.:

- (1.97) a. Je téléphonerai volontiers à toi, mais pas à ton frère.  
'I will gladly telephone you, but not your brother.'
- b. Je te téléphonerai volontiers, mais pas à ton frère.
- (1.98) a. \*Elle visitera volontiers toi, mais pas ton frère.
- b. Elle te visitera volontiers, mais pas ton frère.  
'She will gladly visit you, but not your brother.'

Our analysis does not lead us to expect this contrast, since in both cases cliticization is equally possible. The point is that in one case it is possible to leave a pronoun in object position, while in the other it is not. I will leave this problem open for future research.

To summarize, then, the obligatoriness of cliticization of pronominal objects in French, and the obligatoriness of doubling of such objects in Spanish can be reduced to the same fact by making reference to a principle like (1.87). This principle captures the fact that it is possible to have pronominal complement objects precisely in those cases where a clitic is impossible. Unfortunately it does not provide an explanation for why pronominal indirect objects in general are more

acceptable than pronominal direct objects in complement position.

This completes our account of the facts presented in the first section, and summarized in (1.12). The theory of clitics developed above provides an account of a number of hitherto unexplained facts of Spanish. Furthermore, it allows us to assimilate the phenomenon of clitic doubling to better understood cases of cliticization. While we have extended the descriptive capacity of the theory to make room for those facts, the resulting account is still very narrowly constrained. It rules out a number of imaginable constructions which in fact seem to be systematically absent from the system of clitics found in Romance. Our account relies heavily on the notions government, abstract Case, and thematic roles, which appear to be independently motivated. Insofar as these notions serve to provide adequate accounts of facts which lie outside of the domain of data which concerns us here, our own account will gain in explanatory force. We would now like to show that this analysis, together with other constraints, provides an explanation of some facts, some of which result from the application of movement rules to clitic doubled positions.

#### 1.4. Extraction of Doubled Objects

The analysis of Spanish clitic doubling presented above states that a clitic absorbs government, leaving a post-verbal complement position ungoverned. In sentences which contain only a clitic, a PRO appears in that position, provided that there is an alternative mechanism to assign Case to that NP. For example, in the following sentence:

- (1.99) Los vimos a los chicos.  
'We saw the children.'

the clitic los absorbs direct object government, while the NP los chicos receives Case from the inserted a. This a (Chomsky)-adjoins to the NP, creating a bigger NP of the form [<sub>NP</sub>a + NP].

We will assume, now, following Chomsky (1979) that there is a condition on traces which requires that they be properly governed (the Empty Category Principle). However, we will restrict this condition to NP traces, as discussed in the Introduction. And we will assume that the notion of proper government is best conveyed by our notion of s-government (at least, for the purposes at hand; see Chapter 4 for a detailed discussion). Thus, let us assume that the ECP is stated (tentatively) as follows:

- (1.100) ECP  
NP-trace must be s-governed.

If this is the case, then our analysis of clitics predicts that extraction of a NP out of a clitic doubled structure should be impossible. In fact, we can test this with wh-movement. A clitic doubled direct object cannot be displaced by wh-movement. Cf.:

- (1.101) a. \*¿A quién la viste?  
'Who did you see?'  
b. \*¿A quién me dijiste que María la vió?  
'Who did you tell me that Mary had seen?'

These sentences are ungrammatical because they violate (1.100). The trace of the moved wh-phrase, [<sub>NP</sub> a quién], will not be s-governed, since

there is a clitic, absorbing s-government. If the clitic is absent, the sentences become grammatical. Cf.:

- (1.102) a. ¿A quién viste?  
 b. ¿A quién dijiste que María vió?<sup>34</sup>

It appears, then, that the trace of a wh-moved direct object is not allowed because its position is ungoverned.

On the other hand, preposing of indirect objects by wh-movement should not be unacceptable, if we are right in restricting (1.100) to NP-traces and indirect objects are PPs. The data confirms this prediction:

- (1.103) a. ¿A quién le han regalado ese libro?  
 'To whom have they given that book?'  
 b. ¿A quién le han mandado todas esas cartas?  
 'To whom have they sent all those letters?'

These same facts are repeated in relative clauses, as expected:

- (1.104) a. \*María, a quien la he visto ayer, estaba muy preocupada.  
 b. María, a quien he visto ayer, estaba muy preocupada.  
 'María, who I saw yesterday, was very worried.'
- (1.105) María, a quien le han regalado ese libro, estaba muy preocupada.  
 'María, to whom they have given that book, was very worried.'

Relativization of a clitic doubled direct object is impossible, although relativization of a clitic doubled indirect object is perfect. This difference is accounted for in a straightforward way if we assume the theory of clitic doubling presented above, and the ECP as in (1.100).

I would like to consider briefly now an alternative account of these facts.

An account of these facts might involve the observation that wh-elements are [-definite]. If one were to stipulate that clitics may double only definite NPs, one appears to have an account for the ungrammaticality (1.101). Unfortunately, we are then left with no account for the grammaticality of (1.103). It is reasonable to assume that also in these cases the clitic doubles the dative NP inside the indirect object PP. Why should a clitic be able to double only definites in direct object position, but also indefinites in indirect object position? This question in fact simply repeats the question: why is wh-movement not allowed from a clitic doubled direct object position, while it is permissible from an indirect object position? Furthermore, this solution requires the stipulation that clitics double only definites. As we shall see later, this stipulation can be made to follow from an analysis like the one we present above.

We have seen that the displacement of a clitic doubled direct object by wh-movement leads to ungrammaticality, since it constitutes a violation of (1.100).<sup>35</sup> This condition asserts that NP-traces must be s-governed. But lexical NPs are not required to meet this condition. It is sufficient for them to have Case. This laxity is what permits sentences like (1.99). Suppose we now substitute for the lexical NP a wh element, but we leave it in place, as is possible in Spanish. I will assume, following Chomsky (1975, 1977), that wh elements left in their base position are moved by a rule of LF which interprets them as semi-quantifiers. Such a rule leaves a trace, just like other movement rules. If principle (1.100) applies



after this rule, in LF, such sentences should be out, even if in S-structure the object position does not contain a trace, but is lexically filled. On the other hand, if this principle applies before LF, say at S-structure, the sentences should be acceptable, like (1.99). In fact, a sentence like (1.106) is ungrammatical:

- (1.106) a. \* ¿Lo viste a quién?  
 b. \* ¿La encontraste a quién en el centro?

Once again, if the clitic is absent the sentences are perfect:

- (1.107) a. ¿Viste a quién?  
 b. ¿Encontraste a quién en el centro?

This is evidence, then, that principle (1.100) applies after the rule which interprets wh elements left in place. That is, at the level where principle (1.100) applies, the structures of (1.106) are:

- (1.108)  $(Wx_i)$  (lo-viste  $t_i$ )  
 $(Wx_i)$  (la-encontraste  $t_i$  en le centro)

These structures are out for the same reason that sentences (1.101) are ungrammatical. These facts confirm the statement that the ECP is a principle which holds at the level of LF, as maintained in Kayne (1979). Furthermore, if this is true, we should be able to devise further tests of this sort using quantifiers. We turn to these next.

Following the line of argumentation established in the preceding paragraph, it should prove impossible to clitic double a direct object quantified NP. Assuming quantified NPs to undergo QR, the trace left by

that rule would be in violation of (1.100) if a clitic is present in that structure, and such a sentence should be ruled ungrammatical. This is fact is the case. Cf.:

- (1.109) a. \*Las ví a todas las chicas.<sup>36</sup>  
 b. \*Las encontré a algunas mujeres.  
 c. \*No lo ví a ningún chico.

On the other hand, if the clitic is not there, the sentences are good:

- (1.110) a. Ví a todas las mujeres.  
 'I saw all the women.'  
 b. Encontré a algunas mujeres.  
 'I found some women.'  
 c. No ví a ningún chico.  
 'I didn't see any kid.'

Clitic doubled indirect objects, on the other hand, may contain quantified NPs. Cf.:

- (1.111) a. Les regalaron libros a todos los chicos.  
 'They gave books to all the kids.'  
 b. No le regalaron libros a ningún chico.  
 'They didn't give books to any kid.'  
 c. Le mandó sus libros a algún descuidado que los perdió.  
 'He sent his books to some careless person who lost them.'

These results follow if we assume that QR moves a PP in these cases, and that the trace left behind is not subject to (1.100). This data confirms the hypothesis that the ECP applies to LF after QR.

If we follow May in assuming that indefinites also undergo QR, (see May (1977)) we can account for a well-known restriction on clitic doubling.

Only definite NPs may be doubled in direct object position. Cf.:

- (1.112) a. \*Lo ví a un chico.  
 b. \*La busco a una chica que sepa inglés.

This restriction is accounted for immediately within our account. It forms part of the general clustering of facts which are predicted by our analysis of clitic doubling and the ECP. In fact, indefinite NPs may be doubled in indirect object position. Cf.:

- (1.113) a. Le regalaré todos mis libros a un chico que sepa leer.  
 'I will give all my books to any kid who can read.'  
 b. Les mandaron cartas a unos desconocidos.  
 'They sent letters to some strangers.'

Thus, there appears to be no need to stipulate a definiteness restriction on clitic doubling. Much to the contrary, this restriction follows naturally from our assumptions.

Finally, it has been pointed out to me by Esther Torrego that focus works in a similar fashion. That is, a clitic doubled direct object cannot be focussed (i.e., contrastively stressed). Cf.:

- (1.114) a. \*Yo lo ví a JUAN.  
 b. \*Yo la encontré a MARIA.

But this is possible with indirect objects. Cf.:

- (1.115) a. Yo le regalaré mis libros a JUAN.  
 b. Les mandaré una carta a LOS CHICOS.

This restriction on focus is easily accounted for given a rule of focus

interpretation which preposes the focussed constituent in LF, as proposed in Chomsky (1971) and Akmajian (1973). The traces left by this rule will then be subject to (1.100), and the expected results are derived.<sup>38</sup>

This concludes our examination of extraction facts. Our analysis of clitics plus the Empty Category Principle as in (1.100) provide a natural account for all these facts. The analysis draws the correct distinctions between direct and indirect objects with respect to the possibility of extraction. In turn, these distinctions enter crucially into an explanation of the clitic doubling associated with these two types of object.

#### 1.5. Clitics and Dislocated Phrases

We can summarize the basic result concerning extraction of clitic doubled positions as follows: it is impossible to extract a clitic doubled N?. Thus, elements which must be extracted by some instance of 'Move alpha' may not occur in those positions. I will show in this section that this result makes possible an explanation for a well-known generalization of Spanish concerning elements in dislocated position.

There are at least two constructions in Spanish in which a dislocated element appears in sentence-initial position.<sup>39</sup>

In one of these, the sentence contains a resumptive pronoun which agrees in number, person, and gender with the dislocated element, as in the following examples:

- (1.116) a. Esas novelas, Juan dijo que no las/\*la/\*lo pudo terminar.  
'Those novels, Juan said that he couldn't finish (reading) them.'

- b. El pastelón de hortigas, Juan quiere saber quien lo/\*la/  
\*las preparó.  
'The poison-ivy pie, Juan wants to know who cooked it.'
- c. A Maria, todos estamos seguros de que no le/\*les faltan  
pretendientes.  
'Mary, we are all sure that she does not lack pretenders.'

I will call this construction 'Left-Dislocation', following the traditional name given to similar English examples in Ross (1967). The other construction differs from the one above in that there is no resumptive pronoun in the sentence following the dislocated element. Rather, such sentences show a gap, which is interpreted as "containing" the dislocated element. Some examples are given below:

- (1.117) a. Dinero, me parece que Juan no tiene.  
'Money I think Juan does not have.'
- b. Un libro de 1000 paginas, no creo que un chico de 10 años  
pueda terminar...  
'A 1000 page book I do not think that a 10 year old could  
ever finish reading.'
- c. Un auto, dudo que consigas por menos de \$500.00.  
'A car I doubt you will find for less than \$500.00.'

I will call this construction 'Topicalization', since it superficially resembles this construction in English.<sup>40</sup>

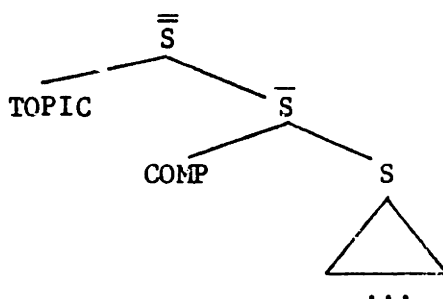
Now, if we consider dislocations of direct or indirect objects, which are the best understood ones, and the ones which can have clitics as resumptive elements, it appears to be a fact of Spanish that left-dislocated constructions only occur with definite NPs (in dislocated position), while Topicalizations only admit indefinite NPs in such positions. Consider in this respect the following contrasts.

- (1.118) a. Dinero, me parece que Juan no tiene \_\_\_\_.  
 b. \*Dinero, me parece que Juan no lo tiene.
- (1.119) a. \*El libro, me parece que Juan no tiene \_\_\_\_.  
 b. El libro, me parece que Juan no lo tiene.

In (1.118), a Topicalization, an indefinite NP, dinero, has been dislocated and the result is grammatical. However, the addition of the clitic lo, as seen in (1.118)b, which would convert that sentence into a Left-Dislocation -- in our terms -- induces ungrammaticality. Conversely, a dislocated definite NP in (1.119) requires a resumptive pronoun. Without the pronoun, as seen in (1.119)a, the sentence is ungrammatical. This correlation is a fairly well-known property of these two constructions in Spanish. How is it to be described? A purely stipulative account which simply notes this fact, while surely possible, would fail to explain why the correlation goes this way, and not, say, vice versa. In fact, I will show that the correlation is not at all idiosyncratic. Rather, it follows from certain natural assumptions about these constructions and the analysis of clitics developed in this chapter.

Let us assume, following Chomsky (1977) (for English) and Rivero (1978) (for Spanish) that dislocated elements appear under a TOPIC node, generated under  $\bar{S}$  and sister to  $\bar{S}$ , as in (1.120):

(1.120)



I will assume that this structure is common to both constructions -- although this assumption is not crucial to my purposes.<sup>41</sup> They differ in that one of them, Topicalization, involves movement of an element from the position of the gap into the COMP immediately c-commanded by the TOPIC node containing the dislocated NP; while the other, Left-Dislocation, does not involve movement but rather a predication rule which interprets the resumptive pronoun in the sentence as coreferential with the dislocated NP.<sup>42</sup> (This follows the analysis of these constructions presented in Chomsky (1977) for English, and for Spanish in Rivero (1978) and Torrego (1979)). These different options are confirmed by facts regarding island constraints. (See footnote 42.)

Let us assume, in particular, that the Topicalization construction works as follows. A PRO generated in the position of the gap is moved to the COMP node immediately c-commanded by the filled TOPIC node. This differs slightly from Chomsky's analysis in that we do not assume that the moved constituent is a wh element. Instead, assuming that it is a PRO removes the need to stipulate obligatory deletion of the wh element in COMP (cf. Chomsky (1977), pp. 90-91), but maintains the general effect of movement (still assuming, of course, that this PRO moves from COMP to COMP). (See Chapter 4, section 5 for further discussion of this idea.) Recall that a PRO is an empty NP with specifications for number, gender, and person. Let us also add to this the feature +DEFINITE, such that PRO may be + or - definite. In other words, a PRO is simply a phonologically null pronoun. Let us assume that this null pronoun must agree in all its features with the element in TOPIC position. This agreement process appears to be local, in that it affects two strings in

adjacent positions.

I will assume an analysis of Left-Dislocation exactly along the lines of Chomsky (1977). A rule of predication relates an element in the sentence to the element in TOPIC position. The sentence must be "about" the item focused in the left-dislocated phrase. This rule perhaps falls outside sentence grammar; and at any rate, is not subject to the conditions imposed on movement rules. No movement is involved in these constructions. There is, however, a requirement that the resumptive pronoun be inflected appropriately. That is, it must also agree in all its features with the dislocated element. The independent need for this rule is evident if we consider left-dislocations with resumptive epithets. The epithets must agree with the dislocated phrase. Cf.:

(1.121) (A) Pedro, no creo que vayamos a ver a  $\left. \begin{array}{l} \text{ese tonto.} \\ \text{*esa tonta.} \\ \text{*esos tontos.} \\ \text{*un tonto.} \end{array} \right\}$

The lack of agreement accounts for the ungrammaticality of the starred sentences in (1.121).

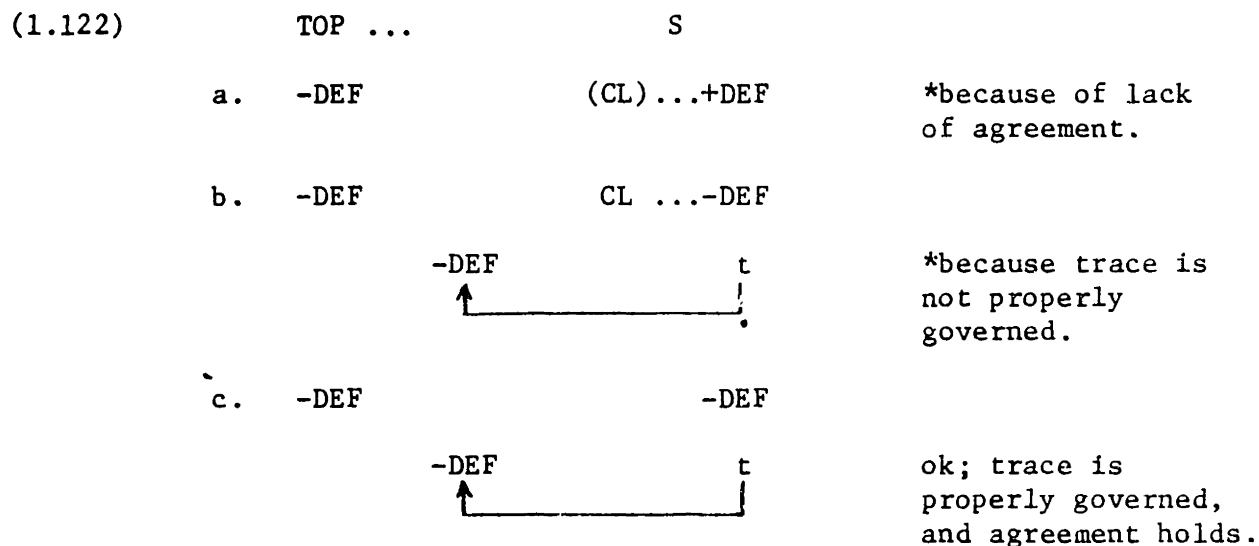
With the analysis of Topicalization and Left-Dislocation sketched above in mind, and the results concerning the interaction of movement and clitic doubling, we can return to the correlation noted with respect to definiteness and dislocation.

Assume first that the TOPIC node is filled with a [-definite] phrase. This will require a [-definite]PRO to agree with. A [+definite] PRO will violate the agreement requirement. I will assume, as in section 1.4., that [-definite] elements get moved (perhaps by some version



of QR as suggested in May (1977)). Movement of this element will leave a trace, which must be properly governed. If there is a clitic absorbing s-government for that complement, the sentence will be ruled ungrammatical because the trace will not be properly governed.

Therefore, the clitic must be absent. (In particular, this is true for dislocated direct objects. For indirect objects, see below.) We can summarize this result as in the following diagram.



On the other hand, if there is a +definite element in TOP, there must be a clitic in the sentence. First, consider what would happen if the resumptive element were -definite. The structure would not meet the agreement requirement, regardless of whether there is a clitic or not. Now, what if the PRO is +definite? It will stay in place. Recall that +definite PROs do not move. This will satisfy the agreement requirement. But if there is no clitic to deflect s-government away from the PRO, it will be governed, which is not allowed. Therefore, a clitic will be required. This state of affairs can be summarized as in (1.123):

(1.123)	TOP ...	S	
a.	+DEF	-DEF	*because no agreement.
b.	+DEF	+DEF	*because PRO is governed.
c.	+DEF	CL...+DEF	ok; agreement requirement is met, and PRO is not governed.

Thus we capture the generalization noted at the beginning of this section. Left-dislocations, which contain a resumptive pronoun, only involve definite dislocated phrases. Topicalizations, on the other hand, are found only with indefinites.

Looking a bit closer at this analysis we see that it should hold for dislocated direct objects. But if we consider also indirect objects, (1.122)b would not be starred, since indirect objects do not fall under the ECP (as argued in section 1.4.). We saw earlier that indirect objects can be extracted even if they are clitic doubled. This entails that one should find left-dislocations with indefinites only with indirect objects. This prediction is confirmed by the facts, as can be seen from the following sentence:

(1.124) A un chico de 3 años, yo creo que se le podría regalar ese libro.  
'To a three year old, I think one could give him that book.'

This provides striking confirmation for the analysis presented above. (Compare (1.124) to (1.118)b, which involves an indefinite direct object.) Without an analysis which distinguishes direct from indirect objects and accounts for the interaction of clitic doubling and movement in some way, it would be impossible to provide an explanation for this data. The relevant contrasts would remain totally mysterious. Our analysis achieves this with a minimum of additional hypotheses, which appear to be needed independently.

## FOOTNOTES: CHAPTER 1

1. This agreement phenomenon, to which we will not return, can be captured by a filter roughly as follows:

(i) \*...  $\alpha_1$  ...  $\beta_1$  if  $\alpha$ ,  $\beta$  differ in features for gender, number and person. Such a filter has been proposed for English by Stowell (1980) on quite independent grounds.

2. There are dialects of both French and Italian where the counterparts to (1.1) are in fact grammatical. Unfortunately, I don't have access to speakers of those dialects. Therefore, I will center my discussion of French (and Italian) clitics on facts which hold in the Standard language.

3. There are sentences similar to (1.5)b, (1.6)b which are grammatical in French and Italian, respectively. They involve a pause before the object NP, however. I will consider those to be instances of Right-Dislocation, with the clitic pronoun acting as a resumptive pronoun for the right-dislocated NP. On the other hand, the sentences in (1.1) are not Right-Dislocations. There is no pause before the indirect object, or any special intonation pattern associated with these sentences.

4. Clitic doubling is also found in Standard Rumanian.

5. For a detailed investigation of the notion 'clitic position' in French, the reader is referred to Kayne (1975), sections 2.4-5, pp. 81-102. In Jaeggli (1976) it is shown that most of the properties which Kayne (1975) associates with 'clitic position' in French also hold in Spanish. See also Klavans (1979).

6. One might propose alternatively that languages which allow object clitic doubling are in fact SOV languages underlyingly. Movement of the object from pre-verbal to post-verbal position would leave a trace in pre-verbal position which is later realized as a clitic. An analysis along these lines is proposed for Macedonian in Berent (1980). Some interesting results are obtained following this line of reasoning. Within a tightly knit theory of grammar the consequences of such a move are enormous, as should be expected. I will not explore this matter further.

7. The best statement against copying transformations of the sort needed for the data discussed here that I know of is found in Kayne's discussion of subject clitics in French; see Kayne (1974). Kayne writes:

In fact, if it is correct that no language can have a complex inversion construction unless it also has subject clitics, then not only is the copying hypothesis wrong for French, but the theory of grammar must be constrained so as to disallow the formulation of a transformation placing a pronominal copy of the subject to the right of the verb. If such a rule could be formulated, the theory would be too powerful in that it would permit the description of impossible languages. One straightforward way of restricting the theory to this end would be to prohibit the formulation of any transformation creating a pronominal copy of any constituent...Formally speaking, 'creating a pronominal copy of the subject' would not be an elementary transformation, but would rather involve copying the subject NP and then pronominalizing the copy. This means that pronominal copy transformations would automatically be excluded if pronominalization transformations in general did not exist. In other words, the copying hypothesis for the complex inversion construction in French depends crucially on the existence of a transformational solution to the pronominalization controversy, as opposed to an interpretive solution. (my italics--OJ)

(Kayne (1974), p. 89)

Of the two operations singled out by Kayne as being involved in the creation of a pronominal copy of a constituent, the proposal for trace

theory mentioned briefly in the text only makes use of one: movement of the constituent to its 'landing site'. The trace left behind, then, is a fully structured copy of the moved constituent (i.e., a 'layered trace'). It has simply been marked 'phonologically null' by a general convention. This is quite different from a copying transformation for clitics (subject or object). In these two cases, movement + pronominalization would be needed. I will assume with Kayne that this is not allowed.

8. Sentences (1.16)b,c are grammatical, but their meaning is altogether different from that of (1.15)a. It should be noted that, although they are grammatical, they are a bit clumsy.

9. Kayne (1975) argues extensively against base-generation of clitics. See in particular pp. 69-77. His arguments may be summarized as follows: 1) a theory of clitics must account for the impossibility of clitic-doubling in French; 2) an (accusative/dative) clitic must be restricted to verbs which can take a (direct/indirect) object; 3) clitics can appear attached to verbs to which they logically do not 'belong', e.g., in the causative construction. Of these three arguments, the first and second essentially reduce to the problem of linking a clitic with an object argument of a given verb. The last problem involves complicated issues related to causative constructions. This chapter is devoted to the investigation of the first two problems. Different solutions to the third problem can be found (for base theories of clitics) in Rivas (1977), Strozer (1976), and Jaeggli (1978). The reader is referred to these, although neither one of them is fully compatible with the analysis of

clitics presented here.

16. I will assume, following Rivas (1977), that clitics are introduced by a phrase structure rule approximately as in (i):

$$(i) \quad \bar{V} \longrightarrow \text{clitic} + V$$

A slightly different alternative would be to consider clitics to be the spelling out of certain features of the verb, as in (ii) below:

$$(ii) \quad [V, +F_i] \longrightarrow [{}_V \text{clitic} + V]$$

(This is suggested informally in Chomsky (1979)). I will assume that (ii) is not the correct mechanism to express the relationship between a verb and a clitic, and prefer (i) instead. On the other hand, I believe (ii) is much closer to describing the relation between a verbal stem and the inflectional element which expresses features of person and number. That is, we might have:

$$(iii) \quad [{}_V \text{habl-}, 3, \text{sing.}, \text{pres}, \dots] \longrightarrow [{}_V \text{habla}]$$

The spelling out of agreement features on the verb must be kept distinct from the association of an object clitic to a verb for a number of reasons.

Although a clitic + verb combination functions as a very close unit (see Kayne (1975) pp. 81-102), there are several reasons to consider clitics to be words, separate from the verbs to which they are attached, as opposed to agreement inflection. Clitics never affect the stress pattern of the verb to which they are attached. Cf. (the stressed vowel is accented):

- (iv)     a.   contándo  
           b.   contándote  
           c.   contándotelo

- (v) a. diré  
 b. te diré  
 c. te lo diré

(The fact that in pre-verbal position clitics are separated from the verb, while in post-verbal position they are attached to it is simply an orthographic convention.) Verbal inflection, on the other hand, enters seriously into considerations of stress determination. (See Harris (1969)). Cf.:

- (vi) a. háblo  
 b. hablámos  
 c. hablaré  
 d. hablaría

Clitic pronouns also retain some inflectional similarities with other words. For example, the plural is generally formed by adding an s. Gender differences are marked with the contrast a/o for feminine/masculine, respectively. These are also found in independent words. That is, clitics are different from agreement markers in that clitics retain certain features found in independent words which are not found on agreement markers.

A further difference arises when we consider that clitic pronouns are optional. The agreement marker, on the other hand, is obligatory. That is, the verbal stem does not exist independently of the agreement marker; at least, not in surface structures. But not all verbs have to have object agreement markers, exactly parallel to subject agreement markers on verbs.

Clitics are not always found attached to the verbs to which they logically belong; e.g., in causatives and Restructuring predicates in

general. Subject agreement markers, on the other hand, cannot wander off to a different verb. They do not have the mobility granted to clitics. This is clear evidence in favor of a more independent syntactic status for clitics, as compared to agreement markers.

I conclude, then, that clitics are more independent from the verb than agreement markers on the verb. This fact, I want to suggest, should be captured by using different mechanisms to introduce these elements into a sentence. One of them, the agreement marker, should be inserted in as a feature on a verbal matrix. The other, object clitics, should be introduced as 'bound words', as in (i).

This does not mean, of course, that we cannot refer to Romance object clitics loosely as 'object agreement markers'. But I think it is crucial to maintain a distinction between these elements and agreement markers like the verbal inflection which agrees with the subject.

This issue gains some importance when one considers languages outside the Romance family, which have subject and object agreement markers which share a lot more in common; e.g., Navajo. In those languages the verb is always inflected to agree with both its subject and object. Our decision to separate clitics from agreement markers in Romance embodies the claim that there is a crucial difference between, say, Spanish and Navajo. (For discussion, see Klavans (1979)).

11. 'Government' being such a crucial notion in the theory of grammar, Chomsky (1978, 1979, 1980), this modification has consequences which go well beyond the facts discussed here. See Chapter 4. For related discussion, see Chomsky (1979), pp. 37-38, where the notion 'lexical government' is invoked with respect to the Empty Category Principle.



12. This seems to me to be a minimal assumption, necessary if lexical insertion is to be (context)-free (as suggested recently by Chomsky in class lectures. Cf. also Hendrick (1979) and Aoun (1979b)). Thus, a non-sentence such as \*John went Mary is blocked by the Case Filter, since went does not s-govern Mary, and therefore Case is not assigned to that NP.

13. The possibility of attaining this result within a theory which connected clitics with Case assignment mechanisms was first pointed out to me by Y. Aoun. See in particular Aoun (1979a), where such an approach is investigated in connection with clitics in Arabic.

14. It is commonly stated that the animate specific direct object must also be [+definite]. This is a mistake, as has been pointed out in various places. (Cf. Jaeggli (1978), Zubizarreta (1979)). The object may well be indefinite, as long as it is [+animate], [+specific]. An example should suffice to prove this point.

(i) Busco a una cocinera que sabe hablar ingles.

indicative

'I am looking for a cook who can speak English.'

(ii) Busco una cocinera que sepa hablar ingles.

subjunctive

'I am looking for a cook who can speak English.'

Both (i) and (ii) contain indefinite direct object NPs. The direct object in (i) is specific, however, as evidenced by the indicative mood on the verb in the relative clause. The a is allowed in this case. In (ii) there is no a because the indefinite direct object is not specific. Notice that the verb in the relative clause is in the subjunctive mood, a mark of the non-specificity of the head of the relative clause. We conclude that definiteness is not a necessary requirement for the

presence of a.

15. The reader may wonder where the NP in question gets the Case feature [+accusative]. Recall that we assume that Case features are inserted in all NP matrices freely. The rules of 'Case assignment', then, are in fact rules which determine that certain Case marked NPs may occur in certain syntactic contexts. So, when we say that this a may 'assign accusative Case' in certain dialects (see below), what is really meant is that in those dialects this a provides a sufficient context for an accusative marked NP. In other dialects, those in which this a is not a Case assigner, it does not provide a satisfactory context. Rather, we will assume that in those dialects the government feature in the verb is required (as say, for accusative Case assignment in English).

16. Some of these sentences were pointed out to me by Jim Harris. For an extensive study of the a object marker in Spanish, the reader is referred to Işenberg (1968).

17. Donca Steriade has pointed out to me that Rumanian has a rule very similar to (1.25). It is interesting to note, then, that clitic doubling is also allowed in that language. Marie-Therese Vinet mentions that there are some dialects of French which have a similar rule. They also allow clitic doubling.

18. In fact, it might be the case that there is nothing at all in that position. This was claimed, for example, in Kayne (1969), when the possibility of empty elements in syntax was still not widely contemplated. I will assume, on the contrary, that a system with empty elements is

preferable to one without. (Cf. Chomsky (1979), footnote 4, for relevant discussion.)

19. For a different view, see Hendrick (1979), where PROs are argued to occur in post-verbal position even in English.

20. Note that this analysis, while capturing Kayne's generalization, makes a slightly different prediction. Crucially, it no longer requires the presence of a preposition. Any alternative means of Case assignment will do; it need not always be a preposition. So, for example, if there is a language where clitic doubling is possible with objects which are not preceded by prepositions, Kayne's generalization stated as in (1.18) is falsified immediately, but not necessarily our analysis. We can easily say that those NPs receive Case 'inherently' or perhaps because of their  $\theta$ -role (or simply redundantly, as suggested in Aoun (1979b) for many cases of accusative Case assignment in Arabic). In fact, Donca Steriade has informed me that Rumanian provides examples of this sort. Indirect objects in Rumanian are not PPs. Rather, they are NPs inflected for dative Case. These NPs get doubled. Cf.:

- (1) Ion i-a dat bonboane Mariei.  
 J 3,s.-has given chocolates Mary-dat.  
       dat  
       'John has given Mary some chocolates.'

Bob Ingria points out that similar examples can be constructed in Greek, even with direct objects this time. In his view, there are good reasons to believe that accusative Case can be assigned redundantly in Greek to more than one complement NP.

21. For a detailed analysis of how complicated the semantic consequences

of presence vs. absence of dative clitics can be, see Garcia (1975), in particular chapter VII, pp. 274-409.

22. Another possibility is that they get 'inherent' Case. It is not clear to me that this is in fact any different from saying that the constituent is a PP (in this instance). The reason why I have chosen the PP alternative will become clear in later sections.

23. One might argue that even in those cases there is a change in acceptability. This might be true, but the change is of a very different status than the one observed in (1.54), (1.55). In general, clitic doubling can be absent most acceptably with those verbs which very clearly involve a GOAL argument. Some of these are: dar 'to give', deber 'to owe', enviar 'to send', mandar 'to send', llevar 'to take', suministrar 'to supply', repartir 'to distribute', traer 'to bring', entregar 'to deliver, to hand over', gustar 'to please', etc.

24. For discussion of thematic relations, see Jackendoff (1972), Gruber (1965). More recently, see Borer (1979), Borer (1980), and Rouveret and Vergnaud (1978) for a slightly different approach to thematic roles.

25. Whether  $\theta$ -role assignment is done via government or not is an open question. Perhaps some  $\theta$ -roles are assigned this way. But at least one NP receives a  $\theta$ -role from a verb without being governed by it: the subject of a sentence. This requires some extra mechanism, aside from government. Since it appears that at least some NPs must receive their  $\theta$ -role via a mechanism which does not involve government, the question of whether  $\theta$ -role assignment ever involves government will be left open

here. For discussion of ' $\theta$ -positions', see Borer (1980).

26. Garcia (1976) provides a small list of idiomatic expressions which do not cliticize. Some of them are:

- (i) a. El gaucho mudó caballo.
- b.               hizo sebo.
- c.               tomó mate.
- d.               tiene miedo.
- e.               dió vuelta.
- f.               busca camorra.
- g.               hizo fuego.

Although we agree with her that these expressions are indeed uncliticizable, this fact may be due not only to the fact that these expressions do not contain thematic NPs (which is our claim), but also to the indefinite character of the 'direct objects' involved. As we shall see later, accusative clitics are always interpreted as definite. This is why I chose idioms with grammatically [+definite] objects, like la pata in (1.57). In those cases, lack of definiteness cannot be the factor which excludes cliticization. Rather, it must be the lack of the correct  $\theta$ -role.

27. This rule may in fact follow from more general principles of the theory of  $\theta$ -roles. Assume that  $\theta$ -roles are assigned to indices, as recently suggested in Aoun (1980). Then, a  $\theta$ -role assigned to a clitic will automatically be transmitted to the complement NP, assuming that it has the same index as the clitic. If it does not, then the sentence will be ruled out by the  $\theta$ -criterion, in the same way in which a sentence in which (1.63) has not applied will be ruled out. We hope that an analysis along these lines will make the statement of (1.63) unnecessary.

The central idea expressed by (1.63), of course, would still be expressed by this simplified theory. This was pointed out to me by N. Chomsky.

28. For a view of selectional restrictions compatible with this idea, see Grimshaw (1977).

29. Ken Hale has pointed out to me that Romance clitics function roughly as 'obviation' markers on the verb. That is, a non-reflexive clitic on a verb basically signals that the complements of that verb are non-coreferential with the subject of the verb. This obviative function of clitics extends to cases of doubling. That is, in a sentence like

- (i) Juan lo vió a él.  
'John him saw P him.'

the pronoun in complement position is obligatorily disjoint in reference from the subject NP. This is accounted for by our rule (1.63), under the assumption that  $\theta$ -features carry indexes with them. (See also footnote 27.) The clitic, which according to our analysis has a governing category, is specified as disjoint in reference from the subject simply by the Binding Condition C, which stipulates that pronominals must be free in their minimal governing category.

In Spanish, PPs act like governing categories for DR. So, for example, in the following sentence, the pronoun can be construed as coreferent with the subject:

- (ii) Luis hablará de él.

Similarly, in (iii) the pronoun can corefer with either the subject or the object lexical NP:

- (iii) Luis le hablará a Juan de él.

That is, these pronouns appear to obey Condition C with the PP as the

minimal governing category. If we look at indirect objects, however, coreferentiality is not possible. Cf.:

(1v) \*Luis<sub>i</sub> le regaló un regalo a él<sub>i</sub>.

If we take the indirect object to be a PP, as argued in the text, this behavior is unexplained. The pronoun should be able to corefer with the subject, since it would be free in its minimal governing category. In our analysis, on the other hand, direct and indirect objects get their referential indexes via rule (1.63). The clitic is indeed marked as non-coreferential with the subject by a simple application of Condition C. So, pronouns inside indirect objects are obligatorily disjoint in reference from the subject. Since no other prepositional object is co-indexed with a clitic in Spanish, all other prepositional objects behave as expected from Condition C. It appears, then, that rule (1.63) provides a way to understand the 'obviative' function of non-reflexive clitics in Spanish.

30. Perlmutter and Oresnik (1973) note a similar restriction in Slovene. Their comments on this issue are instructive: "The +animate marking that triggers the Orphan Accusative is no doubt related to the fact that the strong forms of the pronouns can only have animate reference. It is not clear, however, how this can be captured in the present theory of grammar." (p. 439).

31. It is interesting to note that a strong pronoun may refer to an inanimate object if it is the object of a preposition. Cf.:

(i) Dejó el libro sobre la mesa.  
Dejó el libro sobre élla.

- (ii) Nos encontramos en la casa de Antonio.  
Nos encontramos en élla.

I am at a loss to explain this fact.

32. Strozer (1976) presents some interesting speculations about the change in word-order. She claims that the clitic word order reflects a stage of the grammar of Romance when these languages were SOV languages.

33. Since we do not clearly understand precisely what factor is causing the ungrammaticality of (1.93), (1.95), we have no explanation for why leaving the direct object in complement position does not also result in a grammatical sentence. It appears that direct objects can never be left in object position. Cf.:

- (i) \*Paul lui présentera moi.  
\*Le recomendaron a mí.  
\*Le recomendaron a tí.

(The Spanish sentences are acceptable in leista dialects which can consider the le clitic as a direct object; but this is irrelevant.) I have no explanation for this fact.

34. The reader should not confuse the symbol '¿' with '?' at the beginning of a Spanish interrogative sentence. '?' is a characterization of the sentence's grammaticality. '¿' is a symbol particular to Spanish orthography, used at the beginning of all (grammatical) questions.

35. Maria Luisa Zubizarreta has mentioned to me that this restriction applies in precisely the same fashion to two other constructions which might be plausibly analyzed in terms in Wh-movement (see Chomsky (1977)), Cleft Formation and Tough-Movement. Cf.:



- (i) Es a Juan a quién vimos.  
\*Es a Juan a quién lo vimos.
- (ii) Juan es difícil de encontrar antes de las doce.  
\*Juan es difícil de encontrarlo antes de las doce.

Indirect objects can be clefted, and the expected difference in grammaticality obtains:

- (iii) Es a Juan a quien(le) regalaron todos esos libros.

Unfortunately, indirect objects cannot be tough-moved. Cf.:

- (iv) \*(A) Juan es difícil de regalar(le) todos esos libros.

Thus, the test is not complete in this case. (These facts are reported in Zubizarreta (1979)).

36. As is well known, the following sentences are possible:

- (i) Las ví a todas.  
(ii) Los ví a cada uno por separado.

That is, some bare quantifiers may be "doubled". This is also possible in French. Cf."

- (iii) Je les ai vues toutes.  
(iv) Je les ai envoyées chacune dans un pays différent.

(I believe Italian also contains examples of this type.) Chapter 2 contains a detailed analysis of these cases. Clearly, they cannot involve the same factors as the sentences discussed in this chapter.

One clear difference is that these quantifiers appear alone, while those discussed in the text appear within the NPs which they modify. I will assume that QR applies only to quantified NPs; i.e., [<sub>NP</sub><sup>+Q-NP</sup>].

37. These sentences contain non-generic indefinites. Clitic doubling of indirect object NPs is not possible with generics, however. I have

no non-stipulative account of this. Cf.:

- (i) \*Les regalaré todos mis libros a mujeres.  
 \*Les entregaran las frazadas contaminadas a indios makas.
- (ii) Regalaré todos mis libros a mujeres.  
 Entregarán las frazadas contaminadas a indios makas.

38. The discussion in the text is a bit misleading in that it does not mention differences in acceptability among the ungrammatical sentences examined in this section. Our claim is that these differences, though quite real, are never serious enough to affect the basic asymmetries between clitic doubled direct objects and clitic doubled indirect objects, which constitute the central concern of this section. Nevertheless, we would like to include in this footnote our appreciation of the differences we perceive among these sentences. We will reconsider here only cases which involve extracted direct objects. We repeat that in every instance the corresponding sentences with an extracted indirect object -- which we will not review in this footnote -- are far better, as predicted by our analysis.

Without any doubt, the most unacceptable cases are instances of extraction of a doubled direct object wh-phrase (as in (1.101), (1.104)a, and sentence (i)b in footnote 35. Ex.

- (i) a. \*¿A quién la viste?  
 b. \*La chica a quien la vi en el centro, ...  
 c. \*Es a Juan a quien lo vi.

These are completely unacceptable for me. It is interesting to note that they improve somewhat in sentences like

(ii) ?? ¡A Quién me dijiste que la acabas de ver?

Why there should be this difference remains a mystery. (Perhaps the distance between the wh element and the clitic in (ii) is relevant.)

Some clitic doubled quantified direct objects constitute the next worse case of unacceptability. Cf.:

(iii) a. ?\*No lo vi a ninguno (de los chicos).

b. ?\*Las encontré a algunas mujeres.

It is interesting to compare these sentences with cases where the doubled quantified direct object contains the quantifier todos. It seems to me that a sentence like (iv)

(iv) ???Las vi a todas las mujeres

is slightly better than those in (iii). The contrast could be related to the fact that the objects in (iii) must be interpreted as indefinite, whereas it is possible to construct a definite reading of (iv). It was pointed out that indefinites are not allowed in clitic doubled direct object position. So, it might be the case that the sentences in (iii) are ungrammatical for two reasons: because they contain a doubled quantified NP, and a doubled indefinite NP. (iv), on the other hand, would be out only on one count. If there are speakers for which sentences like (iv) are fully acceptable, we might hypothesize that there is an auxiliary quantifier-interpretation rule which does not involve extraction; i.e., which does not leave a trace. Needless to say, this proposal is extremely tentative, and constitutes little else than a method to describe the subtle differences found in the data.

Sentences which contain a doubled wh-phrase in situ come next, as in (v):

(v) ??\*Lo viste a quién?

These are perhaps only a bit worse than cases where an indefinite direct object is doubled, as in (vi):

(vi) a. ???Lo vi a un chico.

b. ???La busco a una chica que sepa ingles.

For me, the sentences in (vi) are about as bad as (iv).

Finally, least unacceptable are doubled focus constructions, as in

(vii) a. ??Lo vi a JUAN.

b. ??La encuentre a MARIA.

More than ungrammatical, these sound unacceptably 'redundant' to my ear.

39. Parallel to left-dislocated constructions there are also right-dislocated constructions, which I will not consider since they are irrelevant to the point of interest here.

40. This brief description is not meant to be exhaustive of fronting processes in Spanish. For a more detailed account of such processes, see Rivero (1978) and Torrego (1979).

41. For arguments in favor of the same structure for both constructions, see Rivero (1978). For arguments that they should differ, see Torrego (1979). I will leave the question open here, since it is not crucial to my argument. What is crucial is that in one case movement be involved, while the other does not involve movement.

42. For a different view about the Italian counterpart of this construction, see G. Cinque (1979). Cinque argues that Left-Dislocation in Italian involves movement for a number of reasons. The most important one concerns the fact that the relation between the dislocated phrase and

the resumptive pronoun appears to obey restrictions usually associated with movement. It appears that in Italian these constructions obey the Complex NP Constraint (cf. (i)a), the Coordinate Structure Constraint (cf. (i)b), and the Sentential Subject Constraint (cf. (i)c,d). Consider the following examples given in Cinque (1979):

- (i) a. \*Anna, non possiamo diffondere la notizia che gli manca un anno di vita.  
 b. \*Da Piero, sono uscito e ci sono andato.  
 c. \*Di Carlo, che tu ne tema ancora la presenza e preoccupante.

In particular, compare (i)c to (ii), where the sentential subject has been extraposed:

- (ii) Di Carlo, e preoccupante che tu ne tema ancora la presenza.

In Spanish the situation is quite different. It has been noticed in various places (e.g., Rivero (1978), Torrego (1979), and the references given there) that left-dislocated structures violate the Complex NP Constraint, as can be seen from the examples given below ((iii) are from Torrego (1979), (iv) is from Rivero (1978)):

- (iii) a. Este curso, a quien se le va ocurrir [la idea [de tomarlo]].  
 b. (A) esta nina, [la gente [que la conoce]] no quiere darle sorpresas.  
 (iv) El dinero, acepto [la pretension [de que lo tienen ya]].

The Coordinate Structure Constraint does not appear to hold either. Consider the following sentences:

- (v) a. El libro, abri el escritorio y enseguida lo encuentre.  
 b. Ese curso, te vas un par de veces y seguro que lo pasas sin problemas.

Of course, there are no violations of the CSC of the following type:

- (vi) \*(A) Juan, me parece que lo vimos y a Maria. /a Maria y.

But this is an independent issue, which basically can be reduced to the impossibility of (vii):

(vii) \*Lo vimos y a Maria. /a Maria y.

As for violations of the Sentential Subject Constraint, their status is not decisive enough. Consider the following sentences:

- (viii) a. ?Ese libro, (que todavía no lo hayas encontrado) me preocupa mucho.  
 b. ?(A) Juan, (que todavía no lo hayan apresado) es un verdadero milagro.

Nevertheless, there is a difference between these sentences and similar sentences with the sentential subject extraposed:

- (ix) a. Ese libro, me preocupa mucho (que todavía no lo hayas encontrado).  
 b. (A) Juan, es un verdadero milagro (que todavía no lo hayan apresado).

I do not understand why there is such a difference.

In general, I think it is possible to conclude that Left-Dislocated constructions do not involve movement in Spanish, but rather, they are generated by the base in all relevant respects in their surface forms. (This is the position taken in Rivero (1978) and Torrego (1979)).

Topicalizations, on the other hand, do not violate the constraints.

Cf.:

- (x) a. \*Dinero, acepto [la pretensión de que tienen \_\_\_\_].  
 b. Dinero, acepto que pretendan que tienen \_\_\_\_.  
 (xi) a. \*Dinero, mi madre ha venido y tengo \_\_\_\_.  
 b. \*Un lapiz, abrí el escritorio y enseguida encuentre \_\_\_\_.  
 (xii) \*Un lapiz, que no pueda encontrar me preocupa mucho.

((x)a,b and (xi)a are from Rivero (1978)). This is no surprise, of course, if these constructions are analyzed as involving movement.

## CHAPTER 2: BARE QUANTIFIERS

## 2.0 Introduction

It was noted in footnote 36 of Chapter 1 that although quantified direct object NPs cannot be clitic doubled, bare quantifiers can.

Consider the following sentences:

- (2.1) a. \*Las ví a todas las mujeres.  
'I saw all the women.'
- b. \*Los mandaron a cada uno de los chicos a lugares diferentes.  
'They sent each one of the children to different places.'
- (2.2) a. Las ví (a) todas.  
'I saw them all.'
- b. Los mandaron a cada uno a lugares diferentes.  
'They sent each one of them to different places.'

The ungrammaticality of (2.1) was accounted for in the preceding chapter by assuming that these quantified NPs are moved by May's QR rule, and that their traces are not properly governed given the presence of a clitic. We must now explain why the sentences in (2.2) are good.

In fact, this question extends beyond these cases in Spanish. We find similar facts in French. Recall that French never allows clitic doubling, either with quantified or non-quantified NPs, as can be seen below:

- (2.3) a. \*Je les ai vu tous les enfants.  
'I saw all the children.'
- b. \*Je leur ai donné des bonbons à tous les enfants.  
'I gave candy to all the children.'
- (2.4) a. \*Je les ai vu les enfants.
- b. \*Je leur ai donné des bonbons aux enfants.

However, there are perfectly grammatical French sentences in which a bare quantifier appears in post-verbal position in agreement with a clitic, as in (2.5):

- (2.5) a. Elle les lira tous.  
'She will read them all.'
- b. Je leur ai donné des bonbons à tous.  
'I gave candy to them all.'

Why are these allowed if neither (2.3) nor (2.4) are grammatical?

This chapter will be devoted to an examination of structures with bare quantifiers. I will consider the French case in detail. It is in fact the more problematic, given that doubling does not occur at all in that language. The chapter is organized as follows. First I will consider Kayne's analysis of this data, paying close attention to see how the main insights expressed there can be rendered in a more recent theoretical framework. I will then present an alternative analysis which will assign bare quantifiers the status of anaphors, as recently suggested for Italian by Adriana Belletti. Several properties of the constructions exemplified in (2.2) and (2.5) can be expressed rather naturally within such an analysis.

### 2.1. Q-Post, L-Tous, and Clitic Placement

Let us begin by considering the French data in more detail. A quantifier may appear displaced from the subject NP that it modifies. Cf.:

- (2.6) a. (Presque) tous les garçons ont été invités.  
'Almost all the boys have been invited.'
- b. \*Les garçons (presque) tous ont été invités.



- c. Les garçons ont (presque) tous été invités.  
'The boys have (almost) all been invited.'
- d. Les garçons ont été (presque) tous invités.  
'The boys have been (almost) all invited.'
- e. ?\*Les garçons ont été invités (presque) tous.

As can be seen in (2.6), a tous floated off a subject NP may occupy one of several positions in a sentence. But only one Q may be associated with an NP. Cf.:

- (2.7) a. \*Tous les garçons ont tous été invités.  
b. \*Tous les garçons ont été tous invités.

To account for these sentences, Kayne (1975) proposes two rules. The first one, Q-Post, is stated as follows:

- (2.8) X [<sub>NP</sub>Q (de) NP] Y  
1 2 3 4 5 --> 1 Ø Ø 4 2 5

This rule applies to a sentence like (2.6)a and yields (2.6)b. Since the resulting sentence is ungrammatical ("in the absence of distinct pauses"), Kayne assumes that "some other movement process will have to be involved to account for the surface position of tous in all the other sentences" (Kayne (1975) p. 45). This additional movement process is not stated. We can assume that it is a particular instance of 'Move alpha', and for definiteness's sake I will refer to it as 'Q-Float'. In some cases, the output of Q-Float is not acceptable, either, as for example in (2.6)e. This appears to be correlated with the heaviness of the Q. Consider the slightly better (2.9), where the moved Q is heavier.

- (2.9) a. ?Elle lira ces bouquins tous les trois.  
'She will read all three of these books.'
- b. ?Il va engueuler ses enfants ce soir tous les quatre.  
'He is going to scold all four of his children this evening.'
- c. Les soldats ont été présentés à Anne par ce garçon tous les deux.  
'The soldiers were both introduced to Anne by this boy.'

This, in turn, appears to be related to the positioning of heavy adverbs, as Kayne points out. Consider the following sentences which appear to mirror these judgments:

- (2.10) a. Il aime bien Marie  
'He likes Marie well.'
- b. \*Il aime Marie bien.
- c. Il aime Marie vraiment bien.  
'He likes Marie really a lot.'

I will return to these facts later on.

Consider now how a sentence like (2.5)a is derived within this analysis. The underlying structure is roughly as in (2.11):

- (2.11) Elle lira [tous - les].

Kayne (1975, pp. 40-45) argues that tous is moved by Q-Post out of the NP before Clitic Placement is applied, so that the latter in fact affects a string as in (2.12):

- (2.12) Elle lira [les] tous.

Clitic Placement applies normally to (2.12) to yield (2.5)a.

This derivation is to be preferred to one involving a direct application of Clitic Placement to (2.11). Such a one-step derivation

would involve extracting a modified pronoun, and leaving behind the modifier. But not all modifiers allow this. For example, autres, and numerals, may not be "left behind" in this way. Cf.:

- (2.13) a. Elle ne connaît que nous autres.  
'She knows only us.'  
b. \*Elle nous connaît autres.

- (2.14) a. Il ne voit que vous deux.  
'He sees only you two.'  
b. \*Il vous voit deux.

In other words, different modifiers behave differently with respect to the possibility of being "left behind" by Clitic Placement. This would have to be captured, in a one-step analysis, by disallowing extraction with some set of modifiers, while allowing it with others. Kayne's point is that this same division of modifiers would have to be established for Q-Post (and Q-Float) from subject position. Precisely those modifiers which can't be "left behind" by Clitic Placement (or Wh-Movement -- not exemplified here, but see later) are those which can't float off a subject NP either. Cf. (Kayne's sentences (102)-(103)):

- (2.15) a. Ils sont tous intelligents.  
'They [masc] are all [masc] intelligent [masc].'  
b. Elles sont toutes intelligentes.  
'They [fem] are all [fem] intelligent [fem].'

- (2.16) a. \*Elles sont trois intelligentes.  
b. \*Nous sommes autres intelligents.

- (2.17) a. Tu les enverras chacune dans un pays différent.  
'You will send each one of them to a different country.'

- b. ces femmes, que tu enverras chacune dans un pays différent,...  
'these women, each of whom you will send to a different country.'
- c. Elles iront chacune dans un pays différent.  
'Each one of them will go to a different country.'

This data is strong evidence in favor of a homogeneous treatment of Q-Floating from subject position and quantifiers "left behind" by Clitic Placement. I take this point to be an important insight which must be expressed in any analysis of displaced quantifiers in Romance.

We can summarize the discussion so far as follows. Kayne assumes that all Q's are generated by the PS rules "only as part of the determiner structure of plural NPs" (Kayne (1975) p. 1). A transformation, Q-Post, optionally moves them from this position to the right. Another rule may move them even further. This system accounts for sentences like those in (2.6) and (2.7). If we add to these rules the rule of Clitic Placement, and assume that it does not extract a modified pronoun, we also account for (2.2) and (2.5). (The interaction of Q-Post and Wh-Movement will be considered below in section 2.2.)

Consider now the following paradigm:

- (2.18) a. Elle a voulu les lire tous.  
'She wanted to read them all.'
- b. Elle a voulu tous les lire.
- c. Elle a tous voulu les lire.

As with subject NPs, tous may not occur more than once:

- (2.19) a. \*Elle a voulu tous les lire tous.
- b. \*Elle a tous voulu les lire tous.

- c. \*Elle a tous voulu tous les lire.  
 d. \*Elle a tous voulu tous les lire tous.

In (2.18) we see that tous may also move to the left. But this is possible only if it is associated to a clitic (or to a wh-moved element, not shown above). Tous may not be moved to the left if the object is a full NP. Cf.:

- (2.20) a. Elle a voulu lire tous ces livres.  
           'She wanted to read all these books.'  
 b. \*Elle a voulu tous lire ces livres.  
 c. \*Elle a tous voulu lire ces livres.

To account for these facts, Kayne posits a local rule, L-Tous, stated as follows:

- (2.21)     L-Tous (Optional)  
           X V Q Y  
           1 2 3 4   →  1 3 2 4

This rule produces leftward dislocations of Q. Notice that it applies only to a bare Q. This means, crucially, that it will not apply to a Q inside an NP. (This is guaranteed if we assume the absolute version of the A/A Principle. See below for discussion.) Rather, it can apply to the output of Q-Post, which does extract a Q from an NP. A sentence like (2.18)b can then be derived as follows:

- (2.22) a. Elle a voulu lire [tous - les]     +Q-Post   →  
           b. Elle a voulu lire [les] tous     +Clitic Placement →  
           c. Elle a voulu les+lire tous.     +L-Tous     →

d. Elle a voulu tous les lire.

The impossibility of (2.20)b,c now follows from the local character of L-Tous. To derive (2.20)b, L-Tous would have to apply to:

(2.23) Elle a voulu lire ces livres tous.  
'She wanted to read these books all.'

But here the V, lire, and the Q, tous, are not contiguous. This lack of contiguity fails to meet the requirements imposed by the SD of the rule. Thus, the rule cannot apply.

A brief digression is in order here. Notice that if Clitic Placement, being a movement rule, leaves a trace,<sup>1</sup> this trace will have to be considered invisible for the rule of L-Tous. In fact, the structure of (2.22)c, supplemented with traces is as in (2.24):

(2.24) Elle a voulu les lire t tous.

This is strange, insofar as the trace is in a Case-marking context. Such traces generally block local processes.<sup>2</sup> But this trace will have to be ignored, if we want to keep L-Tous as a local process.

Worse still, the trace of a wh element intervening between terms 2 and 3 of L-Tous also has to be ignored. Consider the following sentence:

(2.25) Les livres, que tu peux tous voir, sont formidables.  
'The books, all of which you can see, are formidable.'

This sentence is derived as follows:

(2.26) a. Les livres, [ e - que ] tu peux voir [ tous - +WH ], ...  
b. Les livres, [ e - que ] tu peux voir [ +WH ] tous, ...

- c. Les livres, [+WH - que] tu peux voir [<sub>WH</sub>e] tous, ...  
 d. Les livres, [+WH - que] tu peux tous voir [<sub>WH</sub>e] ...

It appears then that the contiguity required by L-Tous is satisfied even if wh-traces intervene. The only thing seen by the rule is lexical material. It seems noteworthy to point out that this situation seldom occurs. Rather, wh-traces generally pattern with full lexical phrases, against PRO and traces left by NP-movement.

The two rules, Q-Post and L-Tous, form the core system of rules posited by Kayne to account for bare quantifier phenomena. However, other minor rules are involved. I will look at these more closely now.

We mentioned above that Kayne considers all tous as originating under the Det node of an NP. L-Tous, however, only applies to bare Q's. But exactly what constitutes a "bare" Q is a rather tricky question. Consider the following examples (see Kayne (1975), p. 37):

- (2.27) a. Il les a envoyées chacune dans un pays différent.  
           'He sent each of them to a different country.'  
       b. Il les a chacune envoyées dans un pays différent.

These sentences show that some "bare" chacune's are moved by L-Tous. But this is possible only if there is a clitic. Consider the following sentences:

- (2.28) a. Il a envoyé chacune dans un pays différent.  
       b. \*Il a chacune envoyé dans un pays différent.

Here a superficially bare Q may not be moved. To account for this paradigm Kayne claims that the bare chacune of (2.28)a is produced by a

rule that deletes pronouns. This bare Q would involve the deletion of a pronoun as follows: [<sub>NP</sub> chacune de Pronoun] → [<sub>NP</sub> chacune]. This rule might be formulated as follows:

(2.29) [<sub>NP</sub> chacune- de- Pronoun]  
           1          2          3          →          1 ∅ ∅

(2.29) is needed independently of (2.28), as can be seen from (2.30):

- (2.30) a. Chacune habite dans un pays différent.  
           'Each lives in a different country.'
- b. Il parlait de chacune d'une façon différente.  
           'He spoke about each one in a different way.'

Rule (2.29) is ordered after L-Tous. This extrinsic ordering is crucial, as will become clear below. At the point of application of L-Tous, the structure of (2.28) would be (assuming Q-Post has not applied):

(2.31) Il a envoyé [chacune de Pronoun] dans un pays différent.

The condition in L-Tous concerning bare Q will not be met by this structure. Consequently this rule will not apply. Rule (2.29) applied to (2.31) will then yield (2.28)a.

If Q-Post does apply to (2.31), the following structure will result:

(2.32) Il a envoyé [Pronoun] [chacune] dans un pays différent.

Here we see why Q-Post includes the optional term 3, de. Notice that the pronoun deletion rule (2.29) also contains this term, a rather embarrassing redundancy. The pronoun in (2.32) will be obligatorily cliticized, yielding (2.27)a. Then, if L-Tous applies, the result will be (2.27)b.



Thus, the paradigm (2.27)-(2.28) is accounted for by the interaction of Clitic Placement, Q-Post, L-Tous and the Pronoun deletion rule (2.29).

Sentences comparable to (2.28)a with tous instead of chacune do not exist. But there do exist sentences with bare tout and no clitic. Some examples from Kayne are:

- (2.33) a. Il a compris presque tout.  
'He understood almost everything.'
- b. Elle a lu tout à haute voix.  
'She read everything out loud.'
- c. Elle photographiera tout.  
'She will photograph everything.'

This tout is best translated as everything, while tous really corresponds to all. This distinction is very important. Tout and tous cannot be treated in the same way. If we analyze (2.33) as involving pronoun deletion, we must distinguish tout from tous anyway. Note, however, that for purposes of L-Tous, they both get analyzed as Q's. Crucially, tout can undergo L-Tous. Cf.:

- (2.34) a. Il a presque tout compris.
- b. Elle a tout lu à haute voix.
- c. Elle a tout photographié.

In fact, Kayne argues that tout should be given the structure [<sub>NP</sub>[<sub>Q</sub><sup>tout</sup>]]. I will follow this suggestion in the analysis presented in the next section.

Spanish has a similar distinction between the NP todo meaning 'everything', and the modifier todo/a/os/as meaning 'all'. This difference shows up in an interesting contrast in River Plate Spanish. Consider the

following sentences:

- (2.35) a. Lo ví todo.  
'I saw it all.'
- b. Ví todo.  
'I saw everything.'
- (2.36) a. El pastel de manzanas, me lo comí todo; pero queda la torta de chocolate.  
'The apple pie, I ate it all; but there is still some chocolate cake left.'
- b. ??Yo comí todo; pero queda la torta de chocolate.
- (2.37) a. Comí todo lo que había sobre la mesa.  
'I ate everything there was on the table.'
- b. \*Lo comí todo lo que había en la heladera.  
'I ate it all what there was in the refrigerator.'

(2.35)a contains the modifier todo; it modifies the clitic lo.

Correspondingly, its meaning is 'I saw it all'. (2.35)b contains the NP todo; it means 'I saw everything'. (2.35)a cannot have this latter reading. When there is a clitic, we are dealing with the modifier todo; when there is no clitic, the NP todo is involved (at least, as far as direct objects are concerned). To bring out this difference in meaning more clearly, I have added sentences (2.36)a,b. (2.36)a contains the modifier todo. It asserts that I have eaten all of the apple pie, but that there is still some chocolate cake left. This is semantically a perfectly plausible sentence. (2.36)b, on the other hand, is odd, hence the '??', which do not indicate low grammaticality here. It first states that I ate everything, and then goes on to say that there is still some chocolate cake left, which could be taken as a contradictory statement. The sentences in (2.37) bring out the difference we are discussing in yet

another way. (2.37)a contains the invariant todo, meaning 'everything'. It takes a modifying clause, lo que habia sobre la mesa, a sort of restrictive relative clause. The modifier todo, on the other hand, cannot take such modifying clauses. This todo means 'all'. (2.37)b is totally ungrammatical.

To account for these facts I will assume that only the NP todo, 'everything', undergoes QR. The modifier todo, an (adverbial) adjective, does not undergo that rule. Given this distinction, it is clear why (2.35)a is interpreted as involving only the modifier todo. If that todo were NP todo, it would undergo QR, and its trace would not satisfy the ECP, given the presence of a clitic. (2.35)b, on the other hand, is grammatical with the 'everything' interpretation, since there is no clitic. It is impossible, on the other hand, with the 'all' interpretation, since there is nothing for the adjectival todo to modify. (2.37) can also be accounted for along these lines. Assuming that only NPs may take such modifying clauses, we explain why doubling, as in (2.37)b, is completely impossible. The distinction between two almost identical elements reveals itself to be very useful, and rather well-motivated empirically.

Returning to French tous, note that pronoun deletion is in fact possible with tous, but only in some contexts, as can be seen from the following sentences:

- (2.38) a. Il est ami avec tous.  
'He's friends with everyone.'
- b. Il va penser à toutes.  
'He will think about everyone.'
- c. Tu peux compter sur presque toutes.  
'You can count on everyone.'

These sentences are derived from structures roughly as in (2.39) via rule (2.29):

- (2.39) a. Il est ami [avec [tous - Pronoun]].  
 b. Il va penser [à [toutes - Pronoun]].  
 c. Tu peux compter [sur [presque toutes - Pronoun]].

But this process of pronoun deletion has to be prevented somehow in sentences comparable to (2.28). We turn to this issue immediately.

Consider the following contrast given in Kayne (1975):

- (2.40) a. Elle a mis chacun dans un tiroir différent.  
 'She put each one in a different drawer.'  
 b. \*Elle a mis tous dans un tiroir différent.

Chacun, but not tous, can occur with a non-cliticized pronoun, as shown below:

- (2.41) a. Elle a mis chacun d'eux à la porte.  
 'She kicked both of them out.'  
 b. \*Elle a mis tous eux à la porte.  
 c. \*Elle a mis eux tous à la porte.

However, if the pronouns in (2.41)b,c are cliticized, the sentences become grammatical. Cf.:

- (2.42) Elle les a mis tous à la porte.

The ungrammaticality of (2.41)b,c can then be attributed to the obligatoriness of Clitic Placement, within Kayne's analysis.

Crucial to this theory is the notion 'violation of the obligatoriness

of a transformation  $T'$ . A transformation is applicable to some string if there is a proper factorization of that string which meets the structural description of the transformation. In a theory in which transformations can be stipulated as 'optional' or 'obligatory', if the transformation is optional it need not apply; if it is obligatory, it must be applied; otherwise a violation is produced. This violation is interpreted as assigning a  $*$  to the sentence. Kayne points out the importance of the notion "applicability of a transformation to a string" in order to determine whether a violation of obligatoriness has occurred. If a transformation is not applicable to a string, then it makes little sense to speak of a violation of the obligatoriness of  $T$ .

Consider now how (2.41)b is ruled out. Assume the structure of that sentence is roughly as follows:

(2.43) Elle a mis [<sub>NP</sub> [<sub>Q</sub> tous] [<sub>NP</sub> [<sub>Pro</sub> eux]]]  $\bar{a}$  la porte.

Clitic Placement is applicable to this string. Since it is an obligatory rule, it must be applied. Notice that its application would constitute a violation of the A/A Principle. Kayne provides an 'absolute' interpretation of this principle. According to this interpretation, "the extraction by a transformation of a phrase of category  $\underline{A}$  from within a larger phrase also of a category  $\underline{A}$ " is not allowed. (Cf. Kayne (1975, p. 115). If applied to (2.43), Clitic Placement would extract an NP, [<sub>NP</sub> eux], from a larger NP, [<sub>NP</sub> tous eux]. However, the fact that the actual application of Clitic Placement to this string will violate the A/A Principle does not allow for a relaxing of the obligatory character of that transformation. The transformation remains obligatory. Its

non-application is still interpreted as a violation, and the sentence is accordingly ruled out. (2.41)c is also ruled out because Clitic Placement has not been applied.

Assuming now that Pronoun Deletion is ordered after Clitic Placement, it will never get a chance to apply to a direct object pronoun modified by tous. Clitic Placement will always bleed Pronoun Deletion; either because it successfully removes the pronoun, or because the sentence is assigned a \* because Clitic Placement cannot be applied. Notice that the only cases where Pronoun Deletion can apply to a pronoun modified by tous is when the pronoun is contained in a Prepositional Phrase. Kayne proposes to state Clitic Placement so as to be applicable only to pronouns marked accusative or dative, plus en and y. Direct objects would be marked accusative (say, in features, [+ACC]), while indirect objects would be marked dative ([-ACC]). Notice that for this to work indirect objects cannot have the same Case as other prepositional objects. That is, if prepositional objects are oblique (as suggested in Chomsky (1978), for example), then dative ≠ oblique. If they were to be equal, a pronominal object of a preposition would be indistinguishable from a pronominal indirect object; and the correct distinction would be missed.

Following this suggestion, the rule would then be stated something like this:

(2.44) Revised Clitic Placement

$$\begin{array}{ccccccc}
 X & NP & V & Y & \left\{ \begin{array}{l} [Pro, \underline{+ACC}] \\ [Pro]_{PP} \end{array} \right\} & Z & \\
 1 & 2 & 3 & 4 & 5 & 6 & \longrightarrow & 1 & 2 & 5+3 & 4 & 6
 \end{array}$$

It is interesting to note that the rule has to be stated as in (2.44).

Notice that it crucially distinguishes accusative and dative pronouns from en and y, a difference assumed all along in the theory of clitics developed in Chapter 1.

Kayne points out that the rule of Pronoun Deletion, aside from applying in (2.28)a, (2.30), and (2.37)a, can also be called upon to account for the following paradigm:

- (2.45) a. *Aucune n'est intelligente.*  
'Neither one of them is intelligent.'
- b. \**Tu ne connais aucune.*
- c. *Il n'est ami avec aucune.*  
'He isn't a friend of either one.'
- d. *Tu n'en connais aucune.*  
'You don't know either one of them.'

Assuming that aucune is always introduced as [aucune - en], we can say that Pronoun Deletion has been applied in (2.45)a,c. (2.45)b is ungrammatical because Clitic Placement has not been applied; that is, for the same reason that (2.41)b is out. (2.45)a is good because Clitic Placement, as stated in (2.44), cannot apply to an en in subject position. Pronoun Deletion thus gets a chance to apply. (2.45)d is the grammatical version of (2.45)b.

Now, (2.45)c is of special interest. Notice that en cannot be extracted out of a larger PP. Cf.:

- (2.46) a. \**Il n'en est ami avec aucune.*  
'He is not a friend of any of them.'
- b. \**Il en compte sur l'auteur.*  
'He is counting on the author of it.'

- c. \*Il s'en est brouillé avec l'auteur.  
'He had a valling out with the author of it.'

Kayne attributes the impossibility of this to the absolute formulation of the A/A Principle. "Given a structure of the form [<sub>pp</sub> X [<sub>pp</sub>en]], ..., the extraction of the inner PP would, correctly, be prohibited by the absolute formulation [of A/A]" (Kayne (1975), p. 116). Here then we have another instance of the interaction between Clitic Placement and the A/A Principle. In the previous case we discussed, the fact that an application of Clitic Placement would constitute a violation of A/A did not reduce its obligatoriness. In fact, failure to apply that rule led to an ungrammatical result. In this instance, however, we see a different result. According to the logic of the previous situation, keeping all previous assumptions constant, (2.45)c should be ungrammatical. But the facts contradict this prediction. Instead, the obligatoriness of Clitic Placement appears to have been relaxed in this situation, and Pronoun Deletion was allowed to apply, deleting en. In fact, Kayne writes: "We conclude that Clitic Placement with [<sub>NP</sub>aucune - en] is obligatory with direct objects but not with prepositional objects" (Kayne (1975), p. 180).<sup>3</sup> This amounts to saying that the obligatoriness of a rule need not be uniform across different applications. More precisely, we can say that a transformation T is uniformly obligatory when it must apply to all strings which satisfy its structural description. In the account reviewed above, Clitic Placement cannot be considered a uniformly obligatory rule. Rather, it must be stated as follows:



- (2.47) X NP V Y  $\left\{ \begin{array}{l} [\text{Pronoun, } \underline{+ACC}] \\ [en/y]_{PP} \end{array} \right\} Z$  a. OBLIGATORY  
 b. OBLIGATORY, except when term 5 is contained in a larger PP, then OPTIONAL.
- 1 2 3 4 5 6  $\rightarrow$  1 2 5+3 4 6

These complications, I believe, are really artifacts of the analysis, and do not reflect real properties of the data. In the next section I will attempt to give a different account of these facts. I will aim at maximum generality, incorporating insights found in Klein (1976) and Belletti (1979). The analysis will be much simplified; and it will reflect rather different properties of these displaced quantifiers.

## 2.2. Bare Q's as Anaphors

Any analysis of sentences like (2.2), (2.5), etc. must express the generalization that only those elements which can "float" off subject NPs can be found displaced from, and modifying, a clitic. A solution which treated Q-Floating from subject position as a different phenomenon from what is going on in (2.2) and (2.5) would miss this important point. Kayne's analysis captures this generalization by assuming that all Q's are generated in DET position of an NP, and that there exists a rightward movement rule which removes them from that position and relocates them elsewhere in the sentence. This rule is Q-Post (aided by Q-Float). But Q-Post is a rule beset with complications, as we saw in the previous section. It performs up to three elementary operations: it deletes both the Q and an optional P, and places the Q to the right of the category which contains it. Furthermore, one of these operations, the deletion of the P, is repeated by another rule, Pronoun Deletion, a rule almost as

undesirable as Q-Post. These peculiarities of Q-Post become even stranger when we consider that this rule appears to be very general (perhaps even universal). Besides French, it exists in Spanish, English, Italian, Persian, Rumanian, Japanese, Cebuano, Tongan, Samoan, and Papago, to mention only some of the languages in which it appears to exist. (See Baltin (1978), Belletti (1979), Bell (1976), and Chung (1976)).

Compare this situation with what holds with respect to L-Tous. This rule does not exist in English. As far as I know, neither does it exist in Italian or Rumanian. It is not clear that it has an exact counterpart in Spanish, either. There is clearly no rule which functions exactly as the French rule does, as can be seen in the following sentences:

- (2.48) a. Il a tous voulu les voir.  
 b. ?Il a voulu les voir tous.  
 c. Pedro ha querido verlos todos.  
 d. \*Pedro ha todos querido verlos.<sup>4</sup>

Assuming this difference to be telling, I would like to suggest that whereas Q-Post may well be a universal phenomenon, L-Tous is in fact restricted to French. An analysis of these two phenomena should reflect this difference in status. I will attempt to construct such an analysis by developing an alternative to Q-Post while basically maintaining the rule of L-Tous as stated above as a rule particular to the grammar of French.

An alternative to Q-Post mentioned by Kayne in the first pages of his book would constitute treating those tous not contained within an NP as a kind of adverbial element to be generated directly in their displaced

position by the base rules. In fact, as we saw earlier, displaced Q's typically appear in adverb position. In this respect, Kayne writes: "...the surface positions compatible with quantifiers moved from subject are precisely those compatible with adverbs of various kinds," (Kayne (1975), p. 46). A base analysis of 'floated' quantifiers for French has been proposed in Klein (1976). There, tous (and all other quantifiers which "float") are specified as [+ADVERB, +Q] in the lexicon, and they can be inserted in any adverbial position allowed by the base rules. This means that base-generation of displaced Q's does not involve expanding the possibilities provided by the base rules. Of course, a base analysis also has to claim that tous can also be inserted in NP-specifier position; and there will also be a tout which can appear as a whole NP.

The core of such an analysis, to be sure, is the interpretive rule which associates the displaced tous with the element that it modifies. In a recent paper, Adriana Belletti has suggested that this relation might well be an antecedent-anaphor relation (see Belletti (1979)). She has shown that this relation is sensitive to Opacity, a constraint on anaphors. Consider in this respect the following Italian sentences: (2.49)a-c are Belletti's; I have added (2.49)d.

- (2.49) a. Quei ragazzi andranno tutti al cinema.  
'Those boys will all go to the movies.'
- b. Quei ragazzi hanno deciso di PRO andare tutti al cinema.  
'Those boys have decided to all go to the movies.'
- c. \*Quei ragazzi hanno costretto Mario ad PRO andare tutti al...  
'Those boys have forced Mario to all go the movies.'
- d. \*Quei ragazzi volevano che Mario vada tutti al cinema.  
'Those boys wanted that Mario all go to the movies.'

(2.49)a is a case of a quantifier 'floated' in the same S as its antecedent. (2.49)c is ungrammatical because tutti is free in the domain of subject PRO, which cannot serve as its antecedent, being controlled by singular Mario. This is a typical case of the Specified Subject Condition. That is, sentence (2.49)c is ungrammatical for the same reason that the following English sentence is no good:

(2.50) \*John convinced Mary to shave himself.

Sentence (2.49)d is ungrammatical because tutti is contained in a tensed sentence which does not contain its antecedent; that is, this sentence violates the Tensed-S Condition and the Specified Subject Condition, just like the following English sentence:

(2.51) \*John said that Mary would shave himself.

(2.49)b, on the other hand, is grammatical, even if the sentence in which tutti is contained does not also contain the plural lexical phrase which tutti modifies. However, that sentence contains a PRO, controlled by the appropriate NP. We can say that this PRO serves as the antecedent to tutti in this sentence. That is, (2.49)b is similar to (2.52):

(2.52) John tried (PRO to shave himself).

I believe Belletti's insight about 'floated' quantifiers in Italian also holds in Spanish, French, and English. Consider the following sentences, all of which pattern just like the Italian sentences, and can be accounted for in precisely the same way:

- (2.53) a. Esos muchachos se fueron todos al cine.  
'Those boys decided to all go to the movies.'
- b. Esos muchachos decidieron [PRO ir todos al cine].  
'Those boys decided to all go to the movies.'
- c. \*Esos muchachos obligaron a Juan a ir todos al cine.
- d. \*Esos muchachos querian que Juan vaya todos al cine.
- (2.54) a. Les gars sont allés tous au cinéma.
- b. Les gars voulaient [PRO aller tous au cinéma].
- c. \*Les gars ont forcé Jean à [PRO aller tous au cinéma].
- d. \*Les gars avaient dit que Jean irait tous au cinéma.
- (2.55) a. The kids will all go to the movies.
- b. The kids tried [PRO to all go to the movies].
- c. \*The kids forced John [PRO to all go to the movies].
- d. \*The kids said that John would all go to the movies.

Given this evidence, then, I will adopt Belletti's suggestion that floated Q's are anaphors. They must be linked to an antecedent, without violating the Opacity Conditions. I will assume that the Q is coindexed with the element it modifies. This co-indexing process requires, just like other co-indexing of anaphors, number, (person) and gender agreement. These Q's appear in adverbial position. If we adopt Emonds's suggestion that adverbs are categorially adjectives, we can assign these modifiers to the category adjective, which would account for their inflectional properties, best seen in Romance. Also, recall that we showed that in Spanish these modifier Q's could not take modifying clauses. This would follow if we assigned them to a non-nominal category.<sup>5</sup>

We can summarize the main points of this analysis of floated Q's as follows. There is no rule of Q-Floating. Rather, displaced Q's, in reality adjectives, are generated in (adverbial) position by the rules of the base. These Q's are then linked to the elements they modify. This linking requires person, number, and gender agreement. Displaced Q's are anaphors for the Binding Theory (which embodies the Opacity Condition). If they are not properly bound, they fail to be interpreted correctly. Thus, the coindexing rule can be considered optional, as generally assumed. If it does not apply, the sentence is ruled out because it contains an anaphor without an antecedent. This analysis in fact claims that all that a child has to pick up from his linguistic environment about displaced Q's is to learn that certain words are displaced Q's. Universal Grammar will then state that floated Q's are anaphors, and the distribution of these elements will follow from the Binding Theory.<sup>6</sup>

So far we have discussed Q's displaced from subject position. Let us consider in the light of this analysis some of the facts mentioned at the beginning of this chapter; i.e., those involving displaced Q's which modify objects. Consider the following two sentences:

- (2.56) a. Las ví (a) todas.  
'I saw them all.'
- b. Los mandaron (a) cada uno a un lugar diferente.  
'They sent each one to a different place.'

The structure of these sentences would be (details omitted):

- (2.57) a.  $\left[ \begin{array}{l} \text{Las}_i \\ \text{fem}_i \\ 3 \text{ pl} \\ \text{ACC} \end{array} \right]$  ví PRO  $\left[ \begin{array}{l} \text{(a) todas}_i \\ \text{fem}_i \\ \text{pl} \\ \text{ACC} \end{array} \right]$

- b.  $\left[ \begin{array}{l} \text{Los}_i \\ \text{masc} \\ 3 \text{ pl} \\ \text{ACC} \end{array} \right]$  mandaron PRO  $\left[ \begin{array}{l} \text{(a) cada uno} \\ \text{masc} \\ \text{ACC} \end{array} \right]$  a un lugar diferente.

The particle a carries with it the usual semantic value of animacy and specificity discussed in Chapter 1. Notice crucially that the elements agree also in Case features. This allows a insertion in the appropriate cases, according to the rule discussed in Chapter 1. We will see that in French this agreement is crucial.

Consider next indirect object cases in Spanish.

- (2.58) Les regalaron libros a todos.  
'They gave books to all.'

These are not problematic. Recall that we even get a full NP following todos with indirect objects. Cf.:

- (2.59) Les regalaron libros a todos los chicos.  
'They gave books to all the children.'

I will assume that in sentences like (2.58) the todos is simply in the NP position of the indirect object. 'Floated' quantifiers are not good off prepositional phrases in Spanish. Cf.:

- (2.60) a. \*?Hablé con los muchachos todos.  
'I talked to the boys all.'  
b. ???Hablé con ellos todos.  
'I talked to them all.'

The simplest analysis would be to say that (2.58) has the following structure:

- (2.61) Les regalaron libros  $[_{PP} \text{ a } [_{NP} \text{ todos}]]$ .

(Recall that even with ordinary indirect objects agreement is required between the clitic and the complement.)

Notice that this analysis is confirmed by the fact that with indirect objects, the todos may take a modifying clause of the kind that we saw was impossible with a doubled todos in direct object. Consider the contrasts in (2.62):

- (2.62) a. Les regalaron libros a todos.  
'They gave books to them all.'
- b. Les regalaron libros a todos los que estaban ahí.  
'They gave books to all who were there.'
- c. Los ví todos.  
'I saw them (inanimate) all.'
- d. \*Los ví todos los que me mostraron.  
'I saw all those which they showed me.'
- e. Los ví a todos.  
'I saw them (animate) all!'
- f. \*Los ví a todos los que estaban ahí.  
'I saw all of those who were there.'

Turning now to French we find a slightly different situation.

Consider the following sentences, mentioned in section 2.0.

- (2.63) a. Elle les lira tous.  
'She will read them all.'
- b. Je leur ai donné des bonbons à tous.  
'I gave them all candies.'

According to the analysis presented here, their structure is approximately as follows:

- (2.64) a. Elle 

les <sub>i</sub>
masc
3 pl
ACC

 lira PRO 

tous <sub>i</sub>
masc <sub>i</sub>
pl
ACC

 .



b. Je  $\left[ \begin{array}{l} \text{leur}_i \\ \text{masc} \\ 3 \text{ pl} \\ \text{DAT} \end{array} \right]$  ai donné des bonbons PRO  $\left[ \begin{array}{l} \text{tous}_i \\ \text{masc} \\ \text{pl} \\ \text{DAT} \end{array} \right]$ .

The  $\grave{a}$  in (2.63)b is the result of a rule which spells out Dative Case.

We can see now why these are allowed despite the fact that clitic doubling is not normally permitted in French; precisely because these do not constitute real cases of doubling. Rather, they are possible given the anaphor status of tous, and its categorial adjectival nature. Notice that this analysis explicitly acknowledges the fact that tous will be fully acceptable only when it is found in positions where adverbs are fully acceptable, since this is where they would be generated by the base rules.

This analysis claims that the  $\grave{a}$  in (2.63)b is a Case mark, which spells out dative Case on the tous. It is interesting in this respect to note that it behaves differently from other prepositions. In section 2.1. it was mentioned briefly that tous may be 'left behind' by Wh-Movement, although few examples were given. Consider now the following sentences from Kayne (1975):

- (2.65) a. Ces livres, qu'il est important que tu lises tous, sont bons.  
'These books, all of which it is important that you read, are good.'
- b. Ces garçons, que j'ai dit que la fille connaissait tous, sont là.  
'Those boys, all of whom I said that the girl knows, are there.'

In these sentences containing non-restrictive relatives, tous is 'left behind' by Wh-Movement. The sentences in (2.65) involve moved direct objects. But the same facts hold with indirect objects. Cf.:

- (2.66) a. Ces femmes, à qui j'ai donné des bonbons à toutes, ...  
 'Those women, to all of whom I have given chocolates, ...'
- b. Ces généraux, à qui j'ai envoyé des bombes à tous, ... 7  
 'Those generals, to all of whom I have sent bombs, ...'

Crucial here is the fact that we get two a's, one with a moved wh-element, and one with tous. Within the analysis presented here, this is easy to account for. The underlying structures of (2.66)a,b are roughly as follows:

- (2.67) a. Ces femmes, COMP j'ai donné des bonbons  $\left[ \begin{array}{l} \text{NP} \\ \text{DAT} \end{array} \text{WH} \right]_i$  toutes  $_{i \text{ DAT}}$ .
- b. Ces généraux, COMP j'ai envoyé des bombes  $\left[ \begin{array}{l} \text{NP} \\ \text{DAT} \end{array} \text{WH} \right]_i$  tous  $_{i \text{ DAT}}$ .

Dative marked elements then get spelled as having an à before them.

Now, similar behavior is not observed with true prepositions.

Consider the following non-sentences from Kayne (1975):

- (2.68) a. \*Ces garçons, avec lesquels Marie sortira avec tous, ...  
 'Those boys, with all of whom Marie will go out, ...'
- b. \*Ces filles-là, contre lesquelles le policier se fâchait toutes, ...  
 'Those girls there, against all of whom the policeman got upset, ...'
- c. \*Ces auteurs-là, de qui le professeur parlera de tous demain, ...  
 'Those authors, all of whom the professor will speak about tomorrow, ...'

These sentences do not improve even if a copy of the preposition carried with the wh-element is added before the tous left behind. Cf.:

- (2.69) a. \*Ces garçons, avec lesquels Marie sortira avec tous, ...

- b. \*Ces filles-là, contre lesquelles le policier se fâchait contre toutes, ...
- c. \*Ces auteurs-là, de qui le professeur parlera de tous demain, ...

Thus, if the solution to the problem posed by sentences (2.66) to the Q-Post analysis consists in copying the preposition, then this copying process will have to be restricted to à. It cannot be extended to the other prepositions. This is a very clear case where indirect objects differ markedly from true prepositional phrases. It is interesting to note that this phenomenon even distinguishes between the well-known two different kinds of French à. Those which we analyze as marks of Dative Case have been exemplified above. The other à, the one which introduces complements which do not cliticize to dative clitics, we have analyzed as real prepositions. (See Chapter 1.) And this à behaves like a real preposition in this respect, too. Cf.:

- (2.70) a. Je pense à elle souvent.  
'I think about her often.'
- b. \*Je lui pense souvent.
- c. \*Ces femmes, auxquelles je pense (à) toutes souvent, ...  
'These women, about whom I often think, ...'

(For a discussion of these facts, see Perlmutter (1972)).

The analysis presented here has no problem accounting for the ungrammaticality of these sentences. All the sentences with repeated prepositions simply would not be generated; there would be no source for sentences with two identical prepositional objects. If the preposition is not there, the problem reduces to capturing the fact that Q's don't appear floated from prepositional phrases. This may be related to the

fact that NPs in prepositional phrases can't serve as antecedents to anaphors in French. I will assume that this is the correct way to rule out Q-Float from PP's. Crucially, the analysis presented here makes the right distinctions. It predicts that indirect objects should not behave as other prepositional phrases; and this prediction is borne out.

Another instance where indirect objects in French do not pattern with other prepositional phrases is found if we look at L-Tous. This rule can move indirect object Q's, but not prepositional Q's. Consider the following contrasts:

- (2.71) a. Je leur ai parlé à tous.  
'I spoke to them all.'
- b. Je leur ai à tous parlé.
- c. Il a parlé avec tous.  
'He spoke with everyone.'
- d. \*Il a avec tous parlé.
- e. Il a pu compter sur toutes.  
'He could count on everyone.'
- f. \*Il a sur toutes pu compter.

Sentences (2.71)d,f are impossible to derive given the standard formulation of L-Tous, since the V is not contiguous to the Q, a preposition intervening. (2.71)b, on the other hand, shows that the à found in indirect objects cannot be considered on a par with the prepositions found in other sentences. This à does not count as a real preposition. This is one more correct prediction made by the analysis of indirect objects presented in Chapter 1.

Consider next the following much discussed contrast:

- (2.72) a. Elle a mis chacun dans un tiroir différent.  
'She put each one in a different drawer.'
- b. \*Elle a mis tous dans un tiroir différent.  
'She put all in a different drawer.'

Assuming that tous cannot be generated as a full NP, but only in DET position of an NP or in adverbial position, sentence (2.72)b is out because the following structures are ungrammatical:

- (2.73) a. Elle a mis [<sub>NP</sub> tous [<sub>NP</sub> PRO]] dans un tiroir différent.
- b. \*Elle a mis PRO tous dans un tiroir différent.

(2.73)b is ungrammatical because PRO is governed. The addition of a clitic, deflecting government from the PRO, makes the sentence grammatical. Cf.:

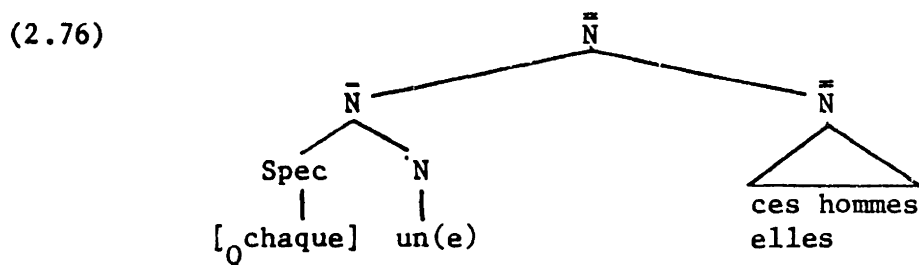
- (2.74) Elle les a mis tous dans un tiroir différent.

(2.74) can be ruled ungrammatical because the sequence [tous - Pronoun] is generally not allowed in French, regardless of whether the pronoun is phonologically null or not; cf. \*tous nous, \*tous vous, \*tous eux, \*toutes elles. Perhaps this should be enforced with a filter, as follows: \*[tous - Pronoun]. (Klein (1976) argues that this should be a property of base rules.)

How come (2.72)a is grammatical? Recall that in Kayne's analysis this sentence involved the Pronoun Deletion rule (2.29). Within the analysis presented here, I would like to claim that there is no Pronoun Deletion rule. To account for this sentence, I will follow Vergnaud (1974) and assume that the structure of phrases like the ones in (2.75)

- (2.75) a. chacune d'elles  
'each one of them (fem)'  
b. chacun de ces hommes  
'each one of these men.'

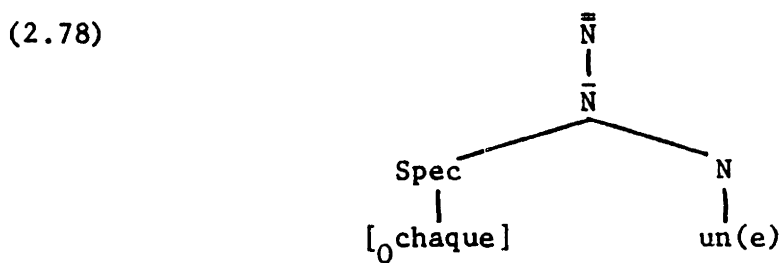
is something like (2.76):



The de is inserted by a rule approximately as in (2.77):

$$(2.77) \quad \emptyset \rightarrow \underline{de} / +N \text{ \_\_\_ } \bar{N}^{\delta}$$

(A late rule then converts chaque un(e) into chacun(e)). A crucial feature of this structure is that chacun is the head of the NP. Assuming complements to be optional, we obtain a constituent structure as in (2.78) for chacun(e) alone:



My claim is that this is what one finds in (2.72)a. Notice that this analysis unites the fact that de appears with chacun and not with tous, and the fact that chacun may appear alone. Both are reflections of the nominal character of (one subpart of) chacun. This allows it to be the head of an  $\bar{N}$ , and requires de insertion. Tous in French is never the

head of an NP. We thus never find \*tous d'eux \*tous de ces hommes. This is why it cannot occur as a single NP, which is the structure which would be required by (2.73)b. This analysis of the difference between (2.73)a and b dispenses with the messy rule of Pronoun Deletion, but we still have an adequate account of the data which that rule was meant to describe.

Further evidence for this analysis of chacun(e) comes from the fact already noted above that when it occurs without a clitic it cannot be moved by Q-Float, as seen in (2.28)b repeated here as (2.79):

(2.79) \*Il a chacune envoy  dans un pays diff rent.

If in fact bare chacun(e) is a headed NP, we would not expect it to be moved by L-Tous, just as other headed NPs are not moved by that rule.

In this way we can account for the different properties of chacun(e) and tous without recourse to ad hoc rules like Q-Post and Pronoun Deletion.

### 2.3. Further Speculations

I would like to finish this chapter with some speculations about one possible implication of the view of floated quantifiers expressed here. Baltin (1978) noticed that the relation between heads and modifiers which are discontinuous in surface structure obeys the following construal schema.

(2.80)  NP - X - Modifier

This schema says that at the level at which construal takes place, the head must always be to the left of the modifier. Baltin exemplifies the validity of this schema by considering the outcome of the interaction of subject post-posing rules and Q-Float in many languages. He shows that

whenever the output of this interaction violates the construal schema, the resulting sentence is ungrammatical. Consider the following English non-sentence:

(2.81) \*There had all hung on the mantelpiece the portraits by Picasso.

There-Insertion and Q-Float have applied in this sentence in such a way that (2.80) is no longer respected. The sentence is correctly predicted to be ungrammatical. (Baltin shows similar cases in French, Persian, and Rumanian.) The same result can be shown for Spanish. Consider the following sentence:

(2.82) Todos los estudiantes llegaron muy tarde.  
'All the students arrived very late.'

The quantifier can appear displaced from the subject, as in (2.83):

(2.83) Los estudiantes llegaron todos muy tarde.  
'The students arrived all very late.'

Now, Spanish freely allows sentence final subjects. Thus, instead of

(2.82) we can also have:

(2.84) Llegaron muy tarde todos los estudiantes.

But we cannot have a version of (2.83) with a post-posed subject:

(2.85) \*Llegaron todos muy tarde los estudiantes.<sup>9</sup>

This is evidence from Spanish in support of Baltin's schema.

Now, Baltin provides no reason for why the relation shown in (2.78) should hold of floated quantifiers. I would like to suggest that this



relation holds because the displaced Q is an anaphor, as stated above following Belletti's idea. This would make the construal schema less mysterious. Stated as in (2.80), one might wonder why it isn't exactly the other way around, with the head to the right of the Modifier. If the schema is unrelated to everything else, that possibility is wide open. On the other hand, if the schema is essentially a reflection of the antecedent-anaphor relation, it would be impossible for one to go one way and the other to be diametrically opposed. This view then makes an interesting prediction. If a language appears to violate the construal schema, then it should also appear to violate conditions on antecedent-anaphor relations. Insofar as there is a correlation of this sort, then, our analysis is confirmed. I do not know of any well-studied counterexample to this claim.

Inquiring further, we might wonder why floated quantifiers should behave as anaphors. It is unclear why this should hold. There is nothing inherent in displaced quantifiers which would easily warrant their anaphoricity, at least at first sight. Upon closer inspection of the Romance examples, however, we find one feature of these constructions which might provide a clue. Recall that the displaced quantifier must agree in number and gender with the NP which it modifies. We might speculate that it is this agreement process which is in fact responsible for the anaphor status of these elements.<sup>10</sup> More generally, suppose we assume that all elements which enter into agreement relations with another major constituent contain an anaphoric AG element = [ $\alpha$  person,  $\beta$  gender,  $\gamma$  number]. This element must find an antecedent which is non-distinct to it in those features. This relation obeys all the conditions

normally found to hold between antecedents and anaphors. It might be, then, that displaced quantifiers are anaphors because they contain AG, which is an anaphor.<sup>11</sup> This would make the anaphoric status of these elements less mysterious. The idea that AG is an anaphor has many interesting consequences which we hope to explore in a forthcoming study. We leave it as an open suggestion here.

## FOOTNOTES: CHAPTER 2

1. This assumption is by no means uncommon. It is entirely consistent with the spirit of Kayne's analysis. For explicit statements to this effect, see Quicoli (1976) and Rouveret and Vergnaud (1978).

2. See Jaeggli (1980) for an account of one such instance in English, involving to contraction.

3. Kayne tries to relate the reduced obligatoriness of Clitic Placement in this case to the reduced obligatoriness of Clitic Placement with indirect objects, discussed in Chapter 1. This is a bit unlikely, in that whereas there are instances of non-cliticized pronominal indirect objects, there are NO instances of non-cliticized (non-deleted) en or y. These two morphemes simply cannot appear uncliticized. Therefore, there is really no good reason to consider that Clitic Placement is optional for these elements in any case, except to make the Pronoun Deletion analysis work.

4. Rivas (1977) argues for the existence of a Spanish rule which displaces a quantifier over a  $\bar{V}$ , as evidenced by the following sentences (see Rivas (1977), pp. 151-155).

- (1) a. Los quise ver a todos.  
       b. A todos los quise ver.  
       c. A todos quise verlos.

But it is not entirely clear that this is parallel to L-Tous. Notice that this rule cannot position the Q in the same places that L-Tous in French does, as seen clearly in (2.48)d. The impossibility of that

sentence, moreover, cannot be argued to be due to the supposed impossibility of adverbs in that position, since in fact adverbs are quite possible in that position in Spanish (as in French). Cf.:

- (ii) a. Pedro ha prohibido terminantemente ver los regalos de Navidad.  
 b. Pedro ha terminantemente prohibido ver los regalos de Navidad.  
 (iii) a. Hemos decidido unánimemente retirarnos de esta reunión.  
 b. Hemos unánimemente decidido retirarnos de esta reunión.

The difference between French and Spanish exemplified in (2.45), then, appears in fact to be due to the fact that Spanish simply does not have the L-Tous rule, which is a rule particular to French.

The constructions in (i) above might be analyzed as left-dislocations. Notice that a subject NP may appear between the fronted Q and the rest of the sentence. Cf.:

- (iv) A todos, Pedro los quiere ver.

On the other hand, a subject placed to the left of a todos in e.g., (i) must be pronounced quite clearly with dislocation intonation. Normal intonation is not possible. Cf.:

- (v) a. Pedro, a todos, los quiere ver.  
 b. ?\*Pedro a todos los quiere ver.

Whatever the status of these constructions may be, it is clear that they are not identical to those produced by French L-Tous. This is consistent with the idea that this rule is language-particular.

5. One could go further and explore the connection between this construction and sentences like the following:

- (i) Las frutas, las quiero bien {maduras. }  
 { \*maduro. }  
 { \*maduros. }

Notice that agreement between the predicate adjective and the element it modifies is obligatory here, too. I will leave this question open for future research.

6. Baltin (1978) suggests that it is possible to predict from independent semantic principles which quantifiers may appear displaced from their heads. If this is correct, the child's task is further simplified. All that a child has to do is to discover the meaning of certain phonological strings, and to categorize them appropriately. This is the bare minimum which must be assumed.

7. The comparable sentences in Spanish are ungrammatical. Cf.:

- (i) a. \*Estos libros, que es importante que tu leas todos, son buenos.
- b. \*Esos muchachos, que dicen que esa chica conoce (a) todos, estan aca.
- (ii) a. \*Esas mujeres, a quienes les he dado bonbones a todas, ...
- b. \*Esos generales, a quienes he enviado bombas a todos, ...

One might attempt to explain the absence of (ii) by relating them to the difficulty of floating Q's from lexical indirect objects, as in:

- (iii) a. ?\*Les di bonbones a esas chicas (a) todas.
- b. ?\*Les envie bombas a esos generales (a) todos.

But it is possible to float them off direct objects, especially if the quantifiers have another constituent on which to "lean on." Cf.:

- (iv) a. ?Vi a los chicos todos en el cine.
- b. ?Puse los papeles todos en el cajon.

However, even in these cases they cannot be left behind by Wh-Movement. Cf.:

- (v) a. \*Los chicos, que vi (a) en el cine, ...

b. \*Los papeles, que puse todos en el cajon, ...

This difference between French and Spanish remains unexplained in both my analysis and Kayne's analysis. See, however, Steriade (1980) for some interesting suggestions in this respect.

8. Actually, Vergnaud (1974) posits a rule which assigns genitive Case to the  $\bar{N}$ . The preposition de is then taken to be a spelling out of this Case assignment.

9. This sentence is acceptable, but only with distinct right-dislocation intonation, with a pause between tarde and los estudiantes. In that case, todos is construed with the pre-verbal subject PRO, which acts like a resumptive pronoun for the right-dislocated constituent. (On PRO subjects, see Chapter 4.)

10. This idea was suggested to me by Ken Hale.

11. This approach makes an interesting prediction. If a language has two types of displaced quantifiers: one which contains AG and the one without it, the latter should violate Opacity much more easily (perhaps freely) than the former. Dutch may be such a language, according to Eric Reuland (personal communication). (See also Reuland (1979) for further discussion of the idea that AG is an anaphor.) Notice, however, that morphological inflection, such as we find in Romance, is not always a necessary feature of anaphoric Q's. English, for example, appears to have anaphoric Q's -- as evidenced by (2.55) -- but there is no overt inflection on all, etc.

## CHAPTER 3: SUBJECTS IN FRENCH

### 3.0. Introduction

It is well known that pronominal subjects in French share all the characteristic behavior of object clitics (see Kayne (1975), chapter 2, section 4; especially pp. 84-90, and footnotes 12 and 15.) In Chapter 1, we presented a theory of object clitics which closely linked their appearance to strict subcategorization features. In this chapter we develop an analysis of French subject clitics along similar lines. In this case, clitics will be related to inflection. (Cf. Chomsky (1979)). The chapter is structured as follows. In section 1, we consider the clitic status of pronominal subjects in French, and compare these with their Spanish (and Italian) counterparts. We also consider the distribution of strong forms and weak (clitic) forms. Following this, the relationship between clitics and agreement will be investigated. And finally, we will look at the referential properties of subject clitics. Section 2 will be devoted to an examination of post-verbal subjects in French in the light of the analysis of subject clitics proposed in the previous section.

In preparing this chapter, we have consulted extensively Kayne (1972), from which we have taken most of the data as well as several substantial points of analysis.

### 3.1. Pronominal Subjects in French

There is a class of pronouns in French that is morphologically distinct from both the strong forms, which occur in NP position, and the object clitics discussed in Chapter 1. These express the 'subject'

function. A list of these, which we shall call subject weak forms, is given in (3.1) next to the familiar strong forms:

(3.1)	<u>subject weak forms</u>	<u>strong forms</u>	
	je	moi	'I'
	tu	toi	'you, sg.'
	il/elle	lui	'he/she'
	nous	nous	'we'
	vous	vous	'you, pl.'
	ils/elles	eux	'they'

The class of weak forms also includes on and ce, which do not have strong forms. It is shown in Kayne ((1975), pp. 84-90) that these weak forms share all the characteristic behavior of object clitics. We will reproduce below the main evidence presented there to this effect, and compare this with the rather different behavior of pronominal subjects in Spanish and Italian.

Nothing can intervene between a weak form and the verb, even if flanked by a pause (excepting object clitics en/y, and the negative particle ne):

- (3.2) a. \*Il, souvent, va au cinéma.  
'He often goes to the movies.'
- b. \*Tu, paraît-il, ne veux pas partir.  
'You, it appears, don't want to go.'
- c. \*Elle, qui est mon amie, voudrait te voir.  
'She, who is my friend, would like to see you.'

Compare this to sentences with a non-pronominal lexical NP subject:



- (3.3) a. Jean, souvent, va au cinéma.  
 b. Marie, paraît-il, ne veut pas partir.  
 c. Mme Vincent, qui est mon amie, voudrait te voir.

Subject pronouns in Spanish and Italian pattern with (3.3), against (3.2). Cf.:

- (3.4) a. Él, a menudo, va al cine.  
 b. Lui, spesso, va al cinema.  
 c. Tú, me parece, no quieres ir.  
 d. Tu, mi sembra, non vuoi partire.  
 e. Ella, que es mi amiga, te quiere ver.  
 f. Lei, che e una amica mia, ti vuol conoscere.

A weak form cannot be conjoined to another NP:

- (3.5) a. \*Jean et je voulons aller au cinéma.  
 'John and I want to go to the movies.'  
 b. \*Marie et ils veulent jouer au football.  
 'Marie and they want to play soccer.'

Nor can they be conjoined to each other:

- (3.6) \*Ils et elles veulent partir en vacances.  
 'They[masc.] and they[fem.] want to take a vacation.'

This is clearly possible with full NPs:

- (3.7) Marie et Jean veulent partir en vacances.

Once again, pronominal subjects in Spanish and Italian pattern with full NPs in French.

- (3.8) a. Juan y yo queremos ir al cine.  
 b. Gianni e io vogliamo andare al cinema.  
 c. Ellos y ellas se fueron de vacaciones.  
 d. Lui e lei sono andati in ferie.

Strong forms, on the other hand, may be conjoined in French. Cf.:

- (3.9) a. Jean et lui partiront bientôt.  
 'Jean and he will leave soon.'  
 b. Lui et Jean partiront bientôt.  
 'He and Jean will leave soon.'

Weak forms may not be modified:

- (3.10) a. \*Ils tous partiront bientôt.  
 'All of them will leave soon.'  
 b. \*Ils deux partiront bientôt.  
 'The two of them will leave soon.'

This contrasts with strong forms and non-pronominal NPs:

- (3.11) a. Tous les garçons partiront bientôt.  
 'All the children will leave soon.'  
 b. Eux tous partiront bientôt.  
 c. Eux deux partiront bientôt.

It comes as no surprise to see Spanish and Italian pronominal subjects pattern with (3.11), contra (3.10):

- (3.12) a. Todos ellos se irán pronto.  
 b. Ellos dos se irán enseguida.  
 c. Tutti loro partiranno presto.  
 d. Loro due partiranno subito.

Weak forms may not be contrastively stressed:

- (3.13) a. Lui partira le premier.  
'He will leave first.'
- b. \*Il partira le premier.

Finally, weak forms do not appear in other NP positions, where strong forms and non-pronominal NPs may occur:

- (3.14) a. J'ai acheté ça pour toi/\*tu/Jean.  
'I bought this for you/Jean.'
- b. Il faut parler avec lui/\*il/moi/\*je/Jean.  
'One must talk to him/me/Jean.'
- c. Je téléphonerai volontiers à toi/\*tu/Jean, mais pas à ton frère.  
'I will gladly telephone you/Jean, but not your brother.'

In all these ways, then, weak forms behave much more like object clitics than like subject non-pronominal NPs. In surface structure, at least, they are not in the configuration [<sub>S</sub>[<sub>NP</sub> weak form]...]. They are syntactically more closely bound to the verb.

The position of subject clitics, however, is slightly different from the position of object clitics. Subject clitics appear before the negative particle ne, while object clitics may not precede ne. Cf.:

- (3.15) a. Je ne le veux pas.  
'I do not want it.'
- b. \*Je le ne veux pas.

Furthermore, weak forms do not enter into any constraint on clitic sequences, of the sort investigated in Perlmutter (1971).

The evidence presented above indicates that weak forms are not NPs, at least at surface structure. In fact, there is no conclusive evidence

which requires that these forms ever have NP status.<sup>1</sup> Instead, we will assume that such weak forms are generated as part of the node  $\overline{\text{INFL}}(\text{action})$ . This node is generated by the following base rule of French:

(3.16)  $S \rightarrow NP \overline{\text{INFL}} VP$

From that position, I will assume that it is cliticized onto the verb by a very late obligatory rule, which applies after S-structure on the left side, roughly as follows:

(3.17)  $X \text{ SCL } V \text{ Y} \rightarrow X \text{ SCL}+V \text{ Y}$

(Following Kayne (1972), I will use the symbol SCL for the set of weak forms in (3.1)).

(3.18)  $\overline{\text{INFL}} \rightarrow (\text{SCL}) \text{ INFL}$

where INFL contains tense and agreement markers which finally end up on the verb. If this is the only place where weak forms can be generated, all of the properties of these forms mentioned above will be accurately described, assuming NP status to be crucially involved in every instance. The obligatory cliticization rule (3.17) will ensure that its final landing site is the correct one.

Further, assume following Chomsky (1979) that INFL is a possible governor. This would be the case if the set of possible governors were the set of  $X^0$  elements. If an SCL is present in preverbal position, INFL would not govern the subject NP. INFL would not c-command that position. If no SCL is present, on the other hand, I will assume that INFL in fact does govern subject position. In other words, a non-branching

INFL does not count, when computing c-command. This means that if an SCL is present in pre-verbal position, the subject position is allowed to contain a PRO. In that case, subject position is not governed, and it thus becomes licit for PRO's. That is, the following structure is well-formed:

(3.19) PRO [ SCL INFL ] VP

According to this analysis, then, French does have some phonologically null subjects. This is only possible, however, when there is an SCL to "absorb" government. The following examples

- (3.20) a. \*Est parti.  
 b. \*Vient.  
 c. \*Parlons avec lui.

are ungrammatical, according to our proposal, because INFL governs subject position. A PRO is therefore not allowed in those positions.<sup>2</sup>

Consider in this light the distribution of strong and weak forms. Strong forms are almost never allowed in subject position. Cf.:

- (3.21) a. \*moi/je n'aime pas ça.  
 'I don't like that.'  
 b. \*toi/tu aurais dû le faire.  
 'You should have done it.'  
 c. \*lui/il ne mange que des chocolats.  
 'He eats only chocolates.'

Weak forms are obligatory in these sentences. How can we capture this fact? If we assume that when there is a weak form, there is a PRO in subject ([NP,S]) position, one possibility which immediately comes to

mind is to account for these contrasts in terms of the Avoid Pronoun Principle discussed in Chapter 1, and repeated below:

(3.22) Avoid pronoun if PRO is possible.

A PRO is possible in [NP,S] position only if there is a subject clitic in the sentence. The Avoid Pronoun Principle, then, together with our analysis of subject clitics, accounts for the paradigm given in (3.21).

It is noted in Kayne ((1972) p. 91) that "with third person pronouns, STRONG FORM DELETION may fail to apply in emphatic environments." One example of this is given above in (3.13)a. We might ask why this possibility should be restricted to third person pronouns. Why shouldn't it be possible with first and second person pronouns, too? In this respect, Kayne clearly asserts: "the corresponding sentences with 'moi' and 'toi' are impossible" (cf. Kayne (1972), p. 118, footnote 48). Within Kayne's analysis of these facts, one has to allow the rule of STRONG FORM DELETION to fail to apply sometimes when the subject is third person. Within our analysis, we might try to provide the following account. Assume for a moment that the SCL must agree in person with the PRO in subject position. (This agreement process will be discussed in much greater detail below.) Then, given the following structure

(3.23) A SCL V ...

if the SCL is first or second person, A can only be pronominal (i.e., PRO or pronoun). There are no simple non-pronominal first or second person full lexical NPs. The Avoid Pronoun Principle is inflexible in these cases. Whenever possible, a PRO must be used instead of a lexical

pronoun. And when the persons involved are first or second person, this is always possible. If A is third person NP, on the other hand, it is not necessarily a pronoun. It could be a non-pronominal lexical NP. Not all third person NPs are pronominal. For example, the two following sentences do not mean the same thing:

- (3.24) a. Pierre ne mange que des oranges.  
'Pierre only eats oranges.'
- b. Il ne mange que des oranges.  
'He only eats oranges.'

It is not always possible to substitute a PRO for a third person NP. Our claim is that this is the factor which makes the Avoid Pronoun Principle less strict in these cases, allowing, under special circumstances (special emphasis, intonation, etc.) sentences like (3.13)a.

A compound NP which contains a first or second person pronoun as one of its conjuncts behaves as a first or second person plural NP. In those cases, moi, toi are in fact allowed in subject position. Cf.:

- (3.25) a. J'espère que ni moi ni mes enfants ne verrons ces temps-là.  
'I hope that neither I nor my children will see those times.'
- b. Jean et toi irez au cinéma.  
'Jean and you will go to the movies.'

(3.25)a is from Grévisse (1964, p. 411). This is not surprising if we consider that PRO is not allowed in those positions. In other words, the distribution of strong forms in subject position appears to follow quite straightforwardly from the Avoid Pronoun Principle.

Let us consider next the relationship between SCL's and agreement. Recall that we assume that INFL contains tense and agreement markers

which finally end up on the verb. Kayne (1972) showed that if there is a subject clitic, the verbal inflection agrees with it and not necessarily with the NP in subject position. In sentences which contain only an NP in subject position, or only a clitic, it is hard to tell what the verb is agreeing with. On the other hand, if we get both in one sentence, it becomes far easier to decide. It is impossible to have both a pre-verbal subject clitic and an NP in subject position. Cf.:

- (3.26) a. \*Jean il veut partir.  
'Jean wants to leave.'
- b. \*Les filles elles n'aiment pas les oranges.  
'Girls don't like oranges.'

These sentences are possible only as instances of Left-Dislocation, with a pause between the initial NP and the following subject clitic. However, it is possible to have both a SCL and an NP in subject position in sentences which have undergone a rule which places the SCL in post-verbal clitic position, found in the construction known as 'Complex Inversion'. This construction occurs in interrogatives, both wh questions and yes/no questions. Some examples from Kayne (1972) are given below:

- (3.27) a. Pourquoi Jean est-il parti?  
'Why did this girl do that?'
- b. Pourquoi cette fille a-t-elle fait cela?  
'Why did this girl do that?'
- c. Depuis quand ce garçon est-il malade?  
'Since when is this boy sick?'
- d. A quelle heure le prisonnier changera-t-il d'avis?  
'When will the prisoner change his mind.'

These cases do not constitute instances of Left-Dislocation. For



convincing arguments to this effect, see Kayne (1972), in particular footnote 30. The sentences in (3.27) all contain a subject NP and an SCL, both of the same grammatical person. Consider now the following sentences (from Kayne (1972), numbers (54)-(57)):

- (3.28) a. Pourquoi Jean et moi ne devrions-nous pas partir tout de suite?  
'Why should [1 pl.] Jean and I not leave immediately?'
- b. Pourquoi Jean et moi ne devrait-on pas partir tout de suite?  
'Why should [3 s.] Jean and I not leave immediately?'

In (3.28)a, the subject NP and the SCL are both first person plural. But in (3.28)b, the subject NP is first person plural, but the SCL on is grammatically third person singular. Cf.:

- (3.29) a. On doit partir.  
'We must leave.'
- b. \*On doivent partir.

In (3.28)b, the verb agreement is clearly with the SCL. The following ungrammatical sentence confirms this point:

- (3.30) \*Pourquoi Jean et moi ne devrions-on pas partir tout de suite?

(3.28)b and (3.30) show clearly that verb agreement is with respect to the SCL and not the NP in subject position.

How can these facts be captured? An account of these facts requires that we address ourselves directly to the relationship between SCL's and agreement. Notice that SCL's are actually involved in two agreement processes. In the complex inversion' construction, SCL's must agree in person, gender, and number with the subject NP. Cf.:

- (3.31) a. Jean est-il parti?  
'Has John left?'
- b. \*Jean est-elle partie?
- c. \*Pourquoi cette fille a-t-il fait cela?
- d. \*Depuis quand ce garçon suis-je malade?

(3.31)a is grammatical because il agrees with Jean; when this agreement does not hold, as in (3.31)b where the SCL is feminine, the sentence is ungrammatical. (3.31)c is out on similar grounds. (3.31)d is ungrammatical because ce garçon is third person, while the SCL, je, is first person. I will assume that this agreement process is expressed in the grammar by co-indexing both elements with a special index which I will call an a-index (for agreement-index). I will assume that the same a-index is assigned quite generally to all elements not distinct in Case sharing the same features of person, number, and gender. A special process will then establish that an SCL must bear the same a-index as a nominative NP. This process will rule out the ungrammatical sentences in (3.31)b-d. In each of those sentences, the SCL does not share an a-index with a nominative NP. Given this condition, we must say something special about on. In (3.28)b, on must have the same a-index as the nominative pre-verbal NP. This would normally not be the case, given that those two elements differ on features of number and person (at least). Let us assume, then, that the special property of on is that it can have the same a-index as a first person plural NP. Once this is stipulated, sentence (3.28)b will be allowed.

SCL's also enter into a second agreement process. As we saw above, the verb agrees with SCL's, and not directly with subject NPs. We can

capture this agreement process informally by saying that the verbal inflection must agree with the closest a-indexed nominative element.<sup>3</sup>

Assuming that SCL's are always closer to the verb than full NPs, as seems natural, the verb will always agree with the SCL if it is present. If a sentence does not contain an SCL, the verb will agree with the subject NP. This is in fact the situation which obtains (except for the special behavior of ce, see below). Sentence (3.30), then, would be ungrammatical because this second agreement process is not respected. The verb is not agreeing with the closest nominative element, namely on, but rather with the subject NP.

To summarize, we are claiming that SCL's are involved in two distinct agreement processes. One of them holds between subject NPs and SCL's, as evidenced by the sentences in (3.31). It requires that both elements have the same a-index. The other process holds between an SCL and verbal inflection, because of the fact that verbal inflection always agrees with the closest nominative element, and SCL's are always the closest nominative elements to a verb, if they are present. This process is obligatory. The ungrammaticality of sentence (3.30) may be taken as evidence for this process.

Our informal account relies heavily on an accurate characterization of nominative-marked elements in French. For example, it crucially assumes that SCL's are marked nominative, as well as subject NPs. While the claim that subject NPs are assigned nominative Case is familiar enough to pass as uncontroversial, it is not so with SCL's. Why are these elements marked with Case at all? We will turn to an examination of nominative Case marking in French next.

To begin, let us assume that nominative Case is assigned to an element adjacent to INFL by the following rule:

(3.32)  $\alpha \rightarrow$  [+nominative] / \_\_\_\_\_ INFL

If there is no SCL, the [S, NP] position will be adjacent to INFL. NPs in that position will thus get assigned Case by (3.32). If there is a SCL intervening between INFL and subject position, it will be assigned nominative Case, and the NP in subject position will be left without Case. This provides us a way to rule out sentences (3.26)a,b. Those sentences are ungrammatical because the NPs in subject position are not Case marked. The Case filter then rules them out. In other words, rule (3.32) will assign nominative Case to subject NPs in the absence of SCL's; otherwise, that Case will be assigned to the clitic.

Additional support for rule (3.32) is to be found when we consider that French does not normally allow lexical material to intervene between the V and the subject NP unless that material is flanked by pauses as in (3.3) for example. (See Kayne (1972), footnote 76.) We will adopt here Kayne's suggestion that, when allowed, those elements are placed in their position very late, perhaps after nominative Case assignment has taken place. In fact, if they are not flanked by pauses, sentences of that type are ungrammatical. Consider the following examples from Kayne (1975), pp. 20-21:

- (3.33) a. \*Jean bientôt partira.  
'Jean will leave soon.'
- b. \*Cette fille sans doute arrivera demain.  
'That girl without doubt will arrive tomorrow.'

- c. \*Son ami souvent va au cinéma.  
'His friend goes to the movies often.'
- d. \*Marie très mal chante.  
'Marie sings very poorly.'
- e. \*Le comité malheureusement a voté contre.  
'Unfortunately the committee voted against (it).'

Returning now to SCL's, our claim that SCL's are assigned nominative Case is supported by the fact that they only occur in tensed sentences. (See Kayne (1972), footnote 75; also, Kayne and Pollock (1978), footnote 27). Consider the following ungrammatical sentences:

- (3.34) a. \*Jean veut il aller au cinéma.  
'John wants to go to the movies.'
- b. \*Pour nous pouvoir aller au cinéma, il nous faut encore 30 Francs.  
'To be able to go to the movies, we still needs 30 francs.'

A straightforward way to capture this fact is to assume that SCL's must be Case marked nominative. This is not possible in non-tensed sentences. Thus, if they occur in non-tensed sentences, the result is ungrammatical.

Consider now some examples of the complex inversion construction. Cf.:

- (3.35) a. Jean est-il parti?  
'Did John leave?'
- b. Pourquoi cette fille a-t-elle fait cela?  
'Why did this girl do that?'

These sentences contain, according to our previous assumptions, two nominative elements: the NP in subject position and the post-verbal SCL. How is this double marking to be accomplished? Let us assume that there is a general convention which allows nominative Case to be transmitted via a-indices. It can be stated approximately as follows:

(3.36)  $\alpha_a \rightarrow$  [+nominative] if c-commanded by a nominative element  $\beta_a$ .

Given this convention, sentence (3.35)a would be derived as follows (irrelevant details omitted):

(3.37) [Jean]<sub>a</sub> [il<sub>a</sub> - INFL] être parti.

+SCL-Inversion  $\rightarrow$

[Jean]<sub>a</sub> [[e]<sub>SCL<sub>a</sub></sub> - INFL] être+il<sub>a</sub> parti.

+Nominative Case assignment  $\rightarrow$

[Jean, +NOM]<sub>a</sub> [[e] - INFL] être+il<sub>a</sub> parti.

[Jean, +NOM]<sub>a</sub> [[e] - INFL] être+[il, +NOM]<sub>a</sub> parti.

Jean gets nominative Case via rule (3.32). Notice that the trace of the SCL is transparent. It does not count as an element intervening between INFL and  $\alpha$  for rule (3.32). (This is quite in accord with the normal behavior of traces with respect to adjacency.) il gets nominative Case in post-verbal position via the nominative Case transmission convention (3.36).

Consider next the following sentence:

(3.38) Est-il parti?  
'Has he left?'

According to our analysis, the underlying structure of (3.38) is approximately as in (3.39):

(3.39) [PRO]<sub>a</sub> [il<sub>a</sub> - INFL] être parti.

To derive (3.38) from (3.39), we must assume that Nominative Case assignment can apply before SCL-Inversion, as follows:

- (3.40) [PRO]<sub>a</sub> [i1<sub>a</sub> - INFL] être parti.  
 +Nominative Case assignment →  
 [PRO]<sub>a</sub> [[i1,+NOM]<sub>a</sub> INFL] être parti.  
 +SCL-Inversion →  
 [PRO]<sub>a</sub> [[e] - INFL] être+[i1,+NOM]<sub>a</sub> parti.

This derived structure is allowed since PRO is neither c-governed nor does it have Case. Notice, however, that in this derivation the rule of Nominative Case assignment was allowed to apply before SCL-Inversion, in the opposite order than the one found in the derivation in (3.37). If SCL-Inversion were required to apply before Case assignment in this last derivation, I will assume that the output would be ruled out because PRO would be assigned Case.<sup>4</sup> According to this analysis, then, the rules of Nominative Case assignment and SCL-Inversion must be left unordered with respect to each other.

To summarize, this analysis claims that the distribution of SCL's and full lexical NPs is a function of the nominative Case assignment rule for French. Nominative Case is assigned to an element immediately adjacent to INFL, or to an element which has the same a-index as another c-commanding nominative element in the same sentence. Such a proposal accounts for the ungrammaticality of sentences like (3.26) and (3.33) because the subject NP does not get Case. Sentences with complex inversion are allowed because nominative Case can be transmitted down to the clitic in those instances. This transmission of Case employs rather

crucially the notion of an 'agreement' index, which we introduced in order to describe the agreement process which is found to hold between non-pronominal subjects and SCL's, when they both cooccur in a sentence. It is necessary, therefore, to investigate this notion a bit more carefully. In particular, we might ask if these indices are reducible to referential indices of the more familiar kind. To answer this question, we must look at the referential properties of SCL's. We turn to this issue next.

It is not hard to show that the relation which holds between two elements which have the same a-index is in fact not at all the same relation as the one involved in intended coreferentiality. To this effect, Kayne writes: "The relation between the pre-verbal NP and the post-verbal subject pronoun is not the normal pronominalization relationship" (Kayne (1972), p. 82; see also p. 101). This can be seen clearly when we compare the possible antecedents which an SCL can have in the complex inversion construction with those which can occur in well-known cases of intended coreferentiality. For example, il may have cela, ce que S as a-antecedents (=agreement antecedents; that is, they both have the same a-index), but not as coreferential antecedents. Consider in this respect the following sentences from Kayne (1972):

- (3.41) a. Pourquoi cela est-il faux?  
'Why is that false?'
- b. Pourquoi ce que je dis te déplaît-il?  
'Why does what I say bother you?'
- (3.42) a. \*Cela<sub>i</sub> est faux parce qu'il<sub>i</sub> ne correspond pas à la vérité.  
'That is false because it does not correspond to the truth.'



- b. \*Ce<sub>i</sub> qu'elle dit ne vous intéresse pas et il<sub>i</sub> ne m'intéresse, moi non plus.  
'What she says does not interest you, and it does not interest me either.'

NPs of the type cela, ce que S are not possible coreferents for the SCL

ii. The same is true of sentential NPs. Cf.:

- (3.43) a. Que Jacques ait dit cela ne vous intéresse-t-il pas?  
'Doesn't it interest you that Jacques has said that?'  
b. \*Que<sub>i</sub> Jacques ait dit cela ne vous intéresse sûrement pas, et il<sub>i</sub> ne m'intéresse pas, moi non plus.  
'That Jacques has said that surely does not interest you, and it does not interest me either.'

Similar contrasts can be found with rien and tout. Consider the following sentences from Kayne (1972):

- (3.44) a. Pourquoi rien n'est-il tombé?  
'Why hasn't anything fallen?'  
b. Depuis quand tout est-il en ordre?  
'Since when is everything in order?'  
(3.45) a. \*Rien<sub>i</sub> n'est tombé parce qu'il (n')était (pas) soutenu par des clous.  
'Nothing fell because it was held up by nails.'  
b. \*Tout<sub>i</sub> est en ordre aujourd'hui, mais demain il<sub>i</sub> sera en désordre.  
'Everything is in order today, but tomorrow it will be a mess.'

And certain idioms pattern the same way:

- (3.46) a. Pourquoi assistance a-t-elle été prêtée à une personne si méchante?  
'Why has assistance been given to such an evil person?'

- b. \*Assistance<sub>i</sub> a été prêtée à cette personne-ci bien qu'elle<sub>i</sub> n'ait pas été prêtée à celle-la.  
'Assistance was given to this person here, even if it was not given to that person there.'

These sentences show that the relation which holds between an NP of a certain type and the SCL with which that NP agrees within a sentence cannot be considered identical to the relation which might be expected to hold between that NP and a SCL in another S. The SCL's contained in S's which do not contain the NP are not capable of coreferring back to those NPs. On the other hand, some SCL's appear to be capable of coreferring to an NP outside the S which immediately contains the SCL in question. Ex.:

- (3.47) Jean est malade parce qu'il<sub>i</sub> a bu beaucoup trop de vin.  
'Jean is sick because he drank too much wine.'

Kayne noticed that those NPs which cannot be possible antecedents for SCL's also cannot enter into coreference relations with full pronouns. Cf.:

- (3.48) a. \*Cela<sub>i</sub> m'intéresse parce que tu as parlé de lui<sub>i</sub>.  
'That interests me because you talked about it.'
- b. \*Ce<sub>i</sub> qu'elle a dit, je pense souvent à lui<sub>i</sub>.  
'What she said, I think about it often.'
- c. \*Que<sub>i</sub> tu sois malin n'intéresse personne; on ne pense plus à lui<sub>i</sub>.  
'That you are mischievous does not interest anybody; one doesn't think about it anymore.'
- d. \*Tout<sub>i</sub> est tombé parce qu'elle s'est appuyée sur lui<sub>i</sub>.  
'Everything fell because she leaned on it.'

For some reason which remains unclear to us,<sup>5</sup> NPs of the type cela, ce que S, [ $\bar{S}$ ], and tout, cannot be coreferential with lui. Assume we state this by saying that these NPs cannot be coreferential with [Pronominal]<sub>NP</sub>, where [Pronominal] = Pronouns & PRO. Furthermore, assume we never allow SCL's to enter into any coreferentiality relation. SCL's only appear to enter into such relations because when they are present a PRO is also present, and PRO's are indeed allowed to enter into such relations. In other words, the real structure of (3.47) is the following, with the referential index on the PRO.

(3.49) Jean<sub>i</sub> est malade parce que PRO<sub>i</sub> il a bu beaucoup de vin.

We can then reduce the ungrammaticality of the starred sentences in (3.42)-(3.46) to the ungrammaticality of (3.48), whatever the cause of those stars may be. Whatever is said to account for the ungrammaticality of (3.48) will suffice to exclude the ungrammatical sentences in (3.42)-(3.46).

It is interesting to consider at this point how this result is attained within the analysis of subject clitics offered in Kayne (1972). Kayne realized clearly that there is "no reason to have subject clitics involved in coreference relationships" (Kayne (1972), p. 101). The analysis of subject clitics in Kayne (1972) involved positing a lexical strong form in subject position which would ultimately be deleted if there was a SCL. Coreference relations could then be established with respect to this ultimately deleted pronoun. Such pronouns were deleted by a special rule, STRONG FORM DELETION. Our solution constitutes but a slight modification of this basic insight. Consider now the interaction

between this deletion rule and the rule of Stylistic Inversion.

The rule of Stylistic Inversion moves a subject NP to post-verbal position in wh questions and other instances. (See Kayne (1972), Kayne and Pollock (1978), and Kayne (1979a) for further discussion.) For example, it has applied in sentence (3.50):

- (3.50) Quand partira ce garçon?  
'When will that boy leave?'

This rule cannot move a strong form to post-verbal position. Cf.:

- (3.51) a. \*Quand partira lui?  
b. \*C'est Jean que préfères toi?

Kayne (1972) accounts for this by stipulating the following extrinsic order between Stylistic Inversion and Strong-Form deletion:

- (3.52) 1) Strong-Form Deletion  
2) Stylistic Inversion

Thus, by the time Stylistic Inversion gets a chance to apply, the strong forms will have been deleted. (There is still the problem of why the weak forms, which Kayne generates along with the strong forms and would consequently be at this point represented as  $[\emptyset\text{-SCL}]_{\text{NP}}$ , can't be stylistically inverted; but see Kayne (1972, footnote 71 for a possible solution to that problem.) It is impossible, then, to generate the ungrammatical (3.51), since Strong-Form deletion will always bleed Stylistic Inversion.

Within a more recent model of the organization of the grammar,

however, there may be reasons to doubt that the ordering given above in (3.52) is the correct one. This is so for two reasons. Kayne has claimed repeatedly that Stylistic Inversion should in fact not be considered 'stylistic' in the sense of Chomsky & Lasnik (1977). Rather, he has argued that it is best seen as an instance of the rule schema 'Move  $\alpha$ '. (See Kayne & Pollock (1978), and especially Kayne (1979a)). The ordering given above would entail that some deletion rules apply before 'Move  $\alpha$ ', a claim which does not receive support from any other deletion process. In fact, if we follow Chomsky & Lasnik in claiming that all deletion processes occur after S-structure, it would be impossible to achieve the ordering mentioned in (3.52). Notice further that in this case there is another reason to suppose that Strong Form Deletion occurs after S-structure. Recall that it is the strong forms which carry coreferential indices. If we want these represented in LF, we will not want to erase them until after S-structure.

It appears, then, that within the model of the organization of the grammar presented in Chomsky and Lasnik (1977), it would be extremely difficult to repeat the account given in Kayne (1972). It is clear, on the other hand, that this difficulty stems from model-specific technical details of that solution. Within a different framework, the basic insight of that solution can be expressed just as well, although in a slightly modified form. This is precisely what we claim to have done in the account we gave above. Since in our solution there is no deletion rule involved at all -- instead, PRO is allowed under quite restrictive conditions in some representations -- the problem does not arise at all.

Within the account presented above, SCL's never enter into

coreference relations. Only pronouns in [NP, S] position enter into coreference relations. Why should this be so? How can we express the fact that SCL's never enter into coreference relations? In other words, what is the difference between SCL's and other pronominals? This question is especially intriguing in view of the fact that we allowed object clitics to enter directly into coreference relations. See Chapter 1, section 3; especially footnote 29.

Let us assume that only elements which have a  $\theta$ -role can enter into coreference relations. This claim is supported by the behavior of non-thematic NPs with respect to pronominalization. Cf.:

- (3.53) a. \*Jim kicked the bucket<sub>i</sub>, and Peter picked it<sub>i</sub> up.  
 b. \*Jim kicked the bucket<sub>i</sub> and Peter kicked it<sub>i</sub> too.

These sentences are acceptable only if the string kick the bucket is not interpreted idiomatically. They are impossible in the idiomatic interpretation. Let us assume, as seems natural, that the idiomatic interpretation is only possible if the NP the bucket is not assigned a  $\theta$ -role. It clearly cannot be assigned the  $\theta$ -role given to non-idiomatic objects of the verb to kick, since it does not have that  $\theta$ -role. Assuming that only elements which have  $\theta$ -roles can enter into coreference relations, we can easily account for these facts in a straightforward manner.

One way of expressing the fact that SCL's do not enter into coreference relations, then, would be to claim that they do not have  $\theta$ -roles. Instead, the NP subject position is assigned a  $\theta$ -role (or, alternatively, is marked as a  $\theta$ -position). This approach would

distinguish subject clitics from object clitics in a natural way, given that the latter do have  $\theta$ -roles, as argued in Chapter 1. One way of capturing this difference would be to say that there are two ways of associating a  $\theta$ -role with an expression. One involves s-government. All the complements s-governed by a verb receive a  $\theta$ -role determined by particular properties of that verb. An object clitic would then naturally receive a  $\theta$ -role, given that the strict subcategorization feature is associated with the clitic. Subjects, on the other hand, are not assigned  $\theta$ -roles via government. (See Chapter 1, footnote 25.) Assume instead that subject position, that is [NP,S], is marked as being a thematic position. If this is the case, SCL's would then precisely miss being assigned a  $\theta$ -role. They are not s-governed by anything, nor do they occupy [NP,S] position. Thus, they will not receive a  $\theta$ -role.<sup>6</sup> Not having a  $\theta$ -role, they will not enter into relations of coreference -- perhaps because, not having a  $\theta$ -role, they will also lack referential indices.

To conclude this section we will consider briefly the behavior of one subject clitic which we have not discussed yet: ce. Ce is a peculiar SCL in many ways. First, it has an extremely limited distribution. It occurs primarily with the verb être 'to be'. Consider the following sentences from Kayne (1972):

- (3.54) a. C'était vrai.  
'It was true.'
- b. Ce n'est pas faux.  
'It is not false.'
- c. Ce sera Jean qui gagnera.  
'It will be Jean who will win.'

With most verbs it is not a possible subject:

- (3.55) a. \*Ce correspond très bien à ce qu'il a dit.  
'It corresponds very well with what she said.'
- b. \*Ce compte énormément.  
'It counts enormously.'
- c. \*C'évoque les années 30.  
'It evokes the 30's.'

In these cases what is possible is ça:

- (3.56) a. Ça correspond très bien à ce qu'il a dit.
- b. Ça compte énormément.
- c. Ça évoque les années 30.

On the other hand, ça cannot occur directly before être:<sup>7</sup>

- (3.57) a. \*Ça est faux.
- b. \*Ça était vrai.
- c. \*Ça est un type intelligent.

Ça is never a clitic. It is not an SCL. It can also appear in object position; cf. Je comprends ça. It cannot appear in the position of an object clitic; cf. \*Je ça comprends. It is best described as a full NP. Assuming ce to be an SCL introduced only before être, and assuming ça and ce to have exactly the same feature-bundle specification, excepting category type, we can capture the distribution of ça/ce through the Avoid Pronoun Principle. (See footnote 8.)

Another peculiarity of ce is that it is never found in the complex inversion construction. Ce never appears as the inverted element in that construction. Cf.:



- (3.58) a. \*Pourquoi cela est-ce faux?  
'Why is that false?'
- b. \*En quoi ce qu'il dit est-ce insensé?  
'How is what he says senseless?'
- c. \*Pourquoi ce garçon n'est-ce pas un bon élève?  
'Why is that boy not a good student?'

But ce can undergo SCL-Inversion. Cf.:

- (3.59) a. Est-ce vrai?  
'Is it true?'
- b. Est-ce à Paris que tu habites?  
'Is it in Paris that you live?'

Given the analysis of SCL's presented above, we can account for these facts as follows: Assume that ce does not have an a-index. This is a special property of ce, which distinguishes this clitic from the other SCL's which we have been considering. The sentences in (3.58) will now be blocked either because ce will not receive Case in post-verbal position, since it does not have an a-index through which it could inherit Case from cela, etc., or because cela, etc. will not get Case, assuming that the nominative Case assignment rule does not assign nominative Case to ce before it moves. The sentences in (3.59), on the other hand, will be derivable by first assigning Case to ce and then moving it to post-verbal position. They contain PRO's in pre-verbal NP position, which need not -- in fact, must not -- get Case. (But see footnote 4.) Thus, we have an account for the impossibility of ce in the Complex Inversion construction.

The assumption that ce does not have an a-index, though quite stipulative, provides an account for another special property of ce.

We saw above that verbal inflection always agrees with an SCL, if there is one. There is one exception to this rule. With ce, the verb may agree with a post-verbal plural predicate nominal. (Cf. Kayne (1972), footnote 56.) Consider the following examples:

- (3.60) a. C'est tous des salauds.  
           'They are all bastards.'
- b. Ce sont tous des salauds.

Recall that we stated above that verbal inflection agrees with the closest a-indexed nominative element. Sentences (3.60)a,b, then confirm our assumption that ce does not carry an a-index. If it did, the verbal inflection would always have to agree with it. Sentence (3.60)b would then be impossible. (In particular, compare (3.60)b to (3.30)). (We must assume that in (3.60)a, the verbal inflection has simply chosen the unmarked alternative: 3rd person singular.)

This concludes our analysis of French pronominal subjects. There is a lot here which deserves much more analysis than we have been able to provide. Our intention is not to provide an exhaustive analysis of these elements. Rather, we wanted to suggest some possible ways of looking at subject clitics in the spirit of our analysis of object clitics in Chapter 1. The analysis of SCL presented above has interesting consequences for the treatment of post-verbal subjects in French. As we will see, it forces us to adopt a rather different approach to that topic than is usually assumed. We turn to an examination of such issues next.

### 3.2. Post-Verbal Subjects in French

French does not normally allow subjects to appear in post-verbal

position. However, there are at least three major constructions in which this is possible. One of them, which we have already discussed above, involves the post-position of an SCL. A second one, which we will call the 'presentative' construction, is exemplified by sentences like Il est arrivé trois garçons. And the third one occurs in cases like Quand partira ce garçon? In the first construction, the inverted subject is an SCL. In the second and third, it is a full NP. The second always contains an instance of the SCL il; whereas the third one never does. In this section, we will examine these three constructions in the light of the theory of subject clitics presented in the preceding section.

Post-verbal SCL's occur in yes/no questions, as in (3.61):

- (3.61) Partira-t-il?  
'Will he leave?'

and in wh questions, as in (3.62):

- (3.62) Quand partira-t-il?  
'When will he leave?'

They do not occur in embedded sentences. The rule which places an SCL in post-verbal position is apparently a root process, in the sense of Emonds (1976).<sup>8</sup> Cf.:

- (3.63) a. \*Je ne sais pas quand partira-t-il?  
'I don't know when he will leave?'  
b. Je ne sais pas quand il partira?

The clitic is attached immediately to the right of the leftmost verb.

Cf.:

- (3.64) a. A quelle heure est-elle arrivée hier soir?  
'At what time did she arrive last night?'
- b. Que voulait-il manger?  
'What did he want to eat?'
- c. A qui donnera-t-il ce cadeau?  
'To whom will he give that present?'
- (3.65) a. \*A quelle heure est arrivée-t-elle hier soir?
- b. \*Que voulait manger-(t)-il?
- c. \*A qui donnera ce cadeau-(t)-il?

The rule which moves the SCL to post-verbal position must be distinguished from the rule known as 'Stylistic Inversion', which moves subject NPs to the right in sentences like (3.66):

- (3.66) Quand partira ce garçon?  
'When will that boy leave?'

This is argued extensively in Kayne (1972), where it is shown that there are a number of properties which differentiate these two constructions. We will mention some of these below.

Stylistic Inversion does not occur in yes/no questions. Cf.:

- (3.67) \*Partira ce garçon?  
'Will that boy leave?'

Stylistic Inversion does occur in embedded sentences. It is not limited to root contexts. Cf.:

- (3.68) Je ne sais pas quand partira ce garçon.  
'I don't know when that boy will leave.'

And Stylistic Inversion does not move the NP immediately to the

right of the leftmost verb. The subject NP is moved to a different site. Compare the following sentences with (3.64):

- (3.69) a. A quelle heure est arrivée Marie hier soir?  
'At what time did Mary arrive last night?'
- b. Que voulait manger ce jeune homme?  
'What did that young man want to eat?'
- c. A qui donnera ce cadeau ton frère?  
'To whom will your brother give that present?'

These facts and many other very convincing arguments are presented in Kayne (1972) as evidence that "the inversion of subject NP [in instances of Stylistic Inversion] and that of subject clitic must be described by means of two distinct transformations" (Kayne (1972), p. 70). The following rule is given there to account for SCL-Inversion:

$$(3.70) \quad \begin{array}{c} X \\ +Q \end{array} \quad [{}_{NP}Y \text{ SCL}] V \quad \longrightarrow \quad \begin{array}{c} X \\ +Q \end{array} \quad [{}_{NP}Y] V+SCL$$

Adopting the basic content of this rule, we will state it in a slightly simplified form compatible with our analysis of SCL's:

$$(3.71) \quad X \text{ SCL } V \text{ Y} \quad \longrightarrow \quad X \text{ V+SCL } Y$$

This statement of the rule will obviously overgenerate. In particular, since we have left the +Q element in (3.70) unstated, it will apply to a 'declarative' structure. We would like to suggest that this should be allowed. A convention which applies after S-structure (perhaps in LF) will then interpret sentences with a post-verbal clitic as [-declarative].<sup>9</sup>

This rule is involved in producing sentences with simple inversion, as in (3.61), and also cases of complex inversion. The other mechanisms

involved in the generation of sentences with complex inversion were presented in the previous section. This concludes our discussion of SCL-Inversion.

We consider next the case of presentatives. An example is given below:

- (3.72) Il est arrivé trois filles.  
'There have arrived three girls.'

The 'logical' subject of this sentence is trois filles.

The traditional generative analysis of these sentences derives them via a rightward movement rule, called NP-Extrap(osition) in Kayne (1975). This rule can be stated informally as follows: "Let us say that NP-Extrap moves an NP from subject position to direct object position [...]" (Kayne (1975), p. 380). More recently it has been suggested that "the rightward movement of the subject NP in (2) [(3.72)], (called NP-Extrap(osition) in Kayne (1975)), can, however, simply be considered another instance of 'Move NP (to the right)'; there is no need for a separate rule" (Kayne (1979a), pp. 710-711). The rule of 'Move NP (to the right)' itself might be further simplified to 'Move  $\infty$ ' (see Kayne (1979a), footnote 2). A sentence like (3.72) would then be derived as follows:

- (3.73) a. [<sub>NP</sub>Trois filles] être arrivé.  
+Move NP (to the right) →
- b. [<sub>NP</sub>e] être arrivé [trois filles].  
+Il-Insertion, Cliticization, and Agreement →
- c. Il est arrivé trois filles.

The rule of Il-Insertion can be stated as follows:

$$(3.74) \quad X \text{ NP } V_{+tense} \text{ Y}$$

$$1 \ 2 \ 3 \quad 4 \quad \longrightarrow \ 1 \ \underline{il} \ 3 \ 4$$

Within a movement analysis, this rule must be assumed to be part of the transformational mapping between D-structure and S-structure. Its principal effect is to nullify a potential violation of the Nominative Island Condition of Chomsky (1978). Under the assumption that the il is inserted in subject position, Il-insertion removes the unwanted trace which appears after NP-movement, as shown in (3.73)b,c. It is clear that given the analysis of SCL's presented in the preceding section, this analysis of presentatives is no longer available. But before we propose a different account of this construction, we would like to point out two of the properties associated with it.

As is well known, there is a definiteness restriction associated with the presentative construction. The post-verbal NP cannot be [+definite]. Cf.:

- (3.75) a. \*Il est arrivé le garçon hier soir.  
'There arrived the boy last night.'
- b. \*Il l'est arrivé hier soir.  
'There arrived him last night.'

This is similar to the restriction found in existential sentences in English. Cf.:

- (3.76) a. There was a man in the bathtub.
- b. \*There was the man in the bathtub.

In French, this definiteness restriction is shared by the il y a construction, as pointed out in Kayne (1979a). Cf.:

- (3.77) a. Il y a un livre sur la table.  
'There is a book on the table.'
- b. \*Il y a le livre sur la table.  
'There is the book on the table.'

A second restriction concerns transitive structures. NP-Extrap does not apply readily in transitive structures (see Kayne (1975), p. 330).

Cf.:

- (3.78) a. \*Il mangera cette tarte trois filles.  
'There will eat this pie three girls.'
- b. \*Il mangera trois filles cette tarte.

This makes NP-Extrap appear to be structure preserving, in the sense of Emonds (1976). More recently, however, Kayne reports some occurrences of NP-Extrap which do not appear to be structure preserving. (These sentences are attributed to Heriau (1976) in Kayne (1979a), p. 715). Cf.:

- (3.79) a. Il prend corps dans ce pays une grande espérance.  
'There is taking shape in this country a great hope.'
- b. Il reste encore disponible un bon nombre de places.  
'There remain still available a good number of seats.'
- c. ?Il lui a traversé l'esprit une idée si extraordinaire que...  
'There crossed his mind such an extraordinary idea that...'

We will return to these sentences below.

As mentioned above, the theory of subject clitics developed in section 3.1. no longer admits of an analysis of the presentative construction as involving rightward NP-movement plus Il-insertion. In



our analysis subject clitics are never NPs. Thus, il-insertion would never nullify the violation caused by the empty trace in subject position. In our analysis, il is generated only under  $\overline{\text{INFL}}$ . This would constitute the first problem in trying to adopt this analysis within our framework.

A further problem arises when we consider the effect of the presence of the clitic on subject position. Recall that given our analysis, if an SCL is present, subject position is not c-governed. Assume there is a condition on traces which requires approximately the following:

(3.80) [<sub>NP</sub>e] must be c-governed.

(This condition is similar, though not identical, to the version of the ECP offered in Chapter 1. The one in Chapter 1 involves s-government; this one involves c-government. See Chapter 4 and the Conclusion for further discussion.)

Support for this condition comes from a consideration of the ungrammaticality of the following sentences:

- (3.81) a. \*Quand il est parti Jean?  
'When did Jean leave?'  
b. \*Quand est-il parti Jean?

In these sentences, the rule of Stylistic Inversion has left a trace in subject position. If we interpret the presence of an SCL as meaning that this position is not c-governed, we can account for the ungrammaticality of these sentences if we assume (3.80). Assuming this is correct, we can no longer derive presentatives via NP-movement. The trace would violate (3.80), given the presence of the subject clitic.

Similarly, wh movement from [NP,S] position is not allowed if there is a subject clitic. Cf.:

- (3.82) a. \*Qui il est arrivé?  
'Who has arrived?'  
b. \*Qui est-il arrivé?

Consider in this light the following sentences mentioned above in footnote 1:

- (3.83) a. Il semble être fatigué.  
'He seems to be tired.'  
b. Tu sembles avoir trop dormi.

They appear to show that SCL's may undergo Raising. This would be inconsistent with our analysis of SCL's, unless we want to complicate the rule of Raising to include these elements. But this complication would be ad hoc, and in fact, as we shall see, quite unnecessary.

The traditional analysis of these sentences would have the initial structure of (3.83)a be something as in (3.84) (irrelevant details omitted):

- (3.84) [e] semble il être fatigué.

The il would then raise into the empty initial position, giving (3.83)a. We must assume, on the other hand, that the clitic is generated in the sentence in which it appears in surface structure, since we cannot have it undergo Raising. We must assume, then, an initial structure as follows:

- (3.85) [e] [il- INFL] semble [ X être fatigué].

We can ask, now, what is X? Assume X=PRO, and that this PRO undergoes Raising. If there is no clitic upstairs, the PRO will end up in an illicit position. There must be an SCL to prevent INFL from c-governing and assigning Case to the raised PRO. If the PRO does not raise, the sentence will be out because the [e] in subject position will not be in a licit position. (It will not satisfy the requirements of the Binding Conditions, and (3.80) will also rule it out.) If a PRO is generated in subject position of sembler in place of X, the sentence will be out because the PRO in initial position will lack a  $\theta$ -role, assuming that the [NP,S] position of sembler is not a  $\theta$ -position. In short, within our analysis a sentence like (3.83) is derived as follows:

(3.86) [e] [iI - INFL] semble [PRO être fatigué].  
 +Move  $\propto \rightarrow$   
 PRO<sub>1</sub> [iI - INFL] semble [[e]<sub>1</sub> être fatigué].

This is the only derivation allowed. All other possibilities will be ruled out by independent principles. Notice that the [e] in embedded subject position is c-governed by sembler, thus satisfying (3.80). (See Chomsky (1979) for further discussion of government relations in Raising constructions.) (This trace clearly does not satisfy the ECP as stated in Chapter 1. See Chapter 4 for discussion.) Raising, then, provides no support for the NP status of SCL's under this analysis.

Returning to our analysis of presentatives, it is clear that we must assume that the post-verbal subject in sentences like (3.72) is generated in post-verbal position. This involves no increase in the power of the base rules. It is perfectly compatible with our theoretical

framework in which lexical insertion is optimally context-free. Under this analysis, a sentence like (3.72) would have the following underlying structure:

(3.87) [ PRO [il - INFL] [ être arrivé [trois garçons] ] ].

If the SCL is missing, PRO will receive Case and be c-governed, which is not permitted. This will rule out the following ungrammatical sentence:

(3.88) \*Est arrivé trois garçons.

The function of the il within this analysis, then, is to allow a null PRO subject in these sentences.

There is empirical evidence which supports a base analysis of presentatives over a movement analysis. (See Herschensohn (1979) for several arguments to this effect. The solution presented there is identical in spirit to the one developed here. Below we mention some of the arguments given there, but not all.)

Not all intransitives participate in the presentative construction. Only a subset of them do. Intransitive verbs in French can be divided roughly into two sets: those which take the auxiliary être 'be' (like arriver 'to arrive', partir 'to leave', etc.) and those which take the auxiliary avoir 'have' (like dormir, 'to sleep', sourir 'to smile', parler 'to talk', etc.). Only those which take être are allowed in presentatives.<sup>10</sup> This is clearly seen in the following contrast:

- (3.89) a. Il est arrivé trois garçons.  
'There have arrived three boys.'
- b. Il est parti beaucoup de filles.  
'There have left many girls.'

- (3.90) a. \*Il est/a dormi trois garçons.  
'There slept three boys.'
- b. \*Il est/a souri beaucoup de filles.  
'There smiled many girls.'

This shows that this construction is constrained by lexical properties of verbs. We agree with Herschensohn that it would be inappropriate to restrict the rule of 'Move NP (to the right)' either by specifying the lexical items which allow it in its Structural Description or by marking the verbs which do not allow it as rule exceptions in the lexicon. We assume these solutions are disallowed on general theoretical grounds. The first one because transformations such as 'Move NP (to the right)' are not allowed to refer to lexical items in their SD's; they may refer to constituents. The second one is undesirable insofar as rule exception features are undesirable.

We propose to account for this restriction as follows. Assume that verbs in the class of verbs of the arriver type do not have a thematic [NP,S] position.<sup>11</sup> In other words, for these verbs, [NP,S] is not a  $\theta$ -position. Instead, they assign a  $\theta$ -role to an element in [NP,VP]. (See Chapter 4 for a further development of this idea with respect to Spanish and Italian.) On the other hand, the class of dormir type verbs does not assign a thematic role to an element in [NP,VP] position. Rather, [NP,S] position is a  $\theta$ -position for these verbs. The NPs in post-verbal position in (3.90), then, would not receive a  $\theta$ -role in that position. The  $\theta$ -Criterion discussed in the Introduction and Chapter 1 would then rule those sentences out. This problem would not arise in the case of (3.89). The NPs in post-verbal position are provided with a  $\theta$ -role by those verbs. Thus, the sentences are allowed. Our claim,

then, is that the lexical difference between arriver-type verbs and dormir-type verbs is best expressed in terms of  $\theta$ -positions. We would like to point out that if we are on the right track about the distribution of  $\theta$ -positions in these two classes of verbs, this would constitute still another problem for the movement analysis. The  $\theta$ -Criterion allows movement only from a  $\theta$ -position to a non-thematic position. Other types of movement will violate the biuniqueness of  $\theta$ -assignment. (See Borer (1980) for a detailed exposition of the general properties of the theory of  $\theta$ -role assignment.) This would not allow movement from the [NP,S] position of arriver (a non- $\theta$ -position) to the [NP,VP] position of that verb (a  $\theta$ -position).

This analysis, we would like to claim further, provides an insight into why Kayne's rule of NP-Extrap, though generally structure-preserving in the sense of Emonds (1976) (see Kayne (1975), pp. 330-353), appears at times to be non-structure-preserving. Let us assume that instead of stipulating structure preservation, we maintain that it follows from other independently motivated principles of the theory of grammar. Consider in this light the examples in (3.79), which I repeat here for convenience:

- (3.91) a. Il prend corps dans ce pays une grande espérance.  
 b. Il reste encore disponible un bon nombre de places.  
 c. ?Il lui a traversé l'esprit une idée si extraordinaire que...

Assume these to be base-generated pretty much in the form given above (minor details ignored). Notice that the element which occupies the [NP,VP] position immediately to the right of the verb is never a thematic

NP in these sentences. Prendre corps is really a frozen expression, in which corps does not count as a thematic object in the same sense as une aspirine does in the sentence Jean a pris une aspirine. In fact, when the object of prendre is thematic, the presentative construction is no good. Cf.:

- (3.92) \*Il prendra une aspirine trois filles.  
'There will take an aspirin 3 girls.'

The same considerations apply to (3.91)b,c. In fact, the last sentence is particularly interesting in that the NP l'esprit is in fact more thematic than corps is in (3.91)a. Consequently, the sentence is worse, though better than (3.92). The difference might be attributed to the fact that in the case of (3.91)c, the  $\theta$ -role involved is one which may be assigned independently of structure. 'Locative' may be considered a sort of 'inherent'  $\theta$ -role. Let us assume that verbs assign only one (non-inherent)  $\theta$ -role to complement position. This  $\theta$ -role would go to une aspirine in (3.92) or to cette tarte in (3.78). The other NP, then, would remain without a  $\theta$ -role. Assuming that no other  $\theta$ -role is assigned to them through some other mechanism, the sentences will be ruled ungrammatical by the  $\theta$ -Criterion. In an important sense, then, we are deriving the Structure-Preserving Hypothesis. In fact, we do better. We can account for those cases which previously had been attributed to the SPH, but we can also account for the cases which have been put forth as problematic for that hypothesis, namely (3.91).<sup>12</sup>

We have been discussing the distribution of  $\theta$ -roles in presentatives. Consider once again, in the light of this discussion, the structure (3.87), repeated here with  $\theta$ -role specifications shown:

- (3.93) [ PRO [i1 - INFL] [être arrivé [trois garçons] ] ].  
 [-θ] [+θ]

Notice that PRO does not have a  $\theta$ -role, given that [NP,S] position in this structure is not a  $\theta$ -position. (We have indicated this with a [- $\theta$ ].) Assuming PRO to be a referential expression, the  $\theta$ -Criterion would be violated. But this is only the case if in fact this PRO is a referential expression. The following sentences seem to indicate that this PRO is not a referential expression.

- (3.94) a. Il est arrivé trois jolies filles hier soir; mais Pierre ne les a pas encore rencontrées.  
 'There arrived three pretty girls last night; but Peter hasn't met them yet.'
- b. \*Il est arrivé trois jolies filles hier soir; mais Pierre ne l'a pas encore rencontré.

In (3.94)a, the pronoun les refers back to trois jolies filles. (The sentence may be slightly questionable because we have a definite pronoun referring back to an indefinite NP. The contrast between the a and the b sentence, however, is not affected by this. It is this contrast that we are interested in.) In (3.94)b, the pronoun is singular. It cannot refer back to trois jolies filles. But neither can it refer to the singular PRO in subject position. This impossibility can be described rather neatly if we assume that that PRO is not a referential expression. It does not carry a  $\theta$ -role. Recall our previous assumption that only elements which carry a  $\theta$ -role may enter into coreference relations. It appears, then, that we are justified in assuming that the PRO in (3.93) does not carry a  $\theta$ -role.

We will claim, then, that (3.93) does not result in a violation of



the  $\theta$ -Criterion because the PRO is not interpreted as a referential quantifier. That is, we posit the following rule which applies to [- $\theta$ ] PRO's:

(3.95) [PRO, - $\theta$ ]  $\rightarrow$  Ex (where Ex = the existential quantifier)

This existential quantifier has scope over the rest of the sentence. It must bind an element in the sentence; otherwise the structure is ruled ungrammatical because it contains a quantifier which does not bind anything. If we assume that this quantifier binds the phrase in [NP, VP] position, we get an explanation for the definiteness restriction discussed above. A definite NP in that position would conflict with the existential quantifier. This is the reason why the sentences in (3.75) are ungrammatical. A similar account can be given for the sentences in (3.77), assuming that the subject position of sentences in the il y a construction is also filled with a [- $\theta$ ] PRO. Furthermore, this analysis can be extended to English, to account for (3.76)b. Notice that this would involve inserting the there in place of a [PRO, - $\theta$ , +Case] after S-structure, with the insertion probably accomplished by the rule given in Chapter 4, section 2.<sup>13</sup> Failure to insert there would result in a \* because the structure would contain a PRO in an illicit position. While we do not intend this to be more than a suggestion for further study of there sentences in English, we believe these ideas might provide a fruitful avenue for research.

One obvious question for which a base analysis of presentatives must provide an answer concerns the assignment of Case to the post-verbal subjects. Given a structure as in (3.87), only the clitic gets

nominative Case in a straightforward manner. How can we assign Case to the post-verbal NP? Is a special mechanism needed? We would like to suggest that we already have a way of assigning nominative Case to that NP. If we assume that this NP has an a-index, we can invoke convention (3.36). Nominative Case would then be transmitted via the a-index from the SCL. The SCL will get Case directly from INFL. This is preferable to an analysis in which these NPs are assigned Case in post-verbal position by some direct mechanism, insofar as we independently must allow Case transmission via a-indices. This analysis would then predict that an il is indispensable in the presentative construction. If the il is not there, with its a-index, the NP in post-verbal position would not get Case, and the sentence will be ruled out. (Notice that nothing has to be said to make sure that the NP shares an a-index with the il. If it doesn't, the sentence will be blocked. If it does, the sentence will be grammatical.) This analysis of Case assignment allows us to account for an interesting contrast noted in Kayne (1979a). Consider the following sentences:

- (3.96) a. \*Il pourrait arriver des garçons [sans arriver des filles].  
'There could arrive some boys without (there) arriving any girls.'
- b. Il pourrait y avoir du pain [sans y avoir de l'eau].  
'There could be some bread without (there) being water.'

The difference between these two sentences is that in one case, in (3.96)a, the post-verbal NP in the embedded clause, des filles, is the subject of the sentence, while in the other, in (3.96)b, de l'eau is the object of avoir. As the object of a transitive verb, de l'eau will receive Case by s-government from avoir. des filles, on the other hand, will not

receive Case in such fashion. In fact, our analysis above states that it will not receive Case unless there is an il in the same sentence. Since it is found in an infinitival clause, there is no il from which it can inherit Case. Thus, the sentence is ruled out by the Case filter.<sup>14</sup> This result would not be available in an analysis which does not link the assignment of nominative Case to post-verbal subjects in presentatives to the presence of il in those sentences. Our proposal, in terms of Case transmission via an a-index, provides just such a necessary link.

This concludes our examination of French presentatives. Although we have undoubtedly left many questions without an adequate answer, we feel that our basic hypothesis has enough interest to deserve careful consideration. We turn now to an examination of Stylistic Inversion.

The third construction with post-verbal subjects in French which we wish to discuss is exemplified in the following sentence:

(3.97) Quand partira ton ami?  
'When will your friend leave?'

The rule responsible for deriving this sentence is stated as follows in Kayne (1972):

(3.98)  $[_S \underset{+WH}{A} \text{ (que) NP X}] \rightarrow [_S A \text{ (que) X NP}]$

More recently, Kayne and Pollock (1978) have offered a simpler version, stated as in (3.99):

(3.99) NP X  
1 2  $\rightarrow$  e 2 1

The first two terms of the rule in (3.98) are missing in (3.99). This leads to massive overgeneration, as expected. To control this, Kayne and Pollock (1978) propose the following filter:

(3.100) Mark as ungrammatical any sentence containing an empty subject position not immediately preceded by the trigger ' {WH, +F} (que)'.

(+F is a feature which subjunctive clauses have in COMP.) According to rule (3.99), then, the structure of (3.97) is the following:

(3.101) [Quand [[e] partira [ton ami]]].

Kayne (1979a) claims repeatedly that rule (3.99), Stylistic Inversion, is not a 'stylistic' rule, in the sense of Chomsky and Lasnik (1977). Chomsky and Lasnik (1977) call a rule 'stylistic' if it applies after S-structure. Saying that (3.99) is not stylistic in this sense means that (3.99) applies before S-structure, perhaps as an instance of 'Move  $\alpha$ '. What arguments are there in favor of the non-stylistic character of Stylistic Inversion? We will look at these next. Before we do so, however, a word of caution is in order. It is important to keep in mind that these arguments assume that rule (3.99) is operative in at least two constructions: 1) in presentatives; and 2) in Stylistic Inversion. This crucial assumption is not acceptable to us, given the analysis of presentatives developed above. Therefore, those arguments which depend on the application of (3.99) to presentatives to show that (3.99) is not stylistic will necessarily lack all force within our account. What must be shown is that there are applications of (3.99) involved in derivations

of sentences like (3.97) which must be considered non-stylistic. We do not know of any such arguments.

One way of showing that Stylistic Inversion is not stylistic would be to show that it interacts with another rule which is clearly not stylistic. For example, if it should feed a rule which we know cannot be stylistic, we would have a very strong argument. One of the arguments given in Kayne (1979a) is of this form. "The nonstylistic character of French rightward NP movement is further indicated by the applicability of Clitic Placement (Cl-P1) to its output: [...]" (Kayne (1979a), p. 712). Unfortunately, the example used to illustrate this point is a presentative. Cf. (Kayne's (5)):

- (3.102) Il en est arrivé trois.  
'There arrived three of them.'

If we look in Kayne (1975), all of the examples of the application of Cl-P1 to the output of NP-Extrap are also presentatives (see Kayne (1975), pp. 382-383). Given a base theory of presentatives, sentence (3.102) has no bearing on the question of whether the rule which derives (3.97) is stylistic or not. It is simply irrelevant to this issue. If we consider instances of Stylistic Inversion which do not involve the presentative construction, on the other hand, Cl-P1 cannot apply to the output of that rule. Consider the following sentences:

- (3.103) a. L'homme avec qui je crois que trois filles ont soupé  
s'appelle Georges.  
'The man with whom I think that three girls had dinner  
is called G.'
- b. L'homme avec qui je crois qu'ont soupé trois filles  
s'appelle Georges.

- (3.104) \*L'homme avec qui je crois qu'en ont soupé trois s'appelle Georges.  
'The man with whom I think that three of them had dinner is called G.'

The sentences in (3.103) simply show that Stylistic Inversion can apply to trois filles in this construction. In (3.104), I have replaced filles by en, and cliticized it. The result is ungrammatical. If this instance of Stylistic Inversion feeds Cl-P1, the wrong result would be obtained.

A second often-quoted argument in favor of the nonstylistic character of Stylistic Inversion has to do with the fact that this rule feeds I1-Insertion. But once again, I1-Insertion is a rule involved in the derivation of presentatives. It has no role in the derivation of sentences like (3.97). In fact, it must not apply in the derivation of (3.97), if we are to rule out the ungrammatical (3.105):

- (3.105) \*Quand il partira ton ami?

(See below for further comments.) Given the analysis of SCL's and presentatives proposed above, this argument has no force.

On the other hand, claiming nonstylistic status for Stylistic Inversion poses a number of problems, as we see it. One of them has already been mentioned above. Given an analysis in which I1-insertion saves a structure from the Nominative Island Condition (or the ECP), why is I1-insertion not allowed in (3.105)? Kayne (1972) provides an account of why that sentence is out if the il is generated as part of the NP which also contains ton ami. (The clitic could not be left behind; consequently it would always get deleted in post-verbal position.) But if we allow I1-insertion independently as we must if we

assume a movement analysis of presentatives, what is to prevent it in (3.105)? Notice that we cannot say that it is ordered before Stylistic Inversion, because then we would run into trouble with presentatives. We could split up the rule of Stylistic Inversion, and say that part of it applies before I-insertion (that part which produces presentatives) while the other one applies after I-insertion. But this comes very close to our analysis. But no justification would be given for the split. It would constitute a completely ad hoc move.

If I-insertion cannot be invoked to save structure (3.101) from the NIC, or the ECP, how is such a structure to be saved? This brings us to the second problem caused by the assumption that Stylistic Inversion is not stylistic. If this is the case, representations such as (3.101) will enter the right-side (the LF) of the grammar. Under the assumption that this side contains conditions which disallow the appearance of an unbound trace in subject position, why is (3.101) allowed?

Kayne (1980) suggests the following solution to this problem. He proposes that there is a movement rule of LF which moves a post-verbal subject to a position c-commanding the trace in subject position. This solution strikes us as unsatisfactory in at least two ways.

First, why is this rule limited to non-presentative instances of Stylistic Inversion? In other words, why are presentatives saved by I-insertion while other instances of Stylistic Inversion are saved by this movement rule? Note that the following derivation should be quite possible:

- (3.106) [[Trois garçons] être arrivé]  
 +Stylistic Inversion →  
 [[e]<sub>i</sub> être arrivé [trois garçons]<sub>i</sub>]  
 +LF-Movement →  
 [[Trois garçons]<sub>i</sub> [[e]<sub>i</sub> être arrivé [e]<sub>i</sub>]]

This derivation would produce the ungrammatical sentence:

- (3.107) \*Est arrivé trois garçons.

We might assume that filter (3.100) stars this sentence. But the same result obtains even if we fill the COMP with a wh element. Cf.:

\*Pourquoi est parti trois garçons? In order to block the derivation in (3.106), one must somehow restrict the application of the LF movement rule to precisely those cases of Stylistic Inversion involved in the derivation of non-presentatives. This appears to be a complication of the analysis, instead of reflecting some property of the language.

Our second objection concerns the trace left by the LF movement rule itself. We do not know enough about the output of Stylistic Inversion in these constructions; therefore, our objection should best be called a 'doubt'. It is not clear that the trace of the LF movement rule will itself not violate the ECP. If the output of Stylistic Inversion is adjunction to VP, there is a chance that it will. In that case, while solving a problem, the rule would create another one.

In light of these observations, we would like to suggest that Stylistic Inversion is indeed stylistic. It applies after S-structure. We assume Kayne and Pollock's filter (3.100), now stated on the left



side of the grammar. It is hoped that this filter will follow from other independently motivated principles, but unfortunately we have no suggestions about this at this moment. As far as we can see, this decision does not affect the main content of Kayne and Pollock (1978). In other words, a stylistic Stylistic Inversion would still provide strong support for a successive cyclic analysis of Wh-Movement, as convincingly argued in that paper.

The decision to consider Stylistic Inversion a stylistic rule requires that we consider condition (3.80) as part of the left side of the grammar. This is so since it crucially restricts the application of Stylistic Inversion to sentences without an SCL. Cf. (3.81). Therefore, it must be ordered after Stylistic Inversion. This means it must be part of 'the left side' (the phonology). For further discussion of this condition, see Chapter 4 and the Conclusion.

## FOOTNOTES: CHAPTER 3

1. One might consider the apparent possibility of Raising subject clitics as evidence in favor of NP status of such forms. That subject clitics can be raised might be argued on the basis of sentences like (i):

- (i) a. Il semble être fatigué, n'est-ce pas?  
 b. Tu sembles avoir dormi trop.  
 c. Je semble être très content, mais je ne le suis pas vraiment.

We will return to these sentences in the next section, where an analysis which does not involve movement of the clitic will be presented.

2. As for the impossibility of traces in subject position in these sentences, see section 3.2.

3. This should not come as a surprise, in light of the comments on agreement offered towards the end of the preceding chapter. We believe it is possible to consider the agreement element in the verb as an anaphor which seeks a nominative antecedent. See Chapter 4 for further comments in this direction. Unfortunately, we are unable to pursue this idea further here. See also Reuland (1979).

4. An alternative analysis, perhaps preferable to the one adopted in the text, would involve allowing Case-marked PRO's, as long as they are not c-governed. Given that there is an SCL, they wouldn't be c-governed. This analysis would then be compatible with our assumptions regarding empty subjects in Spanish and Italian. See Chapter 4, section 2. We could then assign Case to the PRO via rule (3.32), and the il in post-verbal position would get Case via convention (3.36). This analysis

would not require that we allow free ordering of the rules Nominative Case assignment and SCL-Inversion. We could assume that the order given in (3.37) is the only one available.

5. It is suggested in Kayne (1972) that these NPs are not appropriate antecedents because they lack a head noun, assuming that the rule determining the possibility of coreference depends on the presence of a lexical head noun. (See Kayne (1972), p. 101.) Although this might work for cases like ce que S, or cela, it is not clear that it will work for rien or assistance. We prefer to leave open the question of how to best characterize the ungrammaticality of (3.48).

6. Crucially, it can't be the case that they receive a  $\theta$ -role simply because they have the same a-index as a phrase which does receive a  $\theta$ -role. In other words, a-indices do not transmit  $\theta$ -roles. This is another sense, then, in which a-indices differ from referential indices. See Chapter 1 for further discussion of  $\theta$ -role transmission via referential indices.

7. It is possible to find two types of counterexamples to this claim in Grévisse (1964). (See Grévisse (1964), pp. 461-62.) One of them involves the verbal forms sera, soit, and serait. Cf.:

(i) Il faut que ça soit vrai.

Ça sera magnifique.

Ça serait réussi.

The other one involves the group tout ça. Cf.:

(ii) Tout ça est si neuf.

We have no account for the acceptability of (i). (ii) may be related to

the fact that ça and ce appear to alternate according to the Avoid Pronoun Principle. Ça is used only when ce is impossible. Ce, being an SCL, cannot be modified by tout. So ça is allowed in that case.

8. For an interesting discussion which attempts to explain why this rule is a root process, see Safir (1980). It is not entirely clear to me whether that account is compatible with the analysis of SCL's presented here or not.

9. This decision is supported by the fact that SCL-inversion occurs not only in interrogatives but also in other non-declarative structures. See Dubuisson & Goldsmith (1975).

10. This class includes all passives, since être is always present in passives. Cf.:

(i) Il a été mangé beaucoup de pommes.

11. We must now assume that sentences like those in (i)

(i) Jean est parti.

Marie est arrivée.

Nous sommes arrivés.

are derived from structures with post-verbal subjects, as in (ii):

(ii) [e] INFL être parti [Jean].

+NP-Preposing →

[Jean] est parti [e].

Movement would occur from a  $\theta$ -position to a non- $\theta$ -position. The derived structure satisfies all conditions.

Far from being a problem, such an analysis might yield an important

insight into the choice of the auxiliary être found in these structures.

12. A similar approach to English there sentences might provide interesting results with regard to the following sentences pointed out in Kayne (1979a).

(i) There reached his ear the sound of voices and laughter.

At this point, there hit the embankment a shell from our own lines.

There entered the room an indescribably malodorous breath of air.

There crossed her mind a most horrible thought.

We will not pursue this question here. See also in this connection Stowell (1978).

13. Thus, we agree here with Stowell (1978), footnote 13. Our solution to the Jefiniteness restriction in fact expresses a basic insight due to Milsark (1974), also accepted in Stowell (1978).

14. Kayne (1979a) presents a similar analysis (see page 713). He interprets the contrast in (3.96) as evidence for a movement analysis of presentatives. We find this argument unconvincing. The analysis presented in the text will also account for the following pair of control sentences found in Rouveret and Vergnaud (1978), also cited in Kayne (1979a):

(1) Ici, il tombe rarement beaucoup de neige sans pleuvoir.  
'Here, there falls rarely much snow without (it) raining.'

\*Ici, il pleut rarement sans tomber beaucoup de neige.  
'Here, it rains rarely without (there) falling much snow.'

Kayne points out that the Italian counterpart to (3.96)a is sharply out. Cf.:

(ii) \*Potrebbero arrivare dei ragazzi [senza arrivare delle ragazze].

So is the Spanish:

(iii) \*Podrían llegar los muchachos sin llegar las chicas.

This contrast is accounted for given the analysis of nominative Case assignment in those languages presented in Chapter 4. Crucially, notice that if the embedded infinitives are tensed, both sentences become grammatical. Cf.:

(iv) a. Potrebbero arrivare dei ragazzi senza che arrivino delle ragazze.

b. Podrían llegar (los) muchachos sin que lleguen (las) chicas.

## CHAPTER 4: THE EMPTY CATEGORY PRINCIPLE

## 4.0. Introduction

The preceding chapters have centered around issues concerning the distribution of PRO. We assumed tentatively, following Chomsky (1979), that the following condition holds of PRO (but see below for a more detailed discussion):

(4.1) PRO cannot be governed.

This condition allows us to capture adequately the distribution of PRO, we argued. This adequate characterization further allowed us to give simple and explanatory accounts of many facts which before had required more complicated mechanisms such as rule obligatoriness, rule ordering, and special deletion rules, and to account for many other facts which had not been considered before.

This element which we call PRO is in fact simply a phonologically null pronoun. It is not the same as a trace. A trace does not contain pronominal features. This distinction is crucial. Evidence for it was given in Chapter 1, where it was shown that if PRO = trace, an adequate analysis of the restrictions on extraction of doubled direct objects would not be possible. Given this distinction, we can inquire about the conditions on traces. Some traces, the traces of NP-movement which are not marked for Case, are anaphors for the Binding Theory. However, not all traces fall in this category. There is evidence that those traces which are the result of movement from a position within S to a position outside the S which immediately contains them -- as happens in cases of Wh-Movement, for example -- are not considered anaphors for the Binding

Conditions. Rizzi (1978b) argues that traces of Wh-Movement are not anaphors for the SSC. Freidin & Lasnik (1979) extend this to the NIC. It appears, then, that wh-traces are exempt from the Binding Conditions. We can then ask: are there any general conditions on the distribution of (wh) traces? Chomsky (1979) answers in the affirmative. The Empty Category Principle is proposed as a condition on all traces. This chapter consists of an examination of this condition.

The Empty Category Principle has been mentioned briefly in previous chapters. The discussion in this chapter will be organized as follows. I will first consider the original statement of this condition in Chomsky (1979). I will consider the status of so-called 'empty' subjects in Spanish and Italian, particularly in connection with other properties such as: the option of having post-verbal subjects, violations of Chomsky and Lasnik's \*that t filter, and the lack of expletive particles such as English it, and there. Extraction of subjects will be examined next, paying careful attention to differences between English, Spanish, and Italian. An alternative version of the Empty Category Principle will be put forth, taking into account the material discussed above. This alternative version will be stated in terms of the notion of 'identification', which will be defined appropriately. I will show that this version is preferable to the Pisa version on methodological and empirical grounds. I will conclude with a consideration of the consequences of this principle for other principles of the theory of grammar, such as subjacency and recoverability of deletions.

#### 4.1. The Pisa ECP

The original statement of the Empty Category Principle is as in (4.2):



(4.2) [e] must be properly governed.

The notion 'proper government' is defined as follows:

(4.3)  $\alpha$  properly governs  $\beta$  iff  $\alpha$  governs  $\beta$ , and  
 (i)  $\alpha$  is [+V, +N]; or  
 (ii)  $\alpha$  is coindexed with  $\beta$ .

Configurations of proper government, then, are the ones shown below:

(4.4) a. ... V [e] ...  
 b. ... N [e] ...  
 c. ... A [e] ...  
 d. ... P [e] ...  
 e. ... NP<sub>i</sub> [e]<sub>i</sub> ...

Notice that for (4.4)e to be a configuration of proper government, the NP must govern the trace. This is an extension of the original notion of government, which restricted this relation to [+V, +N] elements of type 0 (i.e., V, N, A, P). (Cf. Chomsky (1979), Lecture 1, (13), (14)).

We will return to this point below.

Consider now how this condition captures the ungrammaticality of

(4.5):

(4.5) \*Who did you say that t arrived late?

Recall that the Binding Conditions do not apply to wh-traces. We cannot rule out (4.5) via the Nominative Island Condition, or any translation of that condition. We want to say that wh-traces are free from the effects of such conditions, whether they are in subject position or not. So we

must rule (4.5) out in some other way. This is where the ECP steps in. The  $\underline{t}$  in (4.5) is neither governed by a  $[\underline{+V}, \underline{+N}]^0$ , nor is it coindexed with a governing NP, assuming the intermediate COMP has the following structure:

(4.6)  $[_{COMP} [_{+WH} e][that]]$

Recall that 'government' requires minimal c-command. (See the Introduction, and Chomsky (1979), (13)). The trace in COMP in (4.6) would then not govern the  $\underline{t}$  shown in (4.5). This  $\underline{t}$  would not meet the ECP, and the structure would be out. The extraction of an object, as in (4.7)

(4.7) What did you say that John wanted  $t$ ?

does not encounter such problems. The  $\underline{t}$  is governed by the verb want, thus meeting the requirement of proper government imposed by (4.2).<sup>1</sup> The familiar \*that  $\underline{t}$  effect of Chomsky and Lasnik (1977) can now follow from the ECP; at least, as far as English is concerned.

Consider in this respect the following two sentences:

- (4.8) a. Chi hai detto che  $t$  è arrivato ieri?  
'Who did you say arrived yesterday?'
- b. Quién dijiste que llegó ayer?  
'Who did you say arrived yesterday?'

These two sentences show the well-known fact that Spanish and Italian both "violate" the \*that  $\underline{t}$  filter. If this filter is to be derived from the ECP, as claimed above for English, this result must also be derived. (It clearly would not suffice to get only the effects of that filter in

English. Recall that a filter based account had a good story to tell about (4.8)a,b: it could invoke t deletion.) Chomsky (1979) proposes to derive this result by saying that Italian (and presumably Spanish, too) differ from English in the following way. The INFL(ection) in these languages has the additional property that it can co-index the t subject position. In English, this is impossible. This coindexing saves these structures from the ECP. INFL would then govern subject position, and be co-indexed with it. This would satisfy the ECP. Thus, we get an account of this striking difference between English on the one hand, and Spanish and Italian on the other.

One might say correctly, I think, that it was the ungrammaticality of sentences like (4.5) which provided the main motivation for the discovery of the Empty Category Principle. This showed that the theory of Binding did not contain all the necessary and sufficient requirements which traces must satisfy. Sentence (4.5) does not violate any principle of the Binding conditions. But it is clearly ungrammatical. Its ungrammaticality had to be attributed to some other yet-to-be discovered property. The matter was complicated by the existence of languages in which parallel sentences are grammatical, as seen in (4.8). This showed that any attempt to rule out (4.5) by modifying the Binding Theory could not be correct. For example, assume we say that (4.5) is ungrammatical because of the effects of the Nominative Island Condition (see Chomsky (1978)), extending this condition to wh traces, which would still be immune to the effects of the other component of Opacity, the SSC. We would then have to claim that the NIC, so defined, does not hold in Spanish and Italian. But the NIC does appear to hold in both of these

languages, if we ignore these facts and look elsewhere. For example, if we look at extraction of subjects by Move NP out of tensed sentences, we find the result ungrammatical.

- (4.9) a. \*Questi ragazzi sembrano che t sono stanchi.  
'\*These kids seem that are tired.'
- b. \*Estos chicos parecen que t están cansados.

Compare these to the grammatical (4.10):

- (4.10) a. Questi ragazzi sembrano t essere stanchi.  
'These kids seem to be tired.'
- b. Estos chicos parecen t estar cansados.

In (4.9) the traces would be nominative anaphors. If nominative anaphors are not allowed, their ungrammaticality would be explained. The NIC gives good results here. In other respects, too, like disjoint reference, the NIC holds in Italian and Spanish just like it does in English. It was evidence like this that led to the assumptions underlying the ECP: that is, that there is a condition which applies to all traces, regardless of whether they are Case marked or not, and that that is the appropriate place to state the difference between Spanish and Italian on the one hand, and English on the other.

Given this motivation for the principle, one can then go on to ask how it interacts with other processes in the grammar. This is precisely what is done in Chomsky (1979). I would like to mention here some of the problem areas which he singled out. The sentences given above basically illustrate the interaction of the Empty Category Principle with Wh-Movement. There are other extraction processes in the grammar, as is

well-known; and an interesting question is whether their traces are also checked by ECP or not. For example, does the ECP hold for extractions via QR, an LF movement rule which interprets quantifiers? Evidence from Spanish was presented in Chapter 1 to provide an affirmative answer to this question. We might wonder, then, what happens in cases like the following:

(4.11) Everyone expected that  $\left\{ \begin{array}{l} \text{some of the} \\ \text{certain} \end{array} \right\}$  talks would be too difficult.

If wide scope interpretation is possible here -- as sometimes claimed -- why don't we observe that t effects? And if wide scope is in fact impossible here, due to the ECP, we can go on to ask what happens in Spanish or Italian. They should differ. But it seems that in fact they do not. How is this apparent contradiction to be solved?

Another problem put forth by Chomsky concerns focus. If we assume that a sentence like (4.12)

(4.12) JOHN saw Bill.

gets interpreted as in (4.13)

(4.13) [The x such that x saw Bill] = John.

then we have to look at sentences in which an embedded subject is focussed, as in (4.14):

(4.14) John said that BILL liked Mary.

This sentence would have the following LF representation:

(4.15) [The x such that John said that x liked Mary] = Bill.

In other words, we get an instance of long extraction of a subject; the kind of process we saw was not allowed with wh movement.

I mention these problems here because I would like to return to these issues below. They are directly related to our claim (supporting Kayne's statement) that the ECP holds at the level of Logical Form.<sup>2</sup>

The problems mentioned above are problems for any theory which claims that something like the ECP holds at the level of LF. As we will see later on, they are not specific to the formulation given in (4.2), or to the auxiliary mechanisms which go along with that formulation. I would like to consider now some problems connected more closely to this particular statement of the ECP.

To begin with, let us consider in some detail the analysis of sentences like those in (4.8). Their relevant structure would be as in (4.16) below:

- (4.16) a.  $[[_{\text{COMP}} \text{Chi}_i] \text{hai detto} [[t_i] [\text{che}]] t_i \text{ INFL}_i \text{ è arrivato ieri}]$   
 b.  $[[_{\text{COMP}} \text{Quién}_i] \text{ dijiste } [_{\text{S}} [_{\text{COMP}} [t_i] [\text{que}]] t_i \text{ INFL}_i \text{ llegó ayer}]]^3$

The ECP would be satisfied since the empty category in subject position is properly governed by INFL, since both Spanish and Italian would have the special property of co-indexing INFL with the subject (and assuming that this INFL otherwise governs the subject).

Perlmutter (1971) pointed out that there appears to be an interesting generalization to be made about languages which allow sentences like (4.8). They all share the following property: they freely delete subject

pronouns. Restated in the terms of Chomsky and Lasnik, the generalization might read as follows:

- (4.17) The \*that t filter is valid for all languages that do not have a rule of Pronoun Subject deletion, and only these.

If this generalization in fact holds, we would want an analysis of (4.16) to reflect it. More generally, we want to be able to express the fact that long movement of subjects is possible only in those languages which freely drop their subject pronouns. Let us see how this is expressed in the inflection coindexing hypothesis.

Consider in this respect simple sentences as (4.18):

- (4.18) a. Baila bien.  
'He/she dances well.'
- b. Anda muy ocupada.  
'She is very busy.'
- c. Estamos cansadísimos.  
'We are very tired.'
- d. Quiere poder ser millonaria.  
'She wants to be able to be a millionaire.'

A co-indexing analysis would assign the following structures to these sentences:

- (4.19) a.  $[e]_{NP_i}$   $INFL_i$  baila bien.
- b.  $[e]_{NP_i}$   $INFL_i$  anda muy ocupada.
- c.  $[e]_{NP_i}$   $INFL_i$  estamos cansadísimos.
- d.  $[e]_{NP_i}$   $INFL_i$  quiere [  $PRO_i$  poder [  $PRO_i$  ser millonaria].

These structures are possible, one can claim, because Spanish has the property of being able to index an empty subject with INFL. English, on the other hand, lacks this property. Therefore, an empty NP in subject position will violate the ECP. This is why English lacks empty subjects, according to this analysis.

It should be noted that the sentences in (4.18) have a precise, if at times ambiguous, interpretation of their subject NP<sub>s</sub>. Thus (4.18)a means either 'He dances well' or 'She dances well', but not 'We dance well', etc. That is, its subject is clearly understood as 3rd person singular. One might say that this is reflected in the verbal inflection. Notice next that (4.18)b is understood as having a feminine subject NP. It means only 'She is very busy (these days)', and it cannot mean anything else. This is reflected in the feminine inflection on the adjective ocupado/a. (4.18)c shows the same point for plurality. (4.18)d is an interesting case in that it shows that agreement must be able to be transmitted through the PRO's involved in control structures. That sentence is understood as having a feminine subject for the higher verb. It cannot mean 'He wants to be able to be a millionaire'.

I will assume that these properties are to be stated on the subject NPs. This means that those subject NPs would have to contain features for number, gender and person. But this would make them identical to PRO's! And PRO's would not be allowed in those positions, since they are governed positions. Therefore, one would have to assume a rule of PRO deletion, perhaps as follows:

$$(4.20) \quad \text{PRO}_i \longrightarrow \left[ \text{NP}_i \text{ e} \right]$$



This rule would convert structures with PRO subjects into structures as in (4.19). Notice further that this rule would have to be ordered after the application (in LF) of the rules which determine control, but before the principle which restricts PRO to ungoverned positions applies. This ordering is crucial. Notice also that the rule constitutes an addition to the type of operations deletion rules can perform. In fact, Chomsky and Lasnik state quite clearly that  $[e]_{NP}$  is different from the result of deletion. (See Chomsky & Lasnik (1977), p. 453.) Thus, this would be a special type of deletion rule. Such a system is quite possible, although it does contain some complications which one might try to avoid.

A much more serious problem to the coindexing hypothesis was pointed out recently by Luigi Rizzi. It involves the behavior of the quantifier nessuno. Spanish shows identical effects, with its counterpart, ninguno. I will illustrate Rizzi's point with Spanish examples.

Consider the following sentences which display the distribution of ninguno in simple sentences in Spanish:

- (4.21) a. No vino ninguno.  
'No one came.'
- b. \*Vino ninguno.
- c. Ninguno vino.  
'No one came.'
- d. \*Ninguno no vino.
- (4.22) a. No veo a ninguno.  
'I don't see anyone.'
- b. \*Veo a ninguno.
- c. ?A ninguno veo.

d. \*A ninguno no veo.

The generalization is rather straightforward: a pre-verbal ninguno does not tolerate a no attached to the verb; whereas a post-verbal ninguno requires it. Let us assume that this is captured by a rule which deletes the no if there is a pre-verbal ninguno. This is certainly true at the descriptive level. (Perhaps these facts can also be made to follow from the ECP, but I will leave that possibility open at this point.) Such a rule might be stated as follows:

(4.23) no  $\rightarrow$   $\emptyset$  / ninguno \_\_\_ X

In LF, the meaning of ninguno is combined with no to form -Ex; i.e., There is no x or It is not the case that there is an x. Thus, the LF of (4.21)a,c would be:

(4.24) a. NEG (Ex) [x vino]

b. NEG (Ex) [vino x]

Following Rizzi (1980) and Kayne (1979), I will assume that the no is in effect a sort of 'scope marker'. That is, the rule which preposes the quantifier adjoins it to the sentence containing the no. This rule might be stated tentatively as follows:

(4.25) Adjoin ninguno to [<sub>S</sub> ... no ...]

Consider in this light the following sentence:

(4.26) No quiero que venga ninguno.  
'I don't want anyone to come.'

This sentence would have the following LF, according to (4.25):

(4.27) NEG (Ex) [quiero [que venga x]]

Rizzi noticed that this was in fact a possible interpretation for that sentence. But, consider now the following sentence:

(4.28) No quiero que ninguno venga.<sup>4</sup>  
'I don't want that no one come.'

This sentence means something quite different. It cannot have the following interpretation:

(4.29) \*NEG (Ex) [quiero [que x venga]]

Rather, it receives the following interpretation:

(4.30) NEG [quiero [que NEG (Ex) [x venga]]].

This difference can be seen clearly if we follow both (4.26) and (4.28) with the sentence: Quiero que venga alguien 'I want somebody to come'. Cf.:

(4.31) No quiero que venga ninguno; quiero que venga alguien.  
'I don't want anyone to come; I want someone to come.'

(4.32) No quiero que ninguno venga; quiero que venga alguien.  
'I don't want that no one come; I want someone to come.'

(4.31) is a contradiction. One is saying that one wants nobody to come and then asserting the contrary. (4.32), on the other hand, is ok. One is saying that it is not one's wish that nobody show up; that in fact one wants someone to show up.

Rizzi (1980) aptly summarizes these results by saying that the following configuration is allowed:

(4.33)  $\text{Operator}_i \dots [\bar{S} \text{ que } \dots V \dots t_i \dots]$

where the situation depicted in (4.34) is excluded:

(4.34)  $*\text{Operator}_i \dots [\bar{S} \text{ que } t_i \text{ VP}]$

This looks exactly like the that t filter in English. But this would be allowed by the INFL co-indexing approach. Spanish and Italian should allow the configuration in (4.34), since the t in subject position could be co-indexed with INFL in those languages, according to the analysis given for (4.16). In fact, what these sentences show is that the analysis of long extraction of wh-elements via INFL co-indexing does not generalize to at least one type of quantifier in these languages: ninguno/nessuno. Assuming that we want to give an ECP account of these facts, we must conclude that the co-indexing approach cannot be correct.

This is crucial data against the proposal that INFL co-indexes a preverbal subject position in Italian and Spanish, and that this co-indexing can satisfy (4.3)ii to qualify as 'proper government'. We can ask further if (4.3)i is sufficient for the ECP. In other words, are there extractions from object position which meet (4.3)i but which should be ruled out by the ECP? I think there are at least two cases which would support an affirmative answer to this question.

The first case has already been discussed in this work. It concerns the extraction of clitic-doubled direct objects. Recall that in Chapter 1 we argued that they should be treated via the ECP. This was supported by

the observation that many extraction processes appeared to be constrained in the same way. Consider now how the ECP as stated in (4.2)-(4.3) would fare with one of those sentences:

(4.35) \*A quién la viste t?  
'Who did you see?'

We want to say that this sentence is ungrammatical because the trace in it does not satisfy the Empty Category Principle. However, recall that the following configuration

(4.36) ... V [e] ...

is indeed a configuration of proper government for the ECP as stated in (4.2)-(4.3). Therefore, this trace would be properly governed on that account, and the sentence would be ruled grammatical. The account presented in Chapter 1 tentatively assumed a slightly different version of the ECP precisely in order to avoid this problem. We stated the ECP as follows:

(4.37) [<sub>NP</sub>e] must be s-governed.

where s-government was defined as the relation holding between a strict subcategorization feature and an NP. (I will return to this notion in section 4.4.) The trace in (4.35) does not meet this version of the ECP, since the doubled NP is not s-governed, the subcategorization feature on the verb having been absorbed by the clitic. Thus we would get (4.35) to be a violation of the ECP. In effect, the intuition behind this idea is to say that an empty category requires a proper antecedent. A subcategorization feature can count as such if it is linked to the trace

correctly. A category, on the other hand, is not enough. It is not enough for an empty category to find itself in a particular structural configuration with one member of the set of possible governors. A further notion appears to be needed, one which crucially brings into play the idea of an antecedent. (These ideas will be developed more precisely in section 4.4.)

Kayne (1979) presents another case which might be interpreted as pointing in the same direction. He notes that there are certain expressions in French which present subject/object asymmetries in their distribution. NPs of the form de N... can appear only in certain negative environments. Cf.:

- (4.38) a. Jean n'a pas trouvé de livres.  
'Jean didn't find books.'  
b. \*Jean a trouvé de livres.

These NPs cannot appear in subject position, as can be seen in (4.39):

- (4.39) a. \*De livres n'ont pas été trouvé par Jean.  
'Books were not found by Jean.'  
b. \*De gâteaux ne me déplairaient pas.  
'Cakes would not disgust me.'

This immediately suggests an ECP analysis. In fact, Kayne proposes such an analysis, assuming (as was done in Kayne (1975)) that those NPs have the following structure:  $[_{NP}[e] - de - \bar{N}]$  -- this structure entirely comparable to that of the phrase 'beaucoup de livres'. Then, (4.38)a would differ from (4.39)a in that in one case the empty category would be governed by V, while in the other it would not, as can be seen in (4.40):

- (4.40) a. Jean n'a pas trouvé [<sub>NP</sub>[e] - de - livres].  
 b. [<sub>NP</sub> [e] - de - livres] n'ont pas été trouvé par Jean.

Assuming this empty category to be subject to the ECP, we get the desired distinction between (4.40)a and (4.40)b. Consider now the fact that (4.38)a,b differ in grammaticality as they do. An ECP account of this difference would also be desirable. But it is not forthcoming if one adopts the version of the ECP given in (4.2)-(4.3). The structure of the ungrammatical (4.38)b is the following one:

- (4.41) Jean a trouvé [<sub>NP</sub>[e] - de - livres].

If we say that the empty element in (4.40)a is licit because it is properly governed by the V, then why should it be illicit in (4.41)? Its structural position is identical. This difference would remain mysterious under such an account.

Assume instead that we incorporate into the ECP the notion of 'antecedent', as argued above for the case of clitic doubled NPs. We might then say that this empty element requires an antecedent negative element. (Kayne (1979) points out that other negative elements besides ne...pas provide a context where these negative elements can appear, e.g., jamais, tant.) If the antecedent is not there, the [e] is not licit, even if governed by the V. Notice the striking similarity with the clitic doubling case. Basically what is common to both is that government by V is not sufficient. Both cases require something extra: one a subcategorization feature linked to it, and the other a negative element linked to it.<sup>5</sup>

Let us summarize our discussion of the ECP as stated in (4.2)-(4.3).

Rizzi's data showing the properties of nessuno, which we repeated here for Spanish ninguno, show that the idea that co-indexing of pre-verbal subjects with INFL is what allows Italian and Spanish to escape the ill-effects of ECP, when subject extraction is involved, cannot be correct. Some other mechanism must be found to explain why Spanish and Italian permit such long-movements while English does not. On the other hand, data from Spanish concerning extraction from clitic doubled positions and data from French concerning certain NPs which contain empty elements strongly suggest that lexical government alone is not sufficient for 'proper government'.

These empirical shortcomings of the ECP as stated in (4.2)-(4.3) are accompanied by a certain theoretical awkwardness. Since its first statement in Chomsky (1979), the ECP has always been considered as being closely linked to the notion 'recoverability of deletion'. This link is easily seen in the second clause of (4.3), the one which mentions co-indexing. But this is not true for the other case, proper government via lexical government. Here the connection is less explicit, more obscure. One wonders then why the ECP has such disparate portions: why one part specifies lexical government while the other one mentions co-indexing. It's not clear why lexical government should be sufficient, or how this relates to recoverability. The ECP as stated above is not really a fully unified condition, neither technically nor conceptually. In the next sections, I will consider these issues more closely. First I will examine empty subjects in Spanish and Italian. Then I will consider extraction of subjects and objects. I will finally state a different version of the ECP which will attempt to avoid these



shortcomings, while integrating the insights found in the version discussed above.

#### 4.2. Null Subjects in Spanish and Italian

Spanish and Italian both have the following two related -- though logically independent -- well-known properties:

- (4.42) a. A pronominal subject is not normally phonologically spelled out. This occurs only under emphasis.
- b. Free inversion of a subject NP.

Insofar as these two properties appear to be related in a principled fashion -- which indeed seems to be the case -- we want our analysis of these two facts to tie them together. The analysis mentioned above accomplished this in a strikingly simple and elegant way. The basic idea, which we retain valid, is due to Taraldsen. (See Taraldsen (1978)). His idea is that this has to do with agreement. The intuitive idea is that one can drop the subject in these languages because there is overt agreement. One implementation of this idea is to use co-indexing with INFL. But we saw in the preceding section that this proposal runs into several problems. I would like to suggest here that there is another way of implementing this idea which avoids those problems.

Consider once again the sentences in (4.18), repeated here for convenience:

- (4.43) a. Baila bien.  
'He/she dances well.'
- b. Anda muy ocupada.  
'She is very busy.'

- c. Estamos cansad<sup>í</sup>simos.  
'We are very tired.'
- d. Quiere poder ser millonaria.  
'She wants to be able to be a millionaire.'

The optimal underlying representations for these sentences would be representations in which the subjects expressed the understood pronominal characteristics particular to each sentence. That is, representations as in (4.44):

- (4.44) a. [PRO, 3s, +FEM] baila bien.  
b. [PRO, 3s, +FEM] anda muy ocupada.  
c. [PRO, 1p, -FEM] estamos cansadisimos.  
d. [PRO, 3s, +FEM] quiere poder ser millonaria.

These representations would not be allowed if INFL in Spanish (and Italian) governs the subject NP position. Let us assume, then, that INFL in fact does not govern this position. This would allow PRO's in pre-verbal subject position in Spanish and Italian, since these PRO's would then not be governed. But, what reason is there to believe that INFL does not govern subject position in these languages?

The most important reason, in fact, is the existence of sentences like (4.43), an optimal analysis of which appears to require PRO in subject position. But since these are the sentences at issue, we might try to find other considerations which make this analysis plausible. One obvious consideration relates directly to Taraldsen's original idea. In these two languages, INFL is directly expressed on the verb. That is, it is really a feature of the V. An analysis which generated these elements outside the VP (as in  $S \rightarrow NP\ INFL\ VP$ ) would then have to

attach the INFL to the verb via some process similar to English Affix Hopping. Now, there is no evidence for such hopping devices in Spanish or Italian. Better still, there is no evidence that INFL is ever outside the VP in these languages. The simplest analysis in this case would consist of saying that INFL is generated as part of the verb, as in [<sub>V</sub>STEM + INFL]. If INFL is in fact found only in that position, it would clearly not govern subject NP position, just like the V does not govern that position. We would then have the option of having a PRO there, which is the desired result.

English, on the other hand, does present some evidence for Affix Hopping. For example, Tense is sometimes realized on a main verb, as in (4.45):

(4.45) John walks too fast.

sometimes on a Modal, as in (4.46):

(4.46) John will walk too fast.

I will assume here some variant of the standard analysis of the English auxiliary system as presented in Chomsky (1957). The expansion of S in English, then, would be something like the following:

(4.47) [<sub>S</sub> NP INFL VP]

English would lack null subjects, according to this account, because INFL governs the subject position. A PRO in that position would be governed, and we assume that this is not allowed. (See below for the precise statement of this.<sup>6</sup>)

Notice that our proposal, though clearly in the spirit of Taraldsen's idea, executes it just the opposite way. It claims that PRO subjects are possible only when INFL does not govern the subject position. If INFL is generated directly on the verb, where it is overtly expressed, and if the verb does not govern subject position, this option becomes possible. Within this analysis, the connection between overt inflection and the possibility of null subjects is not very direct -- certainly less so than in Taraldsen's original proposal. In fact, there are languages, such as German and Dutch, which are a bit of an embarrassment for an analysis which posits a very direct connection. These languages have at least as much verbal inflection as Spanish; and yet they do not allow null subjects. Given an analysis which correlates the possibility of null subjects directly with the presence of a heavily inflected verb, we would expect both of these languages to allow null subjects. But this is not the case. Within the approach sketched above, on the other hand, the correlation is not so direct. It is mediated through the position of INFL. German and Dutch may differ from Spanish in that in those languages INFL in fact does govern subject position. This would be the case, for example, if the rule expanding S in those languages were:

S  $\rightarrow$  NP VP INFL.<sup>7</sup> Insofar as there is evidence in favor of such an analysis, our claims concerning empty subjects are strengthened, not embarrassed, by German and Dutch. The important point is that an inflected verb does not always allow null subjects. It does so only if INFL does not govern subject position. And this may vary among languages, even among those in which the verb is heavily inflected for person, number, and gender.

Consider now the distribution of lexical subject pronouns in Spanish. It is well-known that subject pronouns are used in Spanish only in special circumstances. It is instructive in this respect to consider what the traditional grammar of the Real Academia Española has to say about subject pronouns. Cf.:

Las desinencias personales de la conjugación española son tan claras y vivaces que casi siempre hacen innecesario y redundante el empleo del pronombre sujeto. [...] Sin embargo, el sujeto pronominal se emplea correctamente en español por motivos de énfasis expresivo, o para evitar alguna ambigüedad posible, según las circunstancias particulares de cada caso.

RAE, Esbozo de una nueva gramática ..., p. 421.<sup>8</sup>

This clearly indicates that the distribution of subject pronouns is guided by what could be considered "functional" considerations. The simplest thing to say about them would be to express the fact that they appear only when it is impossible to leave them unpronounced. We have a principle which essentially expresses this idea: the AVOID PRONOUN PRINCIPLE mentioned in Chapter 1 and repeated here for convenience:

(4.48) Avoid lexical pronoun if PRO is possible.

We found evidence for this principle when considering object clitics. We can invoke it once again here, since it expresses precisely the generalization we want to capture. Notice, however, that this is possible only in an analysis in which null subjects in Spanish are treated as PRO's. It is only then that we can invoke principle (4.48). The fact that we can generalize a principle needed for independent cases to cover these facts only if we assume the analysis put forth above constitutes internal evidence in favor of this analysis.

Our decision to consider INFL as non-governing subject position in Spanish and Italian immediately raises one important question. Consider the following simple sentences:

- (4.49) a. El hermano de Mafalda se llama Guille.  
'Mafalda's brother is called Guille.'
- b. Il suo fratello si chiama Gianni.  
'His/her brother is called Gianni.'

These two sentences contain non-pronominal lexical pre-verbal subjects. These NPs must be marked with Case, nominative Case, in order to meet the Case filter. Recall that in "On Binding" nominative case was assigned via government from Tense -- in our terms, Inflections -- approximately as follows:

- (4.50) NP  $\rightarrow$  [+Nominative] / if governed by INFL.

But we are claiming here that INFL does not govern the pre-verbal subject position in Spanish or Italian. So we cannot invoke rule (4.50) to assign nominative Case to the underlined phrases in (4.49). Instead we must find an alternative method.

The need for an alternative method is highlighted by the fact that in these two languages the Case bearing subject NP is not always found in the same structural position. (See below for more details.) A structural Case assignment rule does not appear to be the appropriate way to account for this. Instead, we will assume a slightly different procedure.

The simplest procedure would be to let nominative Case be assigned freely to any NP. If the NP in question already had a Case specification, we will assume that the resulting configuration, [NP, +NOM,  $\alpha$  CASE], where

[ $\alpha$  Case]  $\neq$  +NOM, will be morphologically uninterpretable, and the sentence would block because of this. (This is in the spirit of Vergnaud (1979), where it is suggested that the Case filter is really a morphological well-formedness condition.) We will then assume that this nominative marked NP must agree in person and number with the inflectional element on the verb. That is, suppose that there is a rule which states:

(4.51) A [+NOM,NP] must agree in person and number with the verb,  
otherwise \*.

(The directionality of this particular mechanism is misleading; it should be ignored.) This two-step procedure for nominative Case assignment, free assignment of Case plus filter (4.51), will give the desired results.

Notice crucially that subjects of infinitives will not pose a problem. We know that subjects of infinitives do not (normally) receive nominative Case. But our rule of free nominative Case assignment might assign the subject of an infinitive this Case. This would be an undesirable result if we did not have the means to declare it ungrammatical. But in fact, (4.51) will rule it out, since there will be no agreement, given the uninflected nature of infinitives in Spanish. (This account can easily be extended to Portuguese, it seems to us. That language has inflected infinitives; and those infinitives in fact can take nominative subjects. See Rouveret (1979) and Zubizarreta (1980)). Thus, we see that even a brief consideration of infinitives in fact supports our theory of nominative Case assignment for these languages. We conclude that nominative Case assignment does not necessitate government of the pre-verbal subject position from INFL in Spanish or Italian. We can maintain

our analysis where that position is ungoverned, and claim that a PRO appears there when this position is phonologically null.

Notice that this theory of nominative Case 'assignment' would allow for nominative marked PRO's. This might seem to be some cause for concern, but in fact nothing goes wrong if we allow this possibility. Further, there are empirical advantages which can be derived from this option. Notice that in a Left-Dislocation construction, an empty subject in Spanish and Italian can act as a resumptive pronoun. Consider the following sentences:

- (4.52) a. Juan, dudo que compre esa casa.  
'John, I doubt he will buy that house.'
- b. Gianni, non credo proprio che possa comprare quella casa.  
'Gianni, I really don't think he can buy that house.'

In these sentences, the null subjects of the embedded clause are functioning as resumptive pronouns, for the dislocated NP in topic position. Within our analysis, those null subjects would be PRO's. If PRO's can be allowed to function as resumptive pronouns, however, one must somehow restrict this option to PRO subjects of tensed sentences. A PRO subject of an infinitive cannot function as a resumptive pronoun. Cf.:

- (4.53) a. \*Juan, es imposible (PRO llegar a tiempo).  
b. \*Gianni, è impossibile (PRO arrivare in orario).  
c. \*John, it is impossible (PRO to get there on time).

These sentences cannot mean:

- (4.54) It is impossible for John to get there on time.



But there is nothing wrong with this meaning. It simply appears to be the case that a PRO subject of an infinitive cannot act as a resumptive pronoun for Left-Dislocations. This is easily accounted for within our analysis if we claim that resumptive pronouns for such constructions must be Case marked.<sup>9</sup> The PRO's found in subject position of infinitival structures are never Case marked, even in our analysis. The PRO subjects of tensed S's in Spanish and Italian, on the other hand, have a Case feature. This brings forth the correct distinction.

Since we are now allowing Case marked PRO's, we might wonder what exactly is the condition which restricts the distribution of this element. This is an important question which we have been avoiding up to now. Thus, we might as well bring it up here in a brief digression.

Let us begin by reviewing those positions in which PRO is allowed. PRO is found as the subject of an infinitive, where it is not governed by INFL, nor is it Case marked. We have also said that PRO is found in the position of the gap in a structure with a clitic: [[clitic + V] \_\_\_\_\_ ...]. In this position, the PRO in fact is c-governed. That is, the verb c-commands it. But it is not assigned Case. Case is assigned to the clitic. So, in these two positions PRO is free of Case assigned by a c-governing category. Finally, PRO is also allowed as subject of tensed sentences in Spanish and Italian, and there it is Case marked, but not c-governed.

Consider now the positions in which we crucially want to disallow PRO's. The first that comes to mind is subject position in English. We do not want to allow for the possibility of a PRO subject in English. But notice that precisely in that case PRO is c-governed by the element

which would assign it Case. This is the crucial difference between English, on the one hand, and Spanish and Italian on the other.

Let us then take advantage of this difference, and state the condition on PRO as follows:

(4.55) \*[PRO, +CASE] if it is c-governed.

This will prevent PRO in subject position in English while at the same time allow it in all other cases which we have considered.

Returning to Spanish and Italian, consider next the following sentences:

- (4.56) a. *Vino Juan*  
'Juan came.'
- b. *Llegó María ayer a las doce.*  
'María arrived yesterday at noon.'

We can now inquire as to their appropriate structure. Our assumption is that sentences like *Vino*, or *È arrivato* have the structure [PRO vino] and [PRO e arrivato]. Where do the post-verbal NPs fit?

In Italian there is evidence from the cliticization of *ne* that certain post-verbal subjects are structurally under VP. (For a detailed discussion of the syntax of *ne*, see Belletti and Rizzi (1980), where several arguments are given in favor of the structure to be proposed below.) It is possible to cliticize a *ne* from a direct object NP. Cf.:

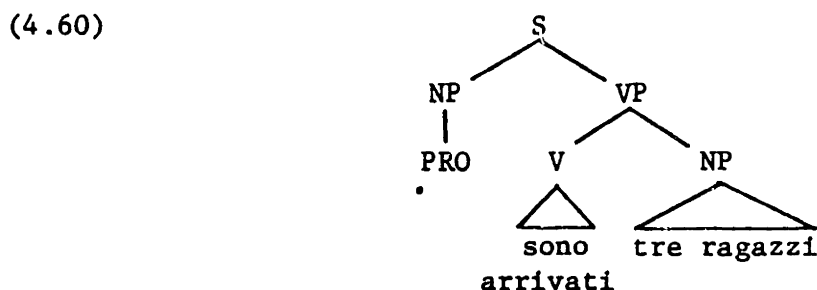
- (4.58) a. *Ho letto tre libri.*  
'I have read three books.'
- b. *Ne ho letto tre.*  
'I have read three.'

Similarly, some post-verbal subject positions allow ne cliticization. Cf.:

- (4.59) a. Sono arrivati tre ragazzi.  
'Three kids have arrived.'  
b. Ne sono arrivati tre.  
'Three have arrived.'

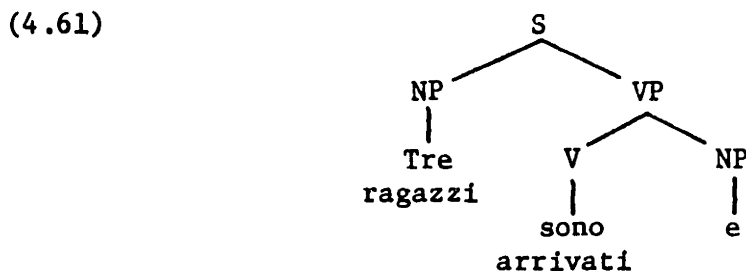
The class of verbs which allow this process has a number of other interesting properties. (For a full discussion, see Burzio (1979, 1980)).

I will assume that the structure of (4.59) is basically as in (4.60) (irrelevant details omitted):




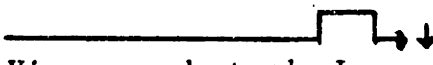
A question concerning this structure immediately comes to mind: is this representation basic or derived? That is, is (4.60) the outcome of the PS rules, or is it derived via a transformational rule? Let us consider both possibilities.

If (4.60) is a derived structure, it must have come from a structure roughly as follows:<sup>10</sup>



(4.60) would be derived from (4.61) via a substitution transformation. Notice, however, that the base already allows for structures as in (4.61). We could therefore generate the subject in post-verbal position directly. We would not have to extend the base rules to do this. Furthermore, we can undermine one more instance of substitution. Optimally, we would like to say that movement is always adjunction, and never substitution. This is a welcome result, in that it limits the types of movement operations. Instead of two types of movement, we can claim that there is only one type: adjunction. Assume, then, that structure (4.60) is a base-generated structure. I will further assume that in these cases the post-verbal NP position is designated as a  $\theta$ -position. The pre-verbal NP is not a  $\theta$ -position. (See Borer (1980)).


Is there any internal motivation for structures of this sort in Spanish? There is none of the type found in Italian, since Spanish lacks the clitic ne. There is different evidence, concerning intonation, which points to similar results. Consider the following two sentences, shown with their standard intonational pattern.

- (4.62) a.  a. Vino Juan ayer de tarde.
- b.  b. Vino ayer de tarde Juan.

The a sentence would be a base-generated structure in our analysis. It has the typical intonation pattern of a sentence in what might be called canonical word order. It patterns exactly like the following transitive sentence:

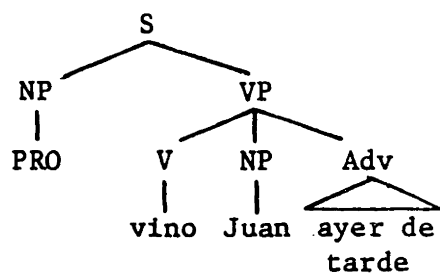
(4.63)  Juan compró una casa ayer.

(4.62)b, on the other hand, patterns like the following sentence:

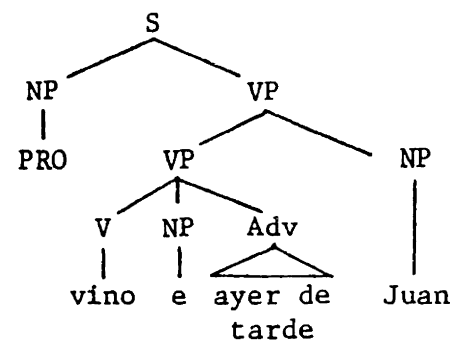
(4.64)  Compró una casa ayer Juan.

(4.63) is clearly a base-generated structure, while (4.64) is clearly a derived structure. (4.62)a patterns like (4.63), the base generated structure. (4.62)b, on the other hand, patterns like (4.64), the derived structure. We can capture these facts by assuming the following structures:

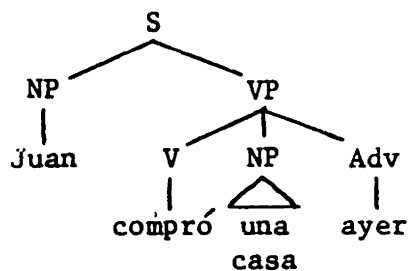
(4.65) a.



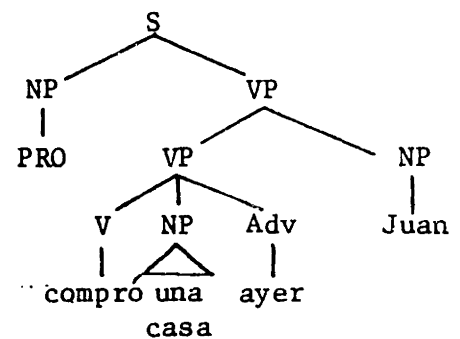
b.



c.



d.



The intonational break between 'tarde' and 'Juan' in (4.62)b and 'ayer' and 'Juan' in (4.64) is due to the adjunction structure, we can say. The basic structures, as in (4.65)a,c have the normal intonational pattern.

This brings us to adjunction structures. Consider the following

sentences:

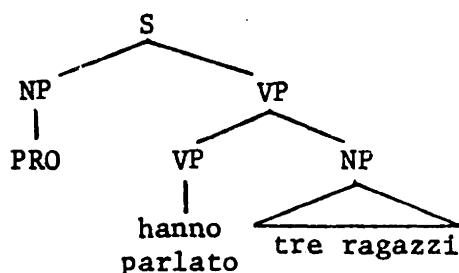
- (4.66) a. Hanno parlato tre ragazzi.  
'Three kids have talked.'
- b. Llamaron todo el día los amigos de Ana.  
'Ana's friends called all day long.'

If we test for ne cliticization in Italian, the result is unacceptable. Cf.:

- (4.67) \*Ne hanno parlato tre.

This can be accounted for if we assume an adjunction structure of the following type:

- (4.68)



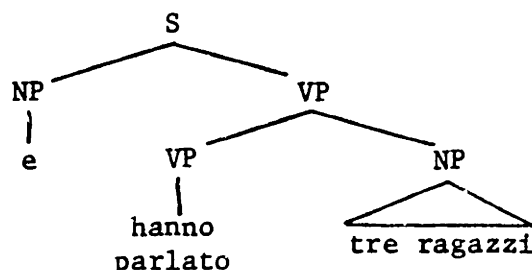
(See Belletti & Rizzi (1980) for an analysis of ne extraction which considers this in detail.)

I will assume an identical structure for (4.66)b. This is confirmed by the fact that this sentence has what we saw above was the typical intonation for adjunction structures. There is a change in intonation between 'día' and 'los amigos...'

There is one aspect of these structures which we have not discussed. This concerns the PRO's in subject position. Recall that both Spanish and Italian allow these PRO's there because INFL does not govern that position. In the case of (4.65), we can simply assume that they are generated as such. In the case of (4.68), however, we cannot assume that

this is generated as such by the PS rules. Adjunction structures are not produced by the base. Rather, this is the result of a movement rule. If this is so, however, at some point in the derivation of (4.68) there must have been a structure approximately as in (4.69):

(4.69)



This structure contains an improperly bound  $[_{NP}e]$ , on anybody's account.

I will assume that there is a rule of PRO insertion basic function of which is to save this structure. We can state the rule as follows:

(4.70)  $[_{NP}e] \rightarrow \text{PRO}$

Notice that if this rule applies to an  $[e]$  anywhere but in an ungoverned position, the result will be blocked by the principle which restricts PRO's to ungoverned positions. This allows us to state it as generally as in (4.70). We might even consider (4.70) the Spanish and Italian analog of there and it insertion in English. We could say that the rule is a universal rule, perhaps stated in a general fashion as follows:

(4.71)  $[_{NP}e] \rightarrow \text{pronominal}$

where pronominal = PRO + pronouns. The fact that Spanish and Italian insert PRO where English inserts there can be considered to follow from the Avoid Pronoun Principle. Once again, a PRO is found instead of a phonologically filled pronoun. A pronoun is avoided because a PRO is

permitted. English can't insert a PRO: it would violate (4.55). Therefore, it inserts real pronouns which are free of this restriction. This way our analysis relates the possibility of null subjects to the lack of expletive there in these languages. This mechanism then gives us structures like (4.68) from structures like (4.69).

These pre-verbal PRO's must be linked somehow to the post-verbal subjects in those sentences. This linking is necessary to fill the requirements of the  $\theta$ -Criterion. Let us consider each case separately.

Recall that in structures as in (4.60) we are assuming that the post-verbal position is a  $\theta$ -position, while the pre-verbal one is not. This means that the PRO in pre-verbal position is not assigned a  $\theta$ -role automatically. However, since PRO's are R-expressions, the  $\theta$ -Criterion requires them to have a  $\theta$ -role. Therefore, let us assume that the linking is what provides this NP with a  $\theta$ -role, thus satisfying the  $\theta$ -Criterion.

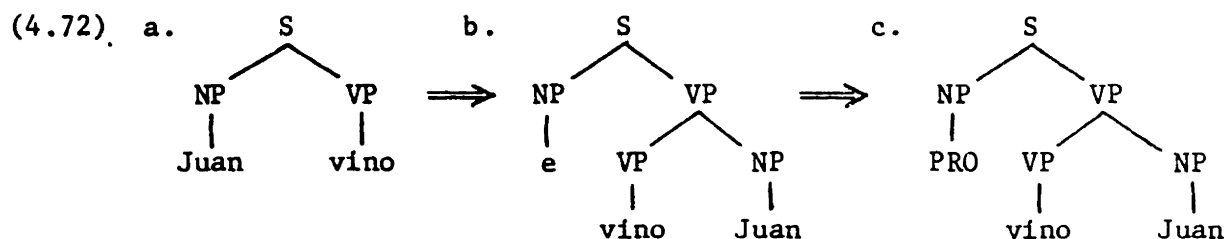
Adjunction structures, on the other hand, behave in quite the opposite fashion. The pre-verbal NP is the  $\theta$ -position. The post-verbal position clearly cannot be a  $\theta$ -position given that it is a derived position, and we are assuming that only basic positions can be specified as being  $\theta$ -positions. (See Borer (1980)). The pre-verbal position, then, receives a  $\theta$ -role. If this position were not linked to the post-verbal NP, that NP would not receive a  $\theta$ -role. Being an R-expression, this would violate the requirements of the  $\theta$ -Criterion. Therefore, this NP must be linked to the pre-verbal PRO to receive a  $\theta$ -role.

We conclude that in both cases the linking is necessary in order to satisfy the  $\theta$ -Criterion. We will assume that this link is done via



co-superscripting. This is to avoid confusion with referential co-indexing. Notice that in one case, the case of adjunction, co-superscripting might be thought of as following from the movement itself. In fact, we will suggest below that a moved category leaves a co-superscripted trace. This device will serve for the linking required in these cases. In those cases where no movement is involved, we can assume that the PRO is generated with a superscript. If this superscript is identical to the one on the post-verbal NP, it will be linked properly. If it is not, the link will not be established and the sentence will be out for the reasons mentioned above. Thus, no special mechanism appears to be needed here either.

The  $\theta$ -Criterion also allows us to rule out one undesirable -- but still possible -- derivation. Consider the following application of the subject post-posing adjunction rule.



If this derivation were allowed, (4.56)a would have two derivations. And yet, there is no ambiguity to be expressed by these different structures. Clearly, this extra structure is superfluous, and should be excluded somehow. We can rule it out with the aid of the  $\theta$ -Criterion. Recall that Juan in (4.72)a is not in a  $\theta$ -position because the pre-verbal subject position is not a  $\theta$ -position for a verb like venir.<sup>11</sup> It therefore does not receive a  $\theta$ -role. Now, the adjoined position in (4.72)b is not

a  $\theta$ -position either, so it will not receive a  $\theta$ -role there, either. Under this analysis, then, (4.72)c is out on two counts: PRO and Juan, both R-expressions, do not have  $\theta$ -roles. The  $\theta$ -Criterion would then be violated, and the structure is ruled out.

It should be mentioned that these 'double-subject' structures -- as we might call them -- do not violate the Binding Theory. It might be thought that they violate some principle of the Binding Theory because some arguments are not free in their governing categories. But this is a confusion which must be avoided. The notion 'free' means 'not argument-bound'. The careful reader will note that in neither case is this not satisfied. Thus, the Binding Theory is not violated by these structures. (Recall in this connection the discussion of 'argumenthood' in Chapter 3. Only elements in  $\theta$ -positions are arguments.)

To summarize, we have proposed in this section that sentences with null subjects in Spanish and Italian contain a PRO in pre-verbal position. This PRO is allowed in that position because INFL does not govern it. An alternative procedure for nominative Case assignment was presented, in view of the fact that assignment via government is no longer an open option. Post-verbal subjects were then examined. Some of them are base-generated in their post-verbal position, while some of them are moved there by an adjunction rule. In both cases they are co-superscripted with a PRO in subject position, this linking made obligatory by the  $\theta$ -Criterion.

#### 4.3. Extraction of Subjects and Recoverability of Deletions

In the previous section we sketched a theory of null subjects in Spanish and Italian. We would like to consider now extraction from

those positions. To begin, we will examine the theory of extraction put forth in "Filters and Control". Despite whatever shortcomings it can now be shown to have, it is in fact a very successful theory in that it accounted for many interesting correlations, and achieved a grouping of properties which can be taken as a goal for any theory of these phenomena.

Consider once again, then, the following sentences:

(4.73) a. \*Who did you say that t came?

b. Who did you say that you saw?

(4.74) a. ¿Quién dijiste que vino?  
'Who did you say came?'

b. ¿Qué dijiste que compró?  
'What did you say he brought?'

The analysis of these sentences given in "Filters and Control" involves the following filter:

(4.75) \* $[-_{\bar{S}}\text{that } [_{NP}e] \dots]$ , unless  $\bar{S}$  or its trace is in the context  
 $[_{NP}NP \text{ \_\_\_}]$ .

Within this approach, both Italian and Spanish would escape the effects of this filter via a deletion rule which would get rid of the offending trace. This deletion rule, it was argued, was in fact a generalization of the Subject Pronoun deletion rule to traces. Filter (4.75) provides an account, then, of the correlation between long movement of a wh-element, as in (4.74), and pronoun deletion. Notice that the deletion rule required to do this can be considered to be post-S-structure in accord with Chomsky and Lasnik's hypothesis that all deletion rules apply after S-structure. Assuming the filter to apply in the mapping from S-structure

to Phonological Representation, it would be sufficient for the deletion rule to apply prior to the filter. This is precisely the order stipulated in the model of the organization of the grammar put forth in "Filters and Control". This rule would then leave unaffected the pronouns in subject position on the right-hand side, which would undergo semantic interpretation.

Consider next how such an approach would tie in the possibility of empty subjects. Sentences with no apparent subject could be derived via Pronoun deletion. This would pose no problems. Sentences with post-verbal subjects would involve a slight modification. Assume first that all sentences with post-verbal subjects were derived via movement of the subject NP to the right. The trace would then remain improperly bound. We can then extend the deletion rule to erase this trace, too, as would be natural. This means, however, that we have to assume that the deletion rule applies in the syntax, before S-structure. This is the case because the problem which the deletion rule remedies is no longer only in the filter component of the grammar, but now also concerns conditions which hold in LF. Therefore, the offending traces also have to be erased to escape those conditions. That is, if we assume that the structure

(4.76)  $[_S [_{NP_1} e] [_{VP} [_V \text{vino}] [_{NP_1} \text{Juan}]]]$

is ill-formed at the level of LF -- because the trace in subject position is improperly bound, for example -- then we need to delete that trace before this structure gets evaluated by whichever condition requires proper bounding of [e]'s.

A very similar situation holds for sentences like the following:

- (4.77) [e] me parece [que Juan tiene hambre].  
'It seems to me that John is hungry.'

Assuming that the subject of these sentences is either a trace or a base-generated [e], we would have to delete these elements before S-structure, to make sure that they will have no ill effects in LF. The lack of expletive elements like English it and there in subject deleting languages would then also be accountable in this paradigm, provided we allow the deletion rule to operate in the syntax.

An interesting parallelism now emerges between two distinct solutions to that t phenomena. Consider a solution which dispenses with the filter (4.75), and instead assumes the following condition on nominative traces:

- (4.78) [<sub>NP<sub>nom</sub></sub> e] cannot be free in  $\bar{S}$ .

and also assumes the familiar doubly-filled COMP filter:

- (4.79) \*<sub>COMP</sub>  $\alpha$   $\beta$

Consider how the following sentence is ruled out.

- (4.80) \*Who does John think [[ t - that ] t saw Bill].

Assume the trace in COMP properly binds the trace in subject position. This sentence is then ruled out by filter (4.79), where the t would have to be analyzed as one of the possible choices for  $\alpha$ . If the trace in COMP deletes, the sentence is starred by (4.78), since the nominative trace would then be free in  $\bar{S}$ . If the that deletes, then the sentence is grammatical since (4.79) does not apply, and the nominative trace is free. This solution -- very much in the spirit of D. Pesetsky's analysis

-- assumes that (4.78) is a condition on LF; and, once again, that the trace deletion rule applies before S-structure. (For a detailed exposition of this solution, see Chomsky (1979). It also requires that the doubly-filled COMP filter be capable of analyzing a trace. That is, one of its predicates must be satisfiable by a trace. It is interesting to note that in the process of getting rid of one of the few filters in Chomsky & Lasnik which made crucial use of a trace, i.e., the \*that<sub>i</sub> t filter, one is forced by this solution to accept that another filter, filter (4.79), can see traces. This solution can now be seen to share a number of peculiarities with the original solution of Chomsky & Lasnik. They both involve deletion before S-structure; and they both involve allowing filters the power to analyze traces. The solution proposed below will attempt to avoid these two irregular features.

In fact, if we consider the original motivation for placing deletions after S-structure, we see that the analyses considered above clearly went against the spirit of that idea. The original motivation was to prevent deletions from affecting LF in any way, "since deleted elements must undergo semantic interpretation" (cf. Chomsky & Lasnik, p. 431). But all the analyses mentioned above made crucial use of deletions in order to affect some representation which otherwise would run afoul in LF. Suppose that this is not allowed in a grammar and consider in this light the theory of deletions.

We can individuate at least four traditional types of deletion processes. They are:

- 1) Deletion under identity over unbounded domains.
- 2) Deletion of designated elements: for, that, etc.

3) Deletion of wh elements in COMP.

4) Deletion of [e] in COMP.

Cases 1-3 all involve deletion of some lexical material. I will assume that all instances of deletion under identity over unbounded domains are to be analyzed as suggested in Chomsky (1977), i.e., as instances of movement. Deletion of designated elements like that and for can be avoided in favor of optional lexical insertion. We assume that when that is not present, it simply has not been inserted. Similarly for for. Section 4.5. will attempt to dispense with deletion of wh elements in COMP. Let us say, then, that the only type of deletion rule left in the grammar is deletion of [e] in COMP. In fact, this can be regarded as a kind of universal convention which simply says:

(4.81) [e]  $\rightarrow$   $\emptyset$  in COMP.

This rule will be relegated to the mapping from S-structure to PR. It will never affect LF.<sup>12</sup>

This reduction of the power of deletion rules in fact trivializes the problem of recoverability of deletions, provided we can accomplish it, of course. Better said, the substance of the condition of recoverability of deletions would now be taken over by principles which restrict the distribution of empty categories. Since deletion rules would be reduced to (4.81), all deletions would be recoverable. Looking at the same point from a slightly different perspective we can say that there is some theoretical redundancy in a system which has both free access to empty elements and intricate deletion rules. In such a system, it is natural to see if one of them cannot be reduced to the other. In the

following section we will propose a condition on empty elements with this goal very much in mind.

#### 4.4. The Empty Category Principle Revisited

If we think of the Empty Category Principle as the condition which is meant to characterize the notion 'recoverable [e]', we are then led to ask of the ECP as stated at the beginning of this chapter why it is that lexical government should be relevant. It will be instructive, then, to reconsider the notion of 'government'.

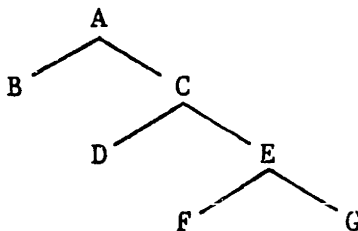
In Chapter 1 we distinguished between two different kinds of 'government': s-government and c-government. Let us reconsider them here one at a time. First, it is necessary to consider the basic notion 'government'. Let us start with the following definition:

(4.82)  $\alpha$  governs  $\beta$  iff:

(i)  $\alpha$  c-commands  $\beta$ ; and

(ii)  $\beta$ , or the first branching category dominating  $\beta$ , c-commands  $\alpha$ .<sup>13</sup>

For the following configuration, this general definition gives the following government relations:



B governs C, D, E; C governs B. D governs E, F, G; E governs D. F governs G and G governs F. But, B does not govern F, G; D, E do not govern B;



and F, G do not govern D, B. The 'government' relation, thus defined, is a purely structural relation which holds between any two categories.

C-government is identical to government, except that it contains a restriction on the domain of a. It can be stated as follows:

- (4.83)  $\alpha$  c-governs  $\beta$  iff:
- (i)  $\alpha$  governs  $\beta$ ; and
  - (ii)  $\alpha$  is a member of the set  $\{V, N, A, P, INFL\}$ ; i.e.,  
 $\alpha$  is an X of type 0.

Let's turn now to the notion 's-government'. Until now we have characterized this notion informally by saying that it is the relation which holds between a strict-subcategorization feature and the element which 'fills' that feature. Let us assume now that this relation is expressed in terms of co-superscripting. In other words, an NP which satisfies a strict-subcategorization feature of a verb will have the same superscript as that subcategorization feature.<sup>14</sup>

Given these two notions, s-government and c-government, consider once again the ECP as stated towards the end of Chapter 1:

- (4.84)  $[_{NP} e]$  must be s-governed.

This ECP is clearly much too restrictive for the purposes which concern us now. In particular, (4.84) would block all movement from subject position, assuming as is traditionally done that subjects are not subcategorized for. Subjects would then never be s-governed, consequently blocking all extraction from that position. Thus, we will abandon (4.84) for another condition which will make room for subject

extraction.

Let us assume that movement leaves a superscripted trace, as mentioned in section 4.2. (This may be in addition to a referential index.) Thus, a moved category will automatically be superscripted with its trace. We can now define the notion 'identification'.

- (4.85)  $\alpha$  identifies  $\beta$  iff
- (i)  $\alpha$  governs  $\beta$  ; and
  - (ii)  $\alpha$  is co-superscripted with  $\beta$  .

Under this definition, an NP in COMP co-superscripted with a trace in subject position identifies that trace. Also, a pre-verbal subject in Spanish identifies a post-verbal subject (if they are co-superscripted, of course). A subcategorization feature identifies an object NP which fills that subcategorization feature. The intuitive content of this idea is to provide a notion of 'antecedent' which will hold for all empty NPs, regardless of whether they are lexically governed (i.e., governed by N,A,V,P) or not, and regardless of whether they are Case-marked or not; i.e., anaphors or non-anaphors. We want to say that all [<sub>NP</sub>e] must be linked to something which identifies it. And this link must ultimately hit a position which is c-governed. Let us then define the notion 'proper identification' as follows:

- (4.86)  $\beta$  is properly identified iff
- (i) there is an  $\alpha$  , such that  $\alpha$  identifies  $\beta$  ; and
  - (ii)  $\beta$  is c-governed.

We can now state the Empty Category Principle as follows:

(4.87) The Empty Category Principle

$[_{NP}e]$  must be properly identified.

Notice that the notion of proper identification no longer contains a disjunction. Consequently, the ECP does not contain a disjunction either. Rather, the condition now requires two things of an empty element: that it be in a particular configuration of c-government; and that it be co-superscripted with an identifier. Let us illustrate how it works in some simple cases:

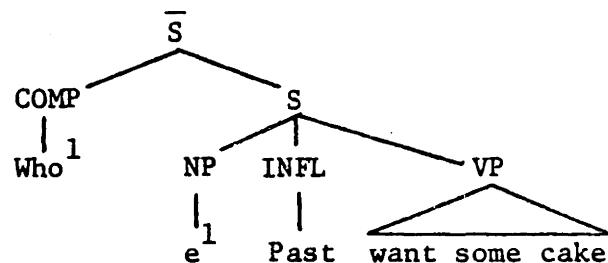
Consider first sentences like

(4.88) a. Who wanted some chocolate cake?

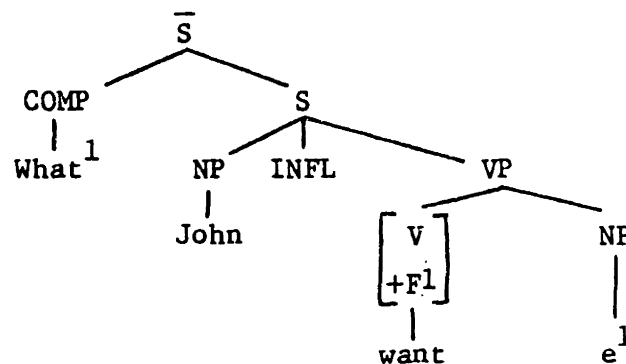
b. What did John want?

Their structure is given in (4.89) (irrelevant details omitted):

(4.89) a.



b.

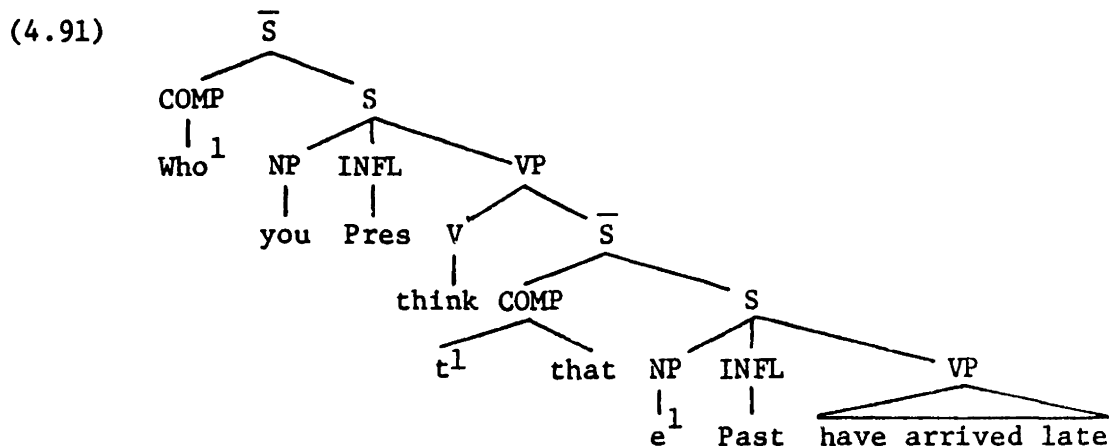


In both cases the trace is identified and c-governed; i.e., properly identified. In (4.89)a, it is c-governed by INFL, and identified by who<sup>1</sup>. In (4.89)b, it is c-governed by the V, and identified by the feature +F<sup>1</sup> in the verb. (Notice that this trace is not identified by the element in COMP. This element does not govern that trace, according to the definition of government given in (4.82)).

Consider now a standard violation of the that t filter:

(4.90) \*Who did you think that t had arrived late?

Its structure would be approximately as in (4.91) (irrelevant details omitted):

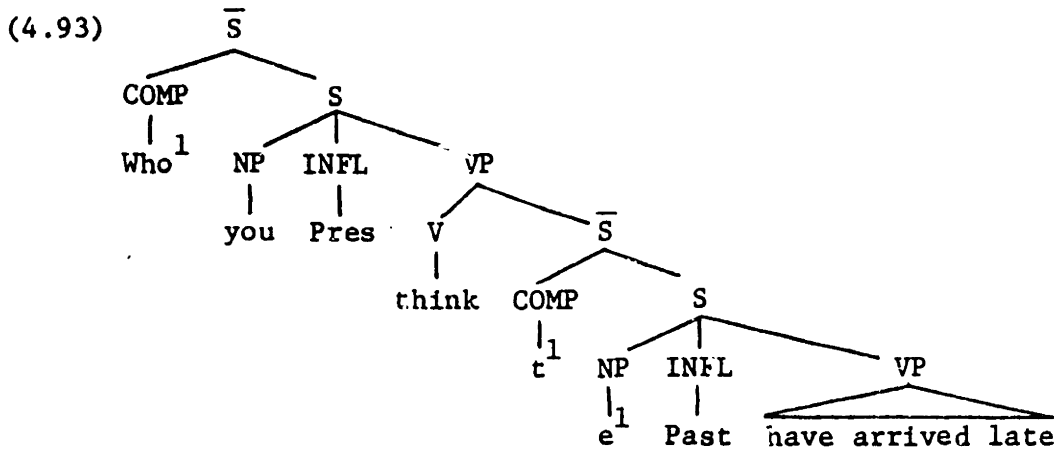


First consider the trace in the embedded S. Does it meet the ECP? No, it does not. It is c-governed by INFL. But it is not identified. The trace in the lower COMP cannot identify it, since it does not govern it because the c-command requirement on government is not met. The higher trace does not govern it either; it is too far away. Thus, we get an account of one case of that t effects without recourse either to the doubly filled COMP filter or to trace deletion rules.

What about a sentence like:

(4.92) Who did you think had arrived late?

Its structure is roughly as in (4.93) (irrelevant details omitted):



The lower trace,  $e^1$ , is c-governed by INFL and identified by  $t^1$  within the embedded  $\bar{S}$ . Thus this trace meets the ECP.

We can now ask what is the status of traces in COMP. There are two possibilities. It might be the case that the ECP simply does not look at them. Or, they could be subject to it. It appears that the second position is correct, in a sense. In fact, on general grounds this seems preferable. Recall that the ECP applies to all traces inside S, regardless of their argument/non-argument status. Thus, we cannot say that traces in COMP are immune to the ECP because they are in non-argument position. This is not possible since we want to say that other elements in non-argument position are subject to the ECP. For example, the traces of some non-argument post-verbal subjects in Spanish and Italian are subject to the ECP. (We will return to these below.) Also, the traces of clitic-doubled direct objects, which we have claimed to be non-arguments,

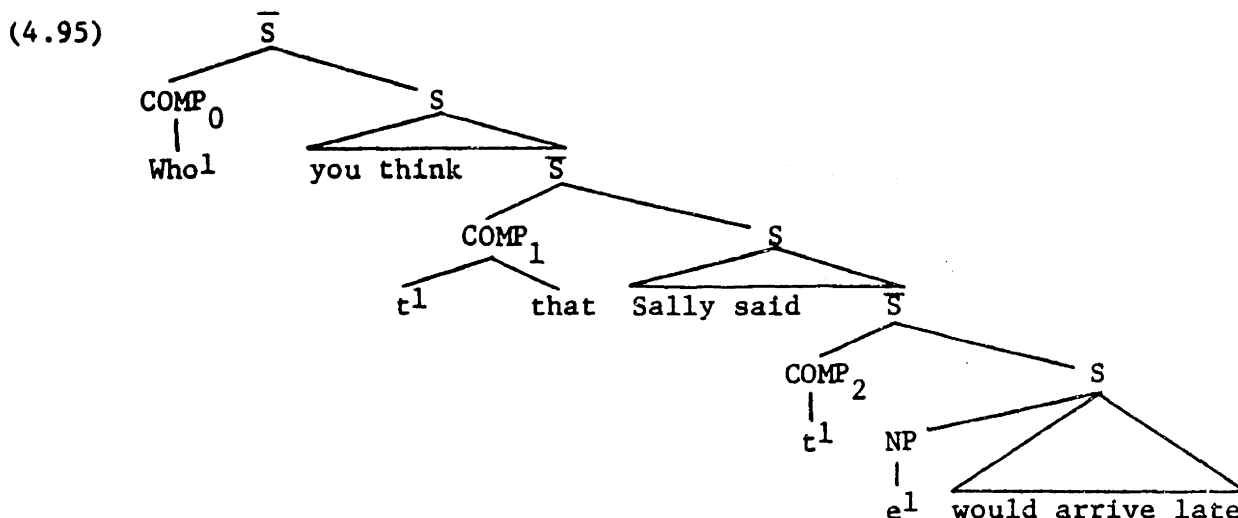
are subject to the ECP. Therefore, the ECP must apply to all traces, independently of their argument status. I will assume, then, that the ECP in fact does apply to traces in COMP. Let us see how the trace in COMP in (4.93) meets this condition.

I will assume that the category V can c-govern across an  $\bar{S}$  boundary, into COMP. (See Kayne (1979) for further arguments to this effect.) It cannot govern across both an  $\bar{S}$  and an S boundary, though. This is a special property of the category V, probably not shared by N, A, or P. The trace in COMP in (4.93), then, is c-governed as required by the ECP.

Is it identified? Let us assume that a trace in COMP is identified if it is co-superscripted with an identified trace. In other words, a trace in COMP inherits its identification from the trace it is co-superscripted with. This means that traces in COMP do not need to be identified in the same way in which traces in S do. This is in fact a natural claim, since traces in COMP are all always reducible, in a sense, to a trace in S. A trace in COMP means nothing if it is not associated with a trace in S. If the trace in S is correctly identified, we will say that the trace in COMP is, too. Notice that this is in fact true. The trace of a subject in COMP does not need to be identified in the same way in which the trace of that subject in S does. Consider the following sentence:

(4.94) Who do you think that Sally said would arrive late.

It has the following structure:



There are two traces in COMP, and one in subject position in this sentence. All the traces in COMP are c-governed -- the one in COMP<sub>1</sub> by think, the one in COMP<sub>2</sub> by said. The trace in S, [<sub>NP</sub>e] is c-governed by INFL. This trace is identified by t<sup>1</sup>, in COMP<sub>2</sub>. And all traces in COMP are identified by virtue of being co-superscripted with [<sub>NP</sub>e]. Notice crucially that the t<sup>1</sup> in COMP<sub>2</sub> is not c-commanded by the t<sup>1</sup> in COMP<sub>1</sub>, but this does not seem to be a problem. We claim it is not a problem simply because it is incorrect to impose the same identification requirement on all traces. Those in COMP inherit their identification from the lower trace. This is what allows them to meet this sub-part of the ECP.

Consider now a case of extraction from object position:

(4.96) What did John say [[t<sup>1</sup> - that] he wanted to buy t<sup>1</sup>]

First consider the trace in object position. It is c-governed by buy, and identified by the subcategorization feature of that verb. This trace then meets the requirements of the ECP, as stated in (4.87). The reader can check that the trace in COMP is no problem here either.

In other words, what this analysis claims is that object extraction does not show that t phenomena because the presence or absence of a that in COMP does not affect the identification of the trace inside the sentence. Those traces are identified by the subcategorization feature. Extraction from subject position, on the other hand, crucially requires appropriate c-command from the closest COMP. If the COMP contains a that, this condition is not met and the sentence is ruled out. Notice that the t<sup>1</sup> in S in (4.96) is in fact not c-commanded by the trace in COMP. This would be fatal if it was a case of subject extraction. But it is ok because of the role of the subcategorization feature. In fact, this account can be seen as an attempt to make sense of the importance played by lexical government (government by V,N,A,P) in the original formulation of the ECP.

Let us turn now to the facts in Spanish and Italian. We saw earlier that these two languages violate the that t filter. Consider once again (4.8)a,b, repeated here for convenience:

(4.97) a. Chi hai detto che è arrivato ieri?  
'Who did you say arrived yesterday?'

b. ¿Quién dijiste que llegó ayer?

The analysis given before involved extraction out of pre-verbal subject position for these sentences, just like in English. However, given the way we have stated the ECP in (4.87), this is no longer an option. That position is not c-governed in these languages; and, it would not be identified from COMP, either (since the che/que is non-deletable). Thus, an analysis of these sentences involving extraction from pre-verbal position would fail the ECP on two counts.



Consider instead what the results would be if extraction occurred from post-verbal position, as argued initially in Rizzi (1979). The structure of (4.97)b would be approximately as follows (irrelevant details omitted):

(4.98) [[Quién<sup>1</sup>][dijiste [[t<sup>1</sup> - que] PRO<sup>1</sup> llegó t<sup>1</sup> ayer]]]

The trace in the lower S, after llegó, is c-governed by that verb, and it is identified by the PRO<sup>1</sup> in pre-verbal subject position.<sup>15</sup> Thus, it meets the ECP. The result is clear: extraction from post-verbal position is possible precisely because the pre-verbal position PRO can function as an identifier. Put otherwise, in these languages a pre-verbal subject PRO is to a post-verbal subject trace what a subcategorization feature is to an object trace. This is the reason why that t violations exist in these languages. Notice that this analysis connects the legitimacy of English (4.96) with that of Spanish (4.98). Both allow a que in COMP because the trace next to it is not needed to identify the trace left inside the S. Both have alternative methods of identification: one by a subcategorization feature, and one by an empty subject.

Consider now the nessuno/ninguno facts. A pre-verbal ninguno will be unextractable. Thus, the interpretation shown in (4.99)b for sentence (4.99)a will not be available.

(4.99) a. No quiero que ninguno venga.

b. NEG (Ex) [quiero [que [ x venga]].

The x in the embedded sentence will not meet the ECP. If the ninguno

is extracted from post-verbal position, on the other hand, its trace will meet the ECP, as desired. Thus, the quantifier facts discussed in section 1 above fall nicely into place. This analysis does not encounter the problems faced by the other because we do not consider INFL to be an identifier of a pre-verbal subject trace in Spanish or Italian. Rather, it is the pre-verbal subject PRO itself which identifies the post-verbal trace, and we know that extraction can only occur from post-verbal position.<sup>16</sup>

Notice finally that the clitic doubling facts mentioned in Chapter 1 also receive an adequate ECP analysis. One of the requirements of this condition, we are saying, is identification. In those cases, the traces would not be identified, since the clitic is absorbing identification. This is why the sentences are ungrammatical.

That t phenomena follow in this analysis from the particular status of subjects in English, which can only be identified by a proper antecedent in COMP. Romance languages like Spanish and Italian have an alternative method of identification, which makes extraction of subjects in those languages more akin to extraction of objects in English.

One well-known subject/object asymmetry in English was noted in Chomsky (1973). Consider the following paradigm:

- (4.100) a. John knows who saw what.  
 b. \*John knows what who saw.  
 c. Who saw what?  
 d. \*What did who see?

These examples indicate that Wh-Movement cannot move a wh phrase over a

wh subject. Notice, however, that wh-movement of a wh-phrase P is permitted if P is contained in the predicate phrase; that is, in post-verbal position. Cf.:

- (4.101) a. John remembers where Bill bought which book.  
 b. John remembers to whom Bill gave which book.  
 c. Where did you buy which book?  
 d. To whom did you give which book?

Chomsky suggests that these facts can be accounted for if we assume the following stipulation, known as the Superiority Condition:

- (4.102) No rule can involve X,Y in the structure  
 ...X... [...Z...-WYZ] ...  
 where the rule applies ambiguously to Z and Y, and Z is superior to Y. (Cf. Chomsky (1973), p. 246.)

The predicate 'is superior to' is defined as follows:

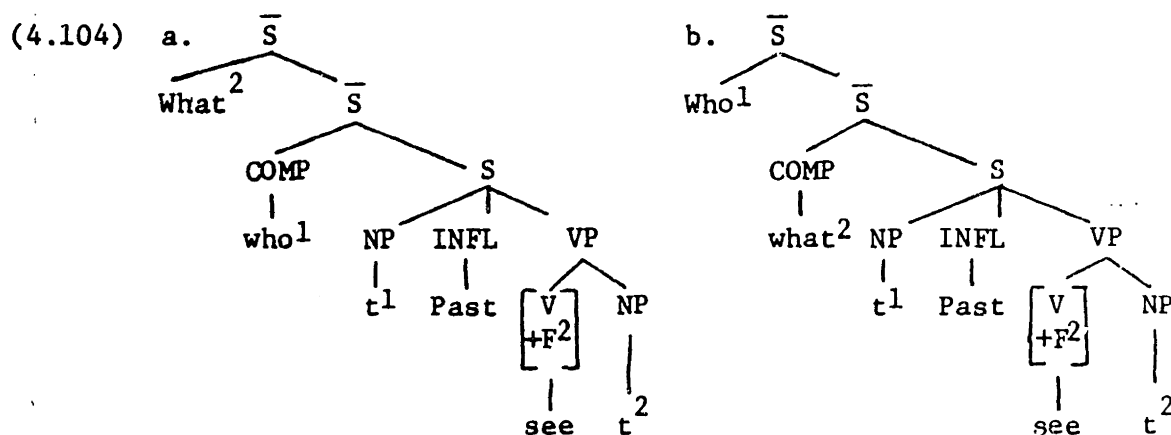
- (4.103) A is superior to B if every major category dominating MMC(A) dominates MMC(B) as well but not conversely, where MMC(X) is the minimal major category dominating X (X itself, if X is a major category). (Cf. Chomsky (1973), footnote 27, p. 246.)

More recently, Chomsky (class lectures, 1979) has suggested that the Superiority Condition may in fact be an ECP effect. This is a very plausible suggestion considering the nature of the asymmetry captured by the Superiority Condition. I would like to show that in fact it is possible to derive this stipulation from the ECP. This way of looking

at things makes interesting cross-linguistic predictions which appear to be borne out, as we will soon see.

The sentences given in (4.100) show clearly that wh subjects must be extracted by Wh-Movement if the sentence contains other wh elements which can also undergo the rule. Objects, on the other hand, may remain in place. Consider what happens to wh elements which are not moved by Wh-movement. We have assumed that they are interpreted by a later rule, which applies in LF, and preposes the wh-element to give a Quantifier... variable type representation. Let us assume further that this rule in fact adjoins the wh element to  $\bar{S}$ . In other words, a wh element moved by this rule will not properly identify its trace inside the sentence. If the trace is in subject position, the sentence will be ruled out by the ECP. If the trace is in object position, it will be properly identified by the subcategorization feature on the verb. Thus, this rule will not adversely affect extraction out of object position, but will be fatal for extraction out of subject position.

Consider what the structures of (4.100)c,d would be in more detail:



The two traces in (4.104)a meet the ECP. This is not the case with the

traces in (4.104)b. The trace in subject position,  $t^1$ , does not meet the ECP because it is not identified. Thus, we get an ECP violation precisely in the case which constitutes a Superiority violation.

This approach to the Superiority Condition makes a very strong cross-linguistic prediction. It predicts that languages like Spanish and Italian should behave differently with respect to Superiority. If our account of extraction of subject NPs in Spanish as involving extraction of a post-verbal subject is correct, then the LF rule which extracts wh elements left in place by Wh movement should not affect them adversely.

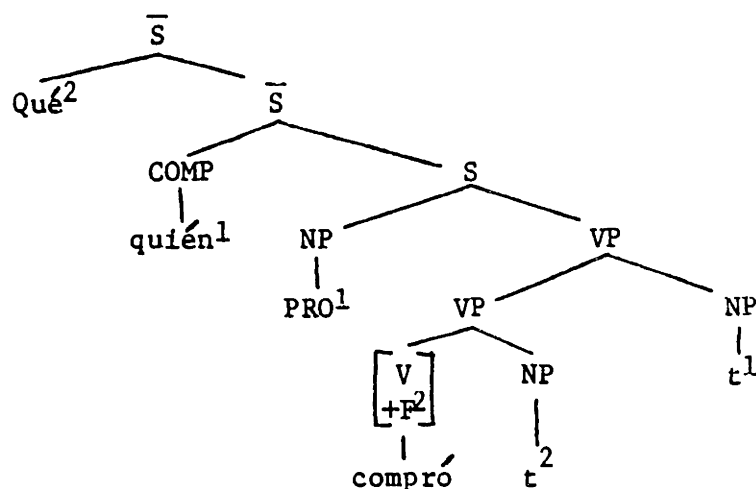
The facts confirm this prediction. Consider the following Spanish sentences:

- (4.105) a. ¿Quién compro qué?  
'Who bought what?'
- b. ¿Qué compro quién?  
'What did who buy?'
- c. Juan sabe qué dijo quién.  
'Juan knows what who said.'
- d. Juan sabe quién dijo qué.<sup>17</sup>  
'Juan knows who said what.'

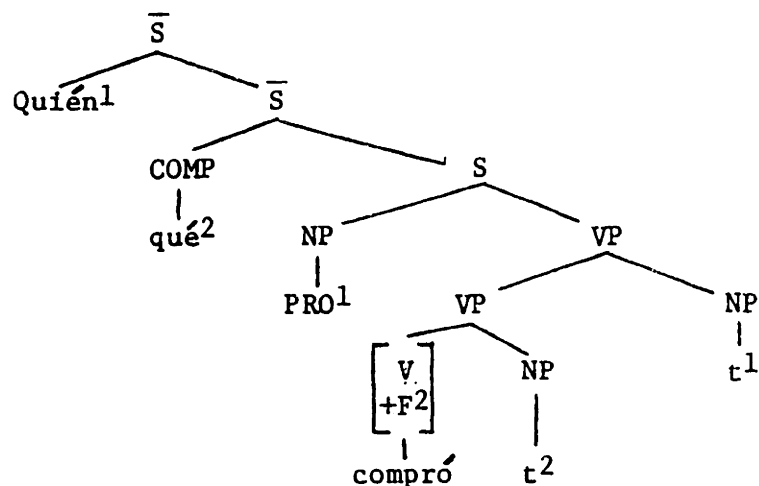
These sentences are grammatical in Spanish because they do not violate the ECP, even after the LF rule extracts those wh elements which have been left in place by Wh-Movement. This is clearly seen if we consider the structures of these sentences at the point of application of the ECP.

Cf. (only (4.105)a,b will be shown):

(4.106) a.



b.



In both cases the traces are all properly identified. The ECP is never violated. Notice that this provides internal motivation for the post-verbal extraction analysis. If subject extraction in Spanish and Italian were identical to subject extraction in English, these results could not be achieved. We would have to say that Superiority is violated in those languages. An ECP account avoids this apparent complication.<sup>18</sup>

We can summarize the results of this section as follows. A revised ECP, stated as in (4.87), provides an explanatory account of the ungrammaticality of sentences which violate the that t filter in English. The same condition also accounts for the grammaticality of similar

sentences in Spanish and Italian. An examination of some facts normally analyzed in terms of the Superiority Condition of Chomsky (1973) provides further evidence in favor of the ECP as stated here. In fact, we can dispense with the Superiority Condition altogether in favor of an ECP analysis of those facts. Such an analysis makes interesting cross-linguistic predictions which we have seen to be borne out by the facts.

#### 4.5. On PRO Movement

In section 4.3. we discussed the possibility of the ECP taking over the basic content of the condition of recoverability of deletions, at least for NPs. We suggested that deletion rules could be reduced to a bare minimum, or perhaps even excluded altogether. One of the rule types which we must consider concerns the deletion of wh elements in COMP. Such deletions have been suggested to account for a number of properties of constructions which behave as though Wh Movement were involved and yet show no wh element in COMP. One of those constructions, for example, is Topicalization. An example of this construction is given below:

(4.107) Money, I really don't think she needs.

In Chapter 1, section 7, we suggested briefly that these cases involved movement of a PRO instead of movement of a phonologically filled wh element followed by deletion. According to this idea, a sentence like (4.107) would in fact have approximately the following structure:

(4.108) [<sub>TOP</sub>Money][<sub>S</sub>[\_[PRO<sup>i</sup>][I really do not think [<sub>S</sub>[\_[t<sup>i</sup>][she needs t<sup>i</sup>]]]]].

In this section I would like to consider this idea in more detail. In particular, I will investigate its interaction with the ECP. I will

argue that a generalization of this idea to other constructions allows us to dispense with many unneeded complications which arise in the model involving movement + deletion. Furthermore, if PRO movement is a feasible alternative, we will have eliminated one more instance of deletion of a lexical NP. We might then consider the possibility that there is never any deletion of lexical material.

Let us begin by reviewing some of the constructions which have been analyzed as involving wh-movement + deletion in COMP in Chomsky (1977). Some of them are:

- a) Topicalizations (illustrated above)
- b) Clefts, as in

(4.109) It was this book that I asked Bill to read.

- c) Tough-Movement, as in

(4.110) John is easy to please.

- d) Comparatives, as in

(4.111) John is taller than Mary is.

In these cases, a deletion analysis must stipulate that the wh element must delete in COMP. If deletion fails to apply, the sentences are not grammatical. Cf.:

(4.112) \*Money, which I really don't think they need.

(4.113) \*It was this book which (that) I asked Bill to read.

(4.114) \*Mary is taller than what Bill is.



((4.114) may be grammatical in some dialects.) Given a PRO movement analysis of these constructions, we don't need to say anything about deletion, since there would be no deletion. Notice, furthermore, that we don't have to say anything about forcing movement, either. If the PRO is not moved out of its original position, the sentence will be ruled out because PRO will be in an unacceptable position. It would be case-marked and c-governed, against (4.55). If PRO is moved, it ends up in a position which is not c-governed. It will be case-marked, but not c-governed. Therefore, (4.55) will not rule the sentence out.

If we want to reanalyze all instances of movement plus deletion as involving PRO movement, we have to consider cases like the following:

- (4.115) a. the books I just bought are all rather boring.  
 b. the books that will interest you are hidden away.

(4.115)a presents no problem. We assume that a PRO is moved from direct object position of the relative clause to the COMP governed by the NP head.

(4.115)b is interesting because it is, in a sense, a "violation" of the that t filter (cf. (4.75) above). Recall that this filter has an unless condition. This proviso was included precisely to allow for sentences like (4.115)b, in which a that is followed by a trace. How can we accommodate these sentences within our analysis.

I will assume, basically following an insight of D. Pesetsky, that a special rule plays a role in this construction. It has the following effect:

$$(4.116) \quad [{}_{\text{COMP}} \text{PRO}^i - \text{that}] \longrightarrow [[\text{that} + \text{Pro}]^i].$$

That is, this rule restructures a COMP which contains a PRO and a that, turning it into a non-branching structure and adding the feature [+pronoun] to the that. This is meant as a way to capture the intuition that these that's are in fact slightly different from the complementizer that. They appear to function more as inanimate pronouns. (Compare to (4.115)b a sentence like ??the man that arrived late, which is not supposed to be allowed.) We might account for this restriction by stipulating that rule (4.116) only applies if the PRO is specified as inanimate, assuming [+animate] to be a syntactic feature. Crucial to this rule is the presence of PRO in COMP. If PRO is not there, it will not apply. For instance, it fails to apply if there is a trace in COMP, even if this is the trace of a PRO, as can be seen in the following example:

(4.117) \*A book that John said that would please you just arrived today.

(4.117) has the following structure:

(4.118) [[A book][[PRO<sup>i</sup> - that][John said [t<sup>i</sup> - that][t<sup>i</sup> would please you]]]] ...

The trace in the most embedded S, t<sup>i</sup>, does not satisfy the ECP. It is not identified by the t<sup>i</sup> in COMP, since that trace does not govern it, and the PRO is too far away. Notice that even if rule (4.116) does apply in this sentence, the sentence will be excluded. This is due to the difference between PRO and trace. Rule (4.116) requires the presence of a PRO in COMP, while in the lower COMP of (4.118) there is only a trace.

Rule (4.116) is a local rule. It says nothing about the context in

which the entire COMP is found. Consider in this respect the following sentence:

(4.119) A book arrived today that might interest you.

Its structure is approximately as in (4.120) (irrelevant details omitted):

(4.120) A book arrived today [[PRO<sup>i</sup> - that][t<sup>i</sup> might interest you]].

Rule (4.116) can apply in this structure, and the result is a grammatical sentence. That is, this analysis yields precisely the results of the unless condition on the that t filter. Nothing has to be said to accommodate those cases; at least, nothing more than what must be said to accommodate (4.115)b.

The cases discussed above recall an interesting restriction found in restrictive relative clauses in Spanish. Consider the following sentences:

- (4.121) a. la mujer que vino...  
'the woman who came...'
- b. la mujer que vimos...  
'the woman who(m) we saw...'
- c. \*la mujer quien vino...
- d. la mujer a quien vimos...
- e. \*la mujer que regalaron un libro...
- f. la mujer a quien regalaron un libro...  
'the woman to whom they gave a book...'

These sentences show that a subject can only be relativized by que, a direct object, either by que or a quien, and an indirect object only by a quien. How are these restrictions to be captured in a grammar?

I will assume that que is not a relative pronoun, but rather the

complementizer que. (This is argued for French in Kayne (1974)). The relative pronoun in those cases is phonologically null. In a deletion analysis one would move a real [-wh] relative pronoun into COMP, and then delete it. Deletion would have to be made obligatory if the relativized element is a subject; it would be optional if the element is a direct object; and otherwise it would be impossible. (We will return to this impossibility below, in connection with English.)

We will assume instead that a PRO is moved in all those cases where only que appears. The paradigm in (4.121) will now follow from the Avoid Pronoun Principle. Notice that when a subject is being relativized, a PRO can always be substituted for a [-wh] pronoun. Thus, it is always possible to avoid the pronoun in favor of PRO. This is what makes (4.121)c unacceptable: it constitutes a violation of the Avoid Pronoun Principle. What about direct objects? A PRO is certainly possible, as long as an a has not been inserted. If the a is there, a PRO is no longer possible (\*[a PRO] is not a well-formed configuration.) Therefore, in this case it is not possible to substitute a PRO for a pronoun, if the a has been chosen. Thus, we get both options: either the bare PRO, or a + relative pronoun. With indirect objects only a pronoun is possible, since the P would always c-govern and assign Case to the PRO; and here the P cannot be stranded or otherwise avoided in any way (there are no prepositionless indirect objects in Spanish). Thus, we get the obligatoriness of a relative pronoun with a preposition which must always be present; the optionality in the case of direct objects, and obligatoriness of PRO with subjects, all from the Avoid Pronoun Principle. Notice that this account is only possible if we assume that PRO is moved; and not if we assume wh

movement plus deletion. Why should deletion be sensitive to what appears to be precisely the Avoid Pronoun Principle? This would remain unexplained in a deletion analysis. It follows naturally in a PRO movement analysis.

It is interesting to note that this analysis provides precisely the correct results for Italian, too. Italian has, according to traditional grammars, two common "relative pronouns": che and cui.<sup>19</sup> We will consider one of them to be the complementizer che, while the other one is in fact a relative pronoun. Che is invariable and it is never used with prepositions. It is used for subjects and direct objects, as can be seen below:

- (4.122) a. Il signore che parla è italiano.  
'The gentleman who is speaking is Italian.'
- b. La signorina che abbiamo incontrato è una studentessa.  
'The young woman we met is a student.'

Crucially, cui cannot be used in these cases:

- (4.123) a. \*Il signore cui parla è italiano.
- b. \*La signorina cui abbiamo incontrato è una studentessa.

On the other hand, cui is used only after a preposition. Ex.:

- (4.124) a. Questa è la signorina di cui ti ho parlato.  
'This is the young woman about whom I talked to you.'
- b. La casa in cui sono arrivato è molto vecchia.  
'The house in which I have arrived is very old.'

In these cases, we cannot use che. Cf.:

- (4.125) a. \*Questa è la signora che ti ho parlato.
- b. \*La casa che sono arrivato è molto vecchia.

These facts follow directly from our assumptions. Whenever we have che, we assume that PRO movement has occurred. Since in these cases PRO is possible, the Avoid Pronoun Principle forces us to take this option. After a preposition, on the other hand, PRO is not possible; hence cui is used.<sup>20</sup>

These facts immediately bring to mind a familiar constraint which must be imposed on deletion of wh elements in COMP in order to prevent deletions of NPs inside PPs, which would yield ungrammatical results:

- (4.126) a. the man with whom Mary was talking...  
 b. \*the man with Mary was talking...

Chomsky & Lasnik (1977, p. 446) attribute this contrast to the A/A Principle.<sup>21</sup> We can attribute it in a straightforward manner to the impossibility of PRO inside a PP; i.e., \*[<sub>pp</sub> P PRO], by (4.55).

Examples like (4.126)b are mirrored by cases like the following:

- (4.127) a. With whom did Mary say she wanted to go to the movies?  
 b. \*Who(m) did Mary say with she wanted to go to the movies?  
 c. Who did Mary say she wanted to go to the movies with?

These examples show that even if a preposition may be stranded in its original position, it can never be stranded in COMP. These cases cannot involve PRO's, since there is a wh element present, although not next to the P in (4.127)b,c. We have to ask, then, what is it that permits P stranding in one case but not in the other. In other words, these examples are related to the more general question of preposition stranding to which we turn next, to conclude this section.

There is a large literature on preposition stranding within slightly different frameworks of the REST. (See van Riemsdijk (1978), Weinberg & Hornstein (1978), Baltin (1978), Kayne (1980) and sources cited there.) Our aim is not to review all the literature on this subject. Rather, we wish to consider briefly, and quite inconclusively, how such facts may be accounted for with the aid of the ECP as stated above.

Preposition stranding is a rather common phenomenon in English. But this does not appear to be the case in other languages. It is nowhere attested in the Romance languages, for example.<sup>22</sup> One can find instances of preposition stranding in Dutch, but the process seems to be rather different than what is found in English. (See van Riemsdijk (1978)). And even in English preposition stranding is not free. There are rather heavy restrictions on which prepositions can be stranded by which rules.<sup>23</sup> We will interpret this to mean that the phenomenon, though well-entrenched in English, deserves special attention from the point of view of Universal Grammar. We will take the lack of preposition stranding to be the norm among languages of the world, and its presence will be taken as 'surprising' or 'exceptional'.

Consider first the following well-known cases:

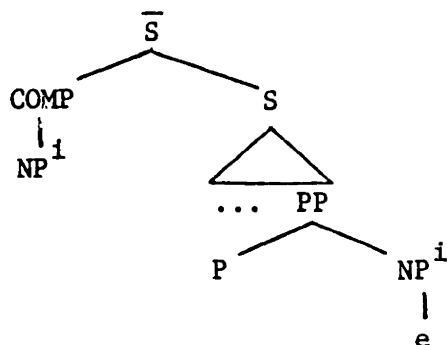
- (4.128) a. Who were you talking about?  
           b. About whom were you talking?
- (4.129) a. John saw Mary's car near that bar.  
           b. \*Which bar did John see Mary's car near?  
           c. Near which bar did John see Mary's car?

It is possible to strand the preposition in (4.128), but not in (4.129).

Let us assume, following Weinberg & Hornstein (1978), that there are two nodes from which a post-verbal PP may hang: S and VP. (See Dresher (1978), cited in Weinberg & Hornstein (1978)). The PP in (4.128)a hangs from VP. The PP in (4.129)b hangs from S. The generalization which seems to hold about these cases is that it is possible to strand a preposition if only it is in a VP PP. PP's which hang from S cannot contain stranded prepositions. Assuming this to be a correct generalization, we might wonder why this should be so. First let us consider the case of S PP's.

Consider what happens to the trace of an NP moved out of an S PP with respect to the ECP as stated above. The relevant structure would be approximately as in (4.130):

(4.130)



The trace is c-governed by P, but it is not identified, assuming that P's do not identify their complements. Crucially, notice that the element in COMP does not identify the NP trace inside the PP, because it does not govern it, according to the definition of government given in (4.82) above. Thus, this trace will not meet the ECP. Consequently, the sentence will be ruled out. More generally, any sentence in which an S PP contains a stranded preposition will be ruled out by the ECP as stated above. This is a desirable result insofar as the generalization



expressed above is true. Thus, we get an explanation for why stranding from an S PP is never allowed. (Notice that we can dispense with Weinberg & Hornstein's \*oblique trace filter.) The impossibility of (4.129)b now follows from the ECP. Notice that the ECP as stated above says nothing about movement of the whole PP. Thus, (4.129)c is allowed.

What about VP PP's? If S PP's do not allow stranding because the identification requirement of the ECP is not met, why should VP PP's allow it? Consider in connection with these questions the following well-known sentences:

- (4.131) a. John decided on the boat.  
           b. On what did John decide?  
           c. What did John decide on?

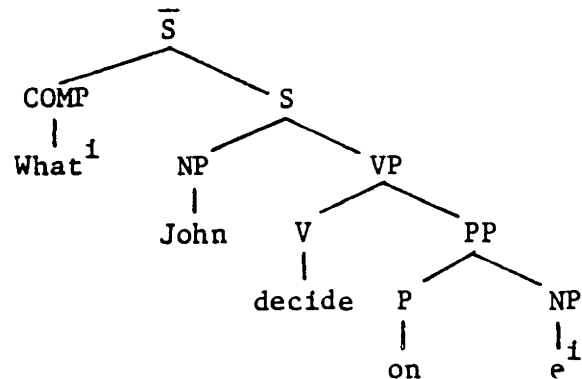
The phrase decide on NP is ambiguous. It can mean either 'to choose', or 'to make a decision at a particular place'. In one case, the string on NP does not constitute a locative phrase. One can say:

- (4.132) John decided on that particular boat at Fred's barbecue.

Here, decide on means something like 'to choose'. This is the only sense which can be associated with (4.131)c. In the other case, only the locative reading is possible. In this reading, the boat is not related to the verb decide at all. Rather, the phrase on the boat simply specifies the location at which the action of the verb took place.

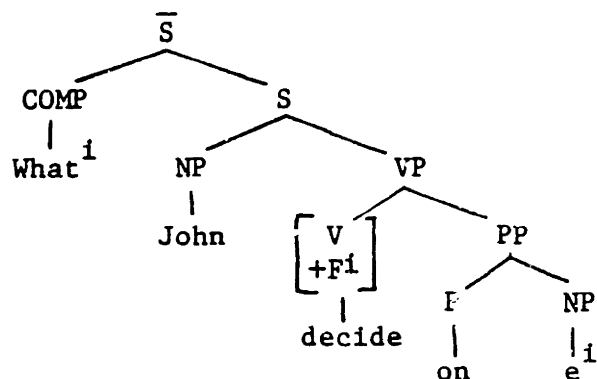
Consider now the structure of (4.131)c.

(4.133)



The *wh* element in COMP clearly does not identify the trace inside the PP. If this sentence is to be saved from the ECP, we have to assume that this trace is identified by the verb decide. In fact, let us assume that this is the case. That is, the correct structure is something like in (4.134):

(4.134)



The trace in (4.134) meets the ECP. It is c-governed by the P, and it is identified by the feature on the verb. This feature expresses the intuition that in a sense the object of the P in this case is not only the object of the preposition, but rather, an object of the verb as well. Notice that the relation between the feature  $F^i$  and the trace is exactly the longest relation allowed by our notion of government, as defined above. Thus, if the trace were embedded one level deeper, this

would not be allowed, and the sentence should be ungrammatical. Some confirmation for this idea comes from the unacceptability of sentences like:

(4.135) \*Who did John decide on Mary's picture of?<sup>24</sup>

Our proposal, then, is that English verbs have the following special property: they can identify an NP which is formally a prepositional complement. This identification, however, is restricted to exactly the same conditions which hold for other instances of identification; that is, government in the sense defined above, plus co-superscripting. Notice that this process of identification does not require adjacency. Cf.:

- (4.136) a. What table did you put the books on?  
 b. Who did you buy this book for?

This is quite compatible with our definition of identification, which does not require adjacency either. (See (4.82), (4.85)).

Up to this point all the examples of P stranding have been the result of wh movement. But this is only one method of stranding a preposition in English. English allows yet another method of stranding a preposition: via NP movement. Some examples are given below:

- (4.137) a. John was taken advantage of.  
 b. John was talked about.  
 c. Harry was cared for.  
 d. Fred was kept tabs on.

One might think at first glance that these work just like the other cases

of preposition stranding discussed above. But closer inspection shows that this can't be the case. Recall that the other cases of preposition stranding were allowed because the verb identified the complement of a preposition as its own object. However, we do not want to say that passive past participles identify NPs as objects. If there is one thing that is true about passivization it is that it is a detransitivizing operation. A 'passive' verb does not identify an object. In fact, in a simple passive, such as (4.138)

(4.138) The door was closed t by Bill.

the trace is identified by the subject NP, the door.<sup>25</sup> (We assume that the passive past participle does c-govern the trace, though, as seems natural.) If this is correct for simple passives, we are forced to conclude that in the cases of (4.138) there has been a syntactic restructuring rule which reanalyzes the sequences taken advantage of, talk about, etc., as verbs. Once this happens, the subject can be held responsible for the identification of the traces in object position.

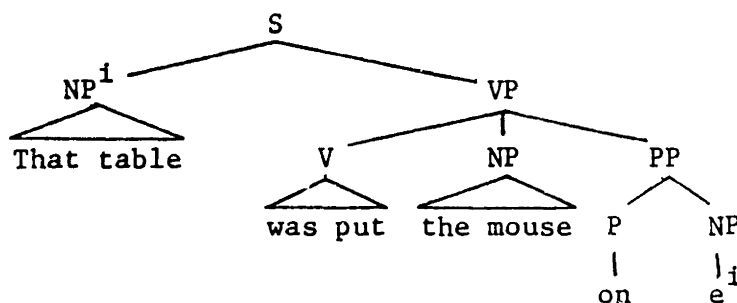
This analysis of preposition stranding via NP movement predicts, now, that there should be cases of P-stranding via Wh-movement which are unacceptable as cases of P-stranding via NP-movement. This is due to the difference in the way in which the identification requirement for the trace is met. In one case, it is identified by a feature on a (non-passive) verb. In the other, it is identified by the subject NP. The former should be able to identify NPs which are more deeply embedded than those NPs which may be identified by the latter; to be precise, one level deeper. And in fact, this prediction appears to be correct.

Consider the following pair taken from Weinberg & Hornstein (1978):

- (4.139) a. What table did Harry put the mouse on?  
 b. \*That table was put the mouse on.

This contrast is nicely accounted for within our theory if we assume that the string put the mouse on is not a possible reanalyzed string. (Why this should be so remains a mystery within this analysis as within any other analysis that I know of. The restructuring rule involved simply appears to be idiosyncratic to certain structures. Notice, however, that in the analysis proposed here this rule is required only for the NP-movement stranding cases. It is not needed for those cases of stranding which result from the application of wh-movement.) Once this is admitted, the structure of (4.139)b is as in (4.140):

(4.140)



The trace in this structure is not identified either by the verb or by the subject NP. Thus, it does not meet the requirements of the ECP. Consequently, the sentence is out. (4.139)a, on the other hand, is grammatical because the trace of what is identified, by a feature on the verb, which in this case is not a passive past participle.

We will stop our speculations on preposition stranding at this point. The matter deserves much more attention than we can give it here.

Our aim was simply to show that the version of the ECP developed above can yield fruitful results in the investigation of preposition stranding phenomena.

#### 4.6. Concluding Remarks

To conclude, I will consider briefly three topics which deserve further discussion in light of the analysis of the Empty Category Principle presented above. They are: 1) the interpretation of Focus; 2) the condition on Recoverability of deletions; and 3) the Subjacency condition.

In section 4.1. we mentioned that Chomsky pointed out that the rule which interprets focussed elements appears to violate the ECP. His example is the following:

(4.141) John said that BILL liked Mary.

If (4.141) is interpreted roughly as in (4.142),

(4.142) [For x=Bill][John said that x liked Mary].

this is indeed the case.

While I don't have a solution to this problem, I would like to point out in connection to this some very interesting facts of Spanish, some of which are reported in Contreras (1976). Consider the following sentences:

(4.143) a. Dicen que JUAN viene mañana.  
'They say that JUAN is coming tomorrow.'

b. Dicen que viene JUAN mañana.

(4.144) a. \*Siento que JUAN venga.  
'I'm sorry that JUAN is coming.'

b. Siento que venga JUAN.

In (4.143), a pre-verbal subject can be focussed as well as a post-verbal subject. The verb decir 'to say, to tell', allows both possibilities. The verb sentir 'to regret, to feel (sorry) that...', on the other hand, only allows the post-verbal subject of a sentence embedded under it to be focussed. In other words, focussed subjects embedded under sentir obey the Empty Category Principle. This may be due to the factive character of such a verb. One way to describe this data would be to say that verbs like decir do not require focussed constituents of clauses embedded under them to be extracted all the way to the front of the sentence. Rather, they admit a representation roughly as in (4.145):

(4.145) ...decir [for x = A] [...A...] .

A verb like sentir, on the other hand, does not admit such representations. It requires long extraction. That process will then be constrained by the ECP in just the required way, allowing (4.144)b while disallowing (4.144)a. If this line of investigation proves to be not too far-fetched, focus would provide evidence in favor of the ECP, instead of being a problem. Needless to say, to have any force this has to be worked out in detail. Nevertheless, the possibility that something along these lines might turn out to be true is what prompted us to present this material here.

The connection between the condition on Recoverability of deletions and the ECP was discussed in section 4.3. We noted there that one can distinguish (at least on a first level of abstraction) four different types of deletion processes, repeated here for convenience:

- (4.146) a. deletion under identity over unbounded domains.  
 b. deletion of designated elements, e.g., for, that, etc.  
 c. deletion of wh elements in COMP.  
 d. deletion of [e] in COMP.

We assume that all instances of deletion under identity over unbounded domains are to be analyzed as suggested in Chomsky (1977); that is, as involving movement. Deletion of designated elements can be avoided in favor of optional lexical insertion. Deletion of [e] in COMP might be subsumed under a general convention like rule (4.81) (and see footnote 10). Deletions of wh elements in COMP can now be analyzed as suggested in the previous section, as instances of PRO movement. Assume that this reduction is complete, and that there are no significant rules of deletion (at least of NPs) allowed by the theory of grammar. This means that the NP-gaps which are found in a sentence will have three different origins: 1) a gap could be the result of not applying a rule of lexical insertion; 2) it could be a PRO; or 3) it could be a trace. I will assume that the distribution of PRO is to be regulated by principle (4.55) -- which may in turn be derived from other principles; cf. the Introduction -- and the theory of Control. The distribution of traces is constrained by the ECP. Under this conception, then, the notion 'recoverable deletion' is (partially) taken over by the notion 'properly identified [<sub>NP</sub>e]'. The notion of 'identification' thus provides an insightful way of characterizing the notion 'recoverability'.

Finally, in connection to the Subjacency condition, I think it is important to point out one limitation of the version of the Empty Category Principle defended in this thesis. Since the ECP is a



condition on all [<sub>NP</sub>e] left by movement rules, it is not implausible to expect it to take over many of the effects normally attributed to the Subjacency Condition. We would like to show here that this is not true for the version of the ECP presented above. There are at least three crucial areas where subjacency would still be needed.

As is well known, extraction is not allowed out of a complex NP. Consider the following ungrammatical sentence:

(4.147) \*What did John believe the claim that Bill had bought t?

The Subjacency Condition rules this sentence out, assuming that NP and S are bounding nodes for that condition in English. The ECP as stated in (4.87) would not rule (4.147) ungrammatical. The trace inside the complex NP is c-governed by bought, and identified by a feature of that verb. Thus, it is properly governed, which is the requirement imposed by the ECP. The ECP would then be satisfied, and the sentence would be ruled grammatical. To rule it out, the Subjacency Condition is still needed.

The second case where the Subjacency Condition is still needed concerns extractions out of sentential subjects. Cf.:

(4.148) a. That Mary likes hash brownies surprised no one.

b. \*\*What that Mary likes t surprised no one?

(4.148)b does not violate the ECP, as stated in (4.87). The trace contained in the sentential subject is properly identified. But (4.148)b is ruled out by the Subjacency Condition, in the usual manner.

Lastly, the ECP as stated above does not provide an account of the facts discussed in Rizzi (1978b). Ross (1967) noticed that in English a

clause introduced by a wh pronoun is an island. This fact can be explained by the Subjacency Condition, assuming that NP and S are bounding nodes in English. Rizzi (1978b) advances the hypothesis that in Italian  $\bar{S}$  is a bounding node, instead of S. We then expect Ross's wh island constraint to be freely violated in Italian, a prediction which is borne out by the facts. Consider the following sentences, taken from Rizzi (1978b):

- (4.149) a. Il solo incarico che non sapevi a chi avrebbero affidato e poi finito proprio a te.  
'The only task that you didn't know to whom they would entrust has been entrusted exactly to you.'
- b. Tuo fratello, a cui mi domando che storie abbiano raccontato, era molto preoccupato.  
'Your brother, to whom I wonder which stories they told, was very worried.'

Comparable English sentences are ungrammatical. Cf.:

- (4.150) a. \*The only book which you didn't know to whom they would give wound up in the library.
- b. \*To whom didn't you know what they gave?

Both sentences in (4.150) would be allowed by the ECP as stated in (4.87). Each sentence contains two traces, and neither one of them violates the requirements of the ECP. Thus, if we abandon a subjacency account of the ungrammaticality of (4.150), our ECP would claim that these sentences should be as good as (4.149). Insofar as this is not true, the Subjacency Condition remains necessary.

It is interesting to note here that Spanish patterns with English, and against Italian, in this case. The Spanish counterparts of (4.149) are ungrammatical. Cf.:

- (4.151) a. \*El único encargo que no sabías a quién iban a dar cayó justo en tus manos.  
'The only task which you didn't know to whom they would give wound up right in your hands.'
- b. \* A quién no sabías qué le regalaron?  
'To whom didn't you know what they had given?'
- c. \*Tu hermano, a quien me pregunto que historias le habrán contado, estaba preocupadísimo.  
'Your brother, to whom I wonder what stories they have told, was very worried.'

An ECP analysis of this data would make this result very surprising. Spanish and Italian generally pattern in the same way, with respect to the ECP. On the other hand, a Subjacency analysis has no trouble accommodating this difference, under the assumption that the choice of bounding nodes is an independent open parameter. More generally, any approach which tries to correlate the so-called PRO-drop parameter -- crucial to the ECP -- to the possibility of violations of the wh island condition is cast in serious doubt by this data. Therefore, we think that the unavailability of an ECP analysis of this data under our conception of the ECP should not be considered a limitation, but rather a point in its favor.

## FOOTNOTES: CHAPTER 4

1. One question that arises immediately is the following: What is the status of traces in COMP with respect to the ECP? Must they also satisfy this condition? I will return to this question in section 4.4. We will see that different answers have slightly different consequences. For the moment, it suffices that the traces inside an S be subject to the ECP, and we can disregard those in COMP.

2. Chomsky mentions one further problem associated with the claim made above. This concerns the interpretation of so-called broad-scope quantifiers like any in English. For example, a sentence like (i):

(i) I wonder how anyone understood that talk.

appears to have the following logical representation:

(ii)  $\forall x$  I wonder how x understood that talk.

If this is indeed the right representation of these sentences, then one might wonder why it does not constitute a violation of ECP. Cf.:

(iii) \*Who did I wonder how understood the talk?

I have nothing to say about this problem. That is why I have relegated it to a footnote. Perhaps a different approach to quantifiers like any, an approach not involving wide-scope quantification, will succeed in accounting for these cases.

3. It is not at all clear that the structure of the COMP in Spanish is as indicated above. In fact, there is some evidence that instead of having the order  $[[+WH][THAT]]$ , as English is claimed to have, the structure involved is more like this:  $[[QUE][+WH]]$ . At least, this is the order of elements in a doubly-filled COMP. Spanish appears to allow

doubly-filled COMPs, at least in one particular style of speech. (See Rivero (1978)). For example, the following sentences containing both a complementizer que and an adjacent wh element are quite acceptable:

- (i) Me preguntaron que cuándo iban a llegar los Martínez.
- (ii) Preguntan que porqué quiere tanta plata.
- (iii) ?Quieren saber que a quién eligieron presidente.

I will assume that this observation is not crucial to the matter I am investigating here, although the contrary might well be true. My impression is based on the fact that with respect to the issues considered here, Spanish and Italian appear to be identical. And yet, Italian does not allow sentences like (i)-(iii). If our account of (4.16)b makes crucial use of this information, we should then wonder why (4.16)a is not different. I will assume that the same explanation should be invoked for both cases. An account of the difference in complementizer structure is left open for future research.

4. Some care must be taken in pronouncing this sentence adequately. It must bear stress on the verb quiero, and very little or no stress on ninguno. If ninguno is stressed, it may very well move all the way out, as in the starred representation in (4.29). An explanation for this fact would require an understanding of the difficult question of the interaction of stress, focus, and quantification. This investigation will be left for future research.

5. A revised version of Kayne (1979) points to precisely the same idea. The importance of an antecedent, and the insufficiency of V government

are stressed throughout the paper and repeatedly shown to hold.

6. These ideas fit in nicely with the gist of Safir's (1980) treatment of inversion.

Safir assumes that INFL must always get an I-index. An I-index is assigned to INFL in the following ways:

1. Matrix clauses:

- a. If COMP governs INFL, COMP assigns it an I-index.
- b. An 'illocutionary rule', the declarative rule, assigns an index to INFL otherwise, and the sentence is interpreted as declarative.

2. Subordinate clauses:

- a. As in (1)a above.
- b. INFL gets an I-index by percolation down from  $\bar{S}$ , INFL's  $X^{\max}$ .

3. A moved INFL transmits an I-index to its trace.

A COMP is an appropriate governor only if it contains an  $\bar{X}$  or a WH element. Subject-Auxiliary Inversion can now be seen as a process which preposes INFL to get it into an I-indexing position. In English, it is clear that INFL is all that gets preposed, since main verbs do not invert. Cf.:

- (1)
- a. Who does Henry like?
  - b. What will you buy?
  - c. \*Who likes Henry?
  - d. \*What buy you?

Spanish contrasts with English in an interesting way. The verb must move in these cases. Cf.:

- (11)
- a. ¿Qué quiere Enrique?
  - b. \*¿Qué Enrique quiere?

c. ¿Qué quieres (tu)?

d. \*¿Que tu quieres?

(It is interesting to note that there are some dialects of Spanish which do accept (ii)d. As far as I know, these are grammatical in Puerto Rican Spanish. No dialects accept (ii)b. I do not know why there should be this difference.) This would follow within Safir's theory if INFL were contained within the verb in Spanish, but not in English.

There is another noteworthy contrast. Spanish, as opposed to English, requires inversion even in embedded clauses. Cf.:

(iii) I wonder what John wants.

(iv) a. Me pregunto qué quiere Juan

b. \*Me pregunto qué Juan quiere.

This could be accounted for if we say that in Spanish percolation of an I-index is less free than in English. In fact, we might say that embedded clauses in Spanish have only one option for I-index assignments, as in (2)a above, -- that is, assignment via a filled COMP. This would have the immediate advantage that we account for the lack of 'that-deletion' in Spanish. Cf.:

(v) Juan sabe que Libertad tiene una tortuga llamada Burocracia.

(vi) \*Juan sabe Libertad tiene una tortuga llamada Burocracia.

That is, Spanish does not have the option of not inserting a that in COMP, in an embedded declarative. But if we make insertion obligatory, we would then have to resort to deletion to handle cases like the following:

(vii) Me pregunto con quién está bailando Juan.

Safir's theory, modified as suggested above for Spanish, appears to

capture exactly the right generalization: an embedded COMP must be filled. If the embedded sentence is declarative, it must be filled with a que; an embedded interrogative takes the WH element in its COMP.

Needless to say, these brief remarks are but a suggestion for an idea to be worked out in future research. They indicate, I believe, that the proposal that INFL is contained within the verb in Spanish yields interesting results when coupled with a slightly modified version of Safir's theory of inversion.

7. I believe that both the analyses in Thiersch (1978) and Safir (1980) are compatible with this idea. See Reuland (1979), Reuland (in preparation) for similar ideas concerning Dutch.

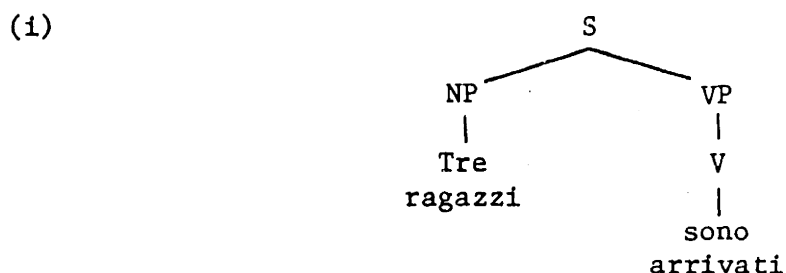
8. For those who do not read Spanish, a rough translation is given here:

The personal inflections of the Spanish conjugational system are so clear and lively that it is almost unnecessary and redundant to use a subject pronoun...Nevertheless, a pronominal subject is correctly used in Spanish for emphatic purposes, or to avoid ambiguity, depending on the particular circumstances of each case.

9. One possible reason for this requirement could be the need to assign Case to the NP in TOPIC position. Assuming TOPIC position not to be a Case assigning context, we might say that in order for the NP in it to get Case, it must be related to a Case-marked element in the sentence. (This idea was suggested to me by Noam Chomsky.) The sentences in (4.53) would then be out because the NPs in TOPIC position would not receive Case. Notice that there is an agreement process relating both elements. This recalls Chapter 3, where a similar -- though perhaps better understood -- instance of Case-inheritance through agreement is discussed.



10. One might also assume that it is derived from a structure as in (i):



But if we want to arrive at structure (4.56) from (i) we are forced to assume that movement rules are capable of sister-adjoining. I will assume that this option is not available on general theoretical grounds. The only type of adjunction permitted is Chomsky-adjunction.

11. This means that the structure of (i)

(i) Juan vino.

cannot be as in (4.72)a, but rather, must be as in (ii) below:

(ii) [Juan]<sub>i</sub> vino [e]<sub>i</sub>.

Juan is base-generated in post-verbal position, and it gets a  $\theta$ -role from that position through its trace. This adds a twist to the analysis of simple sentences like (i), but otherwise creates no further problems.

Likewise, notice that a sentence like

(iii) Vino.

can no longer be assumed to have the structure

(iv) PRO vino.

contrary to what was said in the text. Instead, we must now assume that it has the following structure:

(v) [PRO]<sub>i</sub> vino [e]<sub>i</sub>

The PRO will always move to pre-verbal position to escape c-government.

(This recalls the ungrammaticality of Italian \*Sono arrivati [tre - PRO]; see footnote 15.) Again, this causes no problems that we are aware of.

12. This deletion rule, which we will assume to operate only on the mapping from S-structure to Phonological Representations (i.e., on the left-side of the grammar), can be seen as a particular case of a more general convention proposed in Aoun (1979b). Aoun suggests, in the spirit of modularity, that certain elements present in a structure may be systematically ignored by the rules of a particular component of the grammar. If a particular element plays no role within a component, then the rules of that component simply ignore that element. That element is invisible as far as those rules are concerned. Instead of actually deleting the [e], then, one might say that it is left there, but that it is simply ignored by rules operating on the left-side of the grammar. For example, it would be ignored by the contraction rule which produces wanna from want to. (See Pullum & Postal (1978)a,b, Chomsky & Lasnik (1978) and Jaeggli (1980) for discussion.)

The issue of deletion vs. invisibility acquires some importance if one considers structures such as in (i):

(i) [[Who [you would prefer [[t - for] Bill to see t]]].

In this sentence, Bill receives Case from for, in COMP. However, notice that if the trace is there, and if it counts, then the for will not c-command Bill. Assuming that c-command is crucial to Case assignment in this instance, we would be at a loss to explain why (i) is grammatical. Assuming that the trace does not count, on the other hand, removes the problem.

Deletion would also remove the problem, of course. The structure after deletion would be:

(ii) [[who] [you would prefer [[for] Bill to see t]]].

Notice, however, that we are now left with a relation between who and t which is not subjacent. If subjacency is a filter which operates after all movement has taken place and after deletion rules -- crucially, after the rule in question -- it would rule this sentence out. On the other hand, if subjacency is not a filter, but a condition on the application of movement rules, the sentence would be in, even if its structure after deletion is as in (ii).

On the other hand, if the element is kept in place, but simply assumed to be invisible for rules like contraction and for the determination of the c-command relation necessary for Case assignment from for, we could maintain a filter version of subjacency. (For discussion of this proposal, see Freidin (1978)).

The subtle but quite distinct implications of these questions of detail were pointed out to me by N. Chomsky.

13. This definition is very close to the definition given in Chomsky (1979), which is:

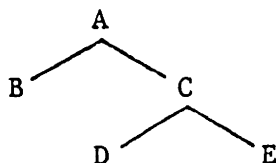
(i)  $\alpha$  governs  $\beta$  iff  $\alpha$  minimally c-commands  $\beta$ .

where,  $\alpha$  minimally c-commands  $\beta =_{\text{def}} \alpha$  c-commands  $\beta$ ,

and there is no  $\gamma$  such that  $\alpha$  c-commands  $\gamma$  and  $\gamma$  c-commands  $\beta$  and not  $\gamma$  c-commands  $\alpha$ .

One important difference between this definition and the one given in the text can be observed if we consider the following configuration:

(ii)



According to (i), B does not govern E, because it does not minimally c-command it. There is a  $\gamma$ , i.e., D, such that B c-commands  $\gamma$ , and  $\gamma$  c-commands E, and  $\gamma$  does not c-command B. Therefore, B does not minimally c-command E, and B does not govern E.

According to the definition given in the text, B does govern E. B c-commands E, and the first branching category immediately dominating E, i.e., C, c-commands B. I believe that the definition of government given in the text is very close -- perhaps identical -- to Rouveret & Vergnaud's notion of c-subjacency.

14. The choice of notation may seem a bit arbitrary at this point so it might be worthwhile to point out why it seems adequate. Let us assume that Case assignment is in fact done through the strict-subcategorization feature of a verb. That is, if a verb strictly subcategorizes a direct object, it is an assigner of accusative Case; if it strictly subcategorizes an indirect object, it can assign dative Case. Recently, Stowell (1980) has suggested that Case assignment can in fact be seen as an instance of movement. Although this idea is not adopted in this thesis, the idea that subcategorization and movement share co-superscripting is greatly enhanced if Case assignment is looked at in this way. The connection is technically still rather obscure; nevertheless, it seems like an interesting idea for future research.

15. Note that we want all cases of extraction of subjects from post-verbal position to be allowed by the ECP. This means that these subjects must be identified and c-governed. The identification requirement is met by the pre-verbal PRO, we claim. And in the case of verbs like arrivare, etc.,

the c-government requirement is met straightforwardly by these verbs. But what about cases where the post-verbal subject is adjoined to VP? How are these c-governed? Given the definition of government in the text, these NPs are not c-governed. Recall that c-government is simply government + a categorial specification. Thus, we have to revise our definition to include these cases. One particular revision which works is the following:

$\alpha$  governs  $\beta$  iff:

- (i)  $\alpha$  c-commands  $\beta$  ; or a projection of  $\alpha$  dominates  $\beta$  ; and,
- (ii)  $\beta$  , or the first maximal projection dominating  $\beta$  , c-commands  $\alpha$  .

I would like to point out that this problem is not particular to the version of the ECP advocated here; but rather, it is a general problem affecting all versions of the ECP, assuming a post-verbal extraction analysis.

It is useful to consider in connection to the above revision, the following sentences:

- (iii) a. \*Sono arrivati [tre - PRO].
- b. Ne sono arrivati [tre - t].
- (iv) a. \*Hanno parlato [tre - PRO].
- b. \*Ne hanno parlato [tre - t].

(iii)a is ungrammatical because the PRO is not in a licit position: it would be Case marked and c-governed, against (4.55). (iii)b is ok. Both sentences in (iv) are ruled out: (iv)a for the same reason that (iii)a is out, given the above revision of c-government; and (iv)b because the ne does not properly c-command its trace.

16. Extraction from post-verbal position is forced by the requirement of the ECP that all traces be c-governed. C-government is a structural relation which holds between one member of the set  $\{N, A, V, P, INFL\}$ ; i.e.,  $X^0$  in the X-bar system. Recall that we assume that INFL in Spanish and Italian does not c-govern the pre-verbal subject position. This is precisely what allows PRO there. Now, this claim should be considered carefully with respect to sentences like (i):

- (i) a. Todos los estudiantes odian las dictaduras.  
 b. Muchos de ellos están dispuestos a pelear.

In both cases we find a quantified NP in pre-verbal subject position. We have assumed that these quantified NPs are interpreted by some application of May's QR rule. This rule leaves a trace; and we have assumed in Chapter 1 that this trace is subject to the ECP, just like all other traces. If this is true, then we must somehow account for the grammaticality of these sentences, which are predicted to be unacceptable by our analysis.

Note first that I have chosen verbs which take base-generated pre-verbal subjects. We cannot claim for these cases that the subject in fact is generated in post-verbal position, and then gets moved to pre-verbal position by a late rule. (Such an analysis might have been possible for Llegaron todos los estudiantes, but not for the sentences in (i).

A more promising approach would be to say that these quantifiers are interpreted in place. That is, that they are not moved by QR at all. Notice that procedures for assigning scope to different quantifiers, which are based on c-command, will not be affected by this decision.

Pre-verbal subjects c-command all other constituents of the sentence; therefore they can be interpreted as having wide-scope even when they are not moved. They would have narrow scope, only if an object quantified NP was adjoined to S, and this result would also hold regardless of whether the NP is moved or not. This proposal, then, would involve extending quantifier interpretation to quantified expressions in place.

A third possibility would be to admit that these quantified pre-verbal subjects are indeed moved by QR. The trace left by this movement is licit only if found in post-verbal position. These subjects would then first be moved from pre-verbal to post-verbal position, and only then extracted by QR. Notice that the rightward movement would have to happen in LF, given that the phonological string is not affected by that operation. This alternative seems the least attractive. See the Conclusion.

17. The ungrammaticality of the following sentence

(i) \*Qué quién compró?

is irrelevant to the point made here. (i) is ungrammatical because the verb, which contains INFL, has not been preposed as it always must, in Spanish. Cf. footnote 5 for discussion. Notice that if inversion does not occur, an interrogative sentence is out even if it does not contain a wh element in that position.

(ii) \*Qué Juan compró?

18. Assuming a similar analysis for subject extraction in Italian, we predict that we should find the same results there. The issue gets clouded by the fact that in Italian, for reasons which are unclear to us,

non-echo questions with more than one wh element are often unacceptable, and at best highly marginal (see Rizzi (1978b), pp. 156-57). Cf.:

- (i) a. \*?Chi ha comprato che cosa?  
 b. \*?Che cosa ha comprato chi?

On the other hand, (ii) is possible with echo intonation:

- (ii) La ragazza che ha visto chi ...

The crucial point for us is that the chi in this sentence can be interpreted either as a subject or as a direct object. Thus, (ii) in its two interpretations is analogous to both (4.105)a and b in Spanish. This is evidence, then, that Italian behaves as expected given the post-verbal extraction hypothesis.

I am indebted to Luigi Burzio for help with this data.

19. There is the additional set il quale, la quale, i quali, le quali which will not concern us here, although the precise nature of their internal constituent structure raises some very interesting questions. Spanish has an identical set: el cual, la cual, los cuales, las cuales.

20. This approach to deletion in COMP provides, we believe, a very fruitful way to look at the facts of French interrogative que, so incisively analyzed in the second chapter of Obenauer (1976). A PRO movement analysis would support his main claim that French interrogative que is in fact the complementizer que. It would allow us to dispense with many of the minor rules which he is forced to assume, e.g., QUE-NON, PAS-DE-QUOI, QUE-DALLE, REL-NP-DEL. Unfortunately, we became aware of this material too late to give it the careful consideration it deserves here. We leave it open as a possibility for future research.



21. It is interesting to note that the A/A Principle in this instance has to be extended to deletion rules. Under at least one conception of the absolute A/A Principle, the one put forth in Kayne (1975), this principle holds only of movement rules, and NOT of deletions. (See Chapter 2, where the interaction of this principle, movement rules, and deletion rules in Kayne's work is discussed.) Notice furthermore that the extension involves generalizing the A/A Condition to the category ( $\alpha$  arbitrary). If 'Move  $\alpha$ ' were subject to the same general restriction, it would never be able to extract an NP from a VP, for example, since in those cases the extracted "elements, taken as members of the category  $\alpha$ , are included in larger elements of some category ( $\alpha$  being arbitrary)". (Cf. Chomsky & Lasnik (1977), p. 446).

22. There are some apparent cases of stranding in French, but we don't consider them to be real cases of stranding. See Vinet (1980) in connection with this point.

23. My understanding of matters concerning preposition stranding in English owes a great deal to Weinberg & Hornstein (1978), as the reader acquainted with their work will surely notice. In fact, my analysis borrows the basic intuition of their solution, namely the existence of some process of "reanalysis", in elaborating a slightly different account of these facts.

24. Notice that we would have to treat the  $\alpha$  in the more acceptable:

(i) ??Who did John decide on a picture of?

as a feature of the NP. That is, it should not count for branching the way a full NP such as Mary would. The status of the remains unclear.

25. This opens up the question of what identifies traces of NP-movement. The two allowed instances of NP-movement (in S) in English are Passive and Raising. We can assume that the subject NP identifies the trace in passive constructions. What about Raising constructions?

The traditional analysis of Raising constructions assume that underlying

(i) John seems to like ice cream.

there is a structure approximately as in (ii):

(ii) [e] seems [John to like ice cream]

Assuming Case theory, John must raise to get Case. If it does not, it will not get Case as the subject of the embedded infinitive, nor will it get Case from seem. seem is intransitive:

(iii) a. \*John seems Peter.

b. \*It seems John.

Raising derives (iv) from (ii):

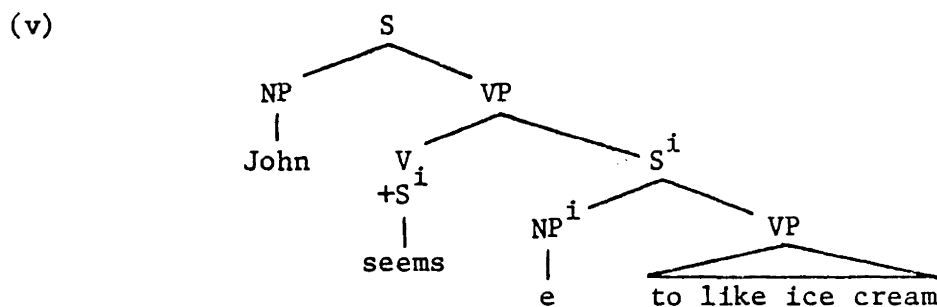
(iv) [John] seems [[e] to like ice cream]

What identifies the trace in (iv)?

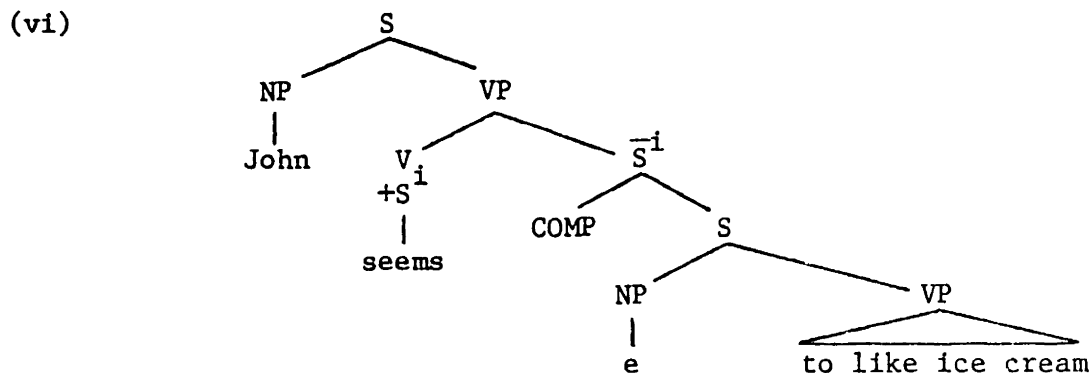
Seem can't directly identify the trace in the embedded S; as we saw, it is intransitive. Furthermore, the NP subject of seem is in all likelihood too far away to identify the trace in question. The trace is not a sister to seems, which is the deepest a subject NP can identify. This is an instance, apparently, in which a trace has no identifying superscript. Why is it not ruled out by the ECP?

To solve this problem, we would like to suggest the following. Although seem doesn't subcategorize for an NP, it does subcategorize for an S. In our terms, it identifies an S. This S will then be

superscripted with the subcategorization feature in the verb matrix of seems. I will assume that this superscript can percolate down to the subject NP. This is the only accessible level, given our definition of identification. The subject NP, then, will be provided with an identifying index, thus meeting the requirements of the ECP. (There never was any question as to what c-governs the trace of a raised NP: the raising verb does, with no extension of theoretical devices needed.) In other words, the structure of (i) is in fact (v):



Crucial to this account is the mechanism of  $\bar{S}$ -erasure. (See Chomsky (1979)). If instead of (v), the structure were as in (vi):



the trace would not satisfy the ECP. It is too far away from  $+S^i$  to be identified by it. This mechanism will then rule out

(vii) \*John was possible to come.

under the assumption that possible does not allow  $\bar{S}$ -deletion, as suggested by the contrast in (viii):

- (viii) a. It was possible for John to come.  
 b. \*It was certain for John to come.  
 c. John was certain to come.

NP-movement in NPs is only allowed in the case of "passive". Cf.:

- (ix) a. the destruction of Rome (by the barbarians).  
 b. Rome's destruction by the barbarians.

Here the trace after destruction would be identified by the subject NP.

Raising is not allowed:

- (x) \*John's certainty to win.

We follow Kayne (1979) in assuming that NP's do not assign identifying superscripts to their complements.

While many problems remain in connection with these issues, this line of attack does not appear to us to be too quixotic.

## CONCLUSION

0. We would like to present here a summary of the major results attained in this thesis, as well as some speculations on the interpretation and significance of these results.

We began our investigation guided by the assumption that empty elements in syntax must be constrained by properly stated principles of Universal Grammar. In light of this hypothesis, we considered two empty elements: PRO and trace. We saw that these elements must be considered distinct in a number of important respects, thus supporting a similar claim made in Chomsky (1979). Crucially, their distribution appears to be affected by rather different principles of Universal Grammar. These principles were investigated separately in detail.

In Chapter 1 we analyzed object clitics in Romance as instances of the appearance of PRO in object position. This is possible only if we assume that the clitics remove the conditions which otherwise prevent PRO from appearing in those positions. We found that Case assignment played a crucial role in explaining a certain amount of dialectal variation among different Romance languages, reducing this variation to a Case-parameter.

Our analysis of French subject clitics in Chapter 3 investigated the relation between these elements and certain agreement processes in that language. This account forced us to reconsider the status of post-verbal subjects. Where a traditional analysis claims that all post-verbal subjects in French are derived via a rightward movement rule, we argue that at least some of them are base-generated in post-verbal position. Such an analysis crucially involves principles of the theory

of  $\theta$ -roles. Insofar as it is successful, then, it can be said to provide support for that theory. We tried to show that some of the results of the Structure Preserving Hypothesis, including some counter-examples to it, can be derived within our approach.

In Chapter 4 we argued that the so-called 'Pro-drop Parameter' should be related to the condition on the appearance of PRO and structural considerations having to do with the position of INFL. This approach leads to an analysis of empty subjects in Spanish and Italian which provides the basis for an explanatory account of several differences between those languages and non-Pro-drop languages like English: differences concerning that-t phenomena, superiority, free inversion, the presence or absence of expletive elements like it, there, etc. As a condition on NP traces, we stated a slightly different version of the Empty Category Principle (cf. Chomsky (1979)), which involves the notion of 'identification'. The relationship between this condition and the condition on recoverability of deletions was also discussed.

All of these analyses share one particular property: they are all 'modular' analyses. That is, in providing a description of a particular set of facts, different theories were made to interact in a restrictive way. These different theories can be assumed to express properties of different levels of grammatical structure. Viewed in this light, 'modularity' is an empirical hypothesis about the structure of UG. There is no logical necessity for UG to have a modular structure. In fact, even a quick perusal of the theoretical literature in linguistics reveals many explicitly non-modular proposals. Our analyses, then, provide evidence for the modularity hypothesis. One advantage of these

modular accounts is that they permit us to do away with stipulative conditions of several types: obligatoriness conditions, extrinsic rule-ordering conditions, and complicated factorizations. These are derived from the interaction of different theoretical devices, each one of which is kept, hopefully, maximally simple. In this sense, then, modularity may allow us to restrict the power of each type of grammatical rule.

To conclude, we would like to turn to a brief examination of the conditions on PRO and trace developed in this thesis. We will take the liberty to speculate on the interpretation and significance of these conditions.

#### 1. On PRO

The basic constraint on PRO, arrived at in Chapter 4, can be stated as follows:

- (1) \*[[PRO, +CASE] if c-governed.

(See Chapter 4, section 2). A question immediately comes to mind: Why should there be a condition on Case-marked PRO's? Within the framework of Chomsky (1979), PRO's are never Case-marked. (See the Introduction.) However, we have allowed some PRO's to be marked with Case. For example, the Spanish sentence Hablo ayer has, according to our analysis, the structure [[PRO, +NOM] [hablo ayer]]. (See Chapter 4, section 2 for why this PRO must be marked with Case.) This instance of a Case-marked PRO is allowed because it is not c-governed. Recall that subject position in Spanish is not c-governed by INFL. Why can't we simply say that PRO is never allowed to be c-governed? Why must we single out

Case-marked PRO's? This has to do with our analysis of object clitics in Chapter 1. According to that analysis, some PRO's are c-governed, in particular, those found in the configuration [clitic+verb \_\_\_\_]. The reason why they are allowed, we claim, is that they are not Case-marked. The clitic has absorbed Case, thus leaving the PRO unmarked. If the clitic were absent, the PRO would be assigned Case. Then, it would be Case-marked and c-governed. This situation we claim to be impossible, given the ungrammaticality of \*Juan puso PRO, analogous to English \*John put PRO ...

Now, we would like to suggest that (1) can be looked at in a slightly different way. Instead of assuming that it is a statement on the distribution of PRO's, we might think of it as a statement about the phonological realization of PRO. One must not lose sight of the fact that PRO is simply a phonologically empty pronoun. It has all the feature specifications of a pronoun; the only thing it lacks is a phonetic matrix. We might propose, then, that pronouns are in fact always generated as PRO's, and that they get pronounced when they have Case and are c-governed. Thus, the English sentence He likes ice cream, would in fact be generated with a PRO (= [+masc, singular, 3rd person]) in subject position. Since this PRO receives nominative Case, and it is c-governed by INFL, it must be pronounced, according to our alternative interpretation of (1), which might be re-phrased as follows:

(2) Pronounce PRO if it has Case and is c-governed.

Consider now what this new way of looking at the distribution of phonologically empty and filled pronouns says about the rule traditionally



called Equi-NP deletion. It was believed first that this rule deleted an identical copy of a controlling NP. Then, it was assumed that the deleted element was a pronoun, perhaps the element self. We are now claiming that we should look at all this in exactly the opposite way. Nothing is deleted. Rather, something is not pronounced. It is not pronounced because the PRO does not meet the requirements set by (2) for pronunciation. So in fact we have the opposite situation from Equi. Within a system in which lexical insertion is optional, we believe this is the only non-redundant solution. It would be uselessly complicated to insert something only to delete it later. We are claiming that in fact this is not necessary. Once empty elements are allowed, and proper conditions are stated on their distribution, that type of analysis is no longer needed, or possible. In this sense, then, our condition on PRO appears to be well-motivated.

## 2. On the ECP

There are at least three different conditions on  $[_{NP}e]$  imposed in this thesis. In Chapter 1, we stated the following condition:

- (3)  $[_{NP}e]$  must be s-governed.

This means that a trace must be linked to a subcategorization feature. We assumed that this condition applies in LF, after LF movement rules have applied. This decision was motivated by evidence from the interaction of clitic doubling and QR in certain dialects of Spanish.

In Chapter 3, we assumed that NP traces must obey the following condition:

- (4)  $[_{NP}e]$  must be c-governed.

We noted there that this is similar to (3), but not equivalent. (4) plays a crucial role in restricting the application of Stylistic Inversion to sentences without an SCL. Recall that if there is an SCL, Stylistic Inversion is impossible. (We do not assume that Stylistic Inversion applies in the derivation of presentatives.) Furthermore, we suggested that this rule applies after S-structure, on the left side of the grammar (the "phonology"). That is, our claim is that Stylistic Inversion is in fact stylistic, in the sense of Chomsky and Lasnik (1977). It must be the case, then, that condition (4) applies on the left side of the grammar, too. In order for it to check the outputs of a stylistic rule, it must be on that side of the grammar. This establishes a clear difference, then, between (3) and (4).

In the last chapter, we reconsidered condition (3). It was clear from the beginning that the notion of s-government is too restrictive. It would never allow extraction from subject position, assuming that subjects are not subcategorized for. Instead, we introduced the notion of 'identification', which remedied this situation. The ECP was stated as follows:

(5)  $[_{NP}e]$  must be properly identified.

'Proper identification' is defined as in (6):

- (6)  $\alpha$  is properly identified iff
- (i) there is a  $\beta$  which identifies  $\alpha$ ; and
  - (ii)  $\alpha$  is c-governed.

The ECP as in (5) was assumed to apply on the right side. In a sense,

then, this version of the ECP required both (3) and (4). Insofar as (4) needs to be stated on the left side of the grammar, this appears to be an embarrassing redundancy.

We would like to suggest here that the ECP should be stated more simply than in (5), as in (7):

(7) [<sub>NP</sub>e] must be identified.

In other words, the second part of the notion 'proper identification' should be dropped from LF. That part is stated in (4), which belongs to another component. Notice that the ECP as stated in (7) is an extremely natural LF condition. It basically requires that NP traces find a proper antecedent. This appears to be the optimal statement of any condition on the distribution of traces.

Assuming that the c-government requirement belongs to the left side of the grammar solves one important problem which arose in Chapter 4 in connection with the ECP as stated in (5). In footnote 14 of Chapter 4 we remarked that the c-government requirement of the ECP as stated in that chapter causes a problem with respect to sentences like the following:

- (8) a. Todos los estudiantes odian las dictaduras.  
'All students hate dictatorships.'
- b. Muchos de ellos están dispuestos a pelear.  
'Many of them are ready to fight.'

In these sentences we find a quantified NP in pre-verbal subject position. We have assumed that these quantified NPs are interpreted by some application of May's QR rule. This rule leaves a trace, and in Chapter 1

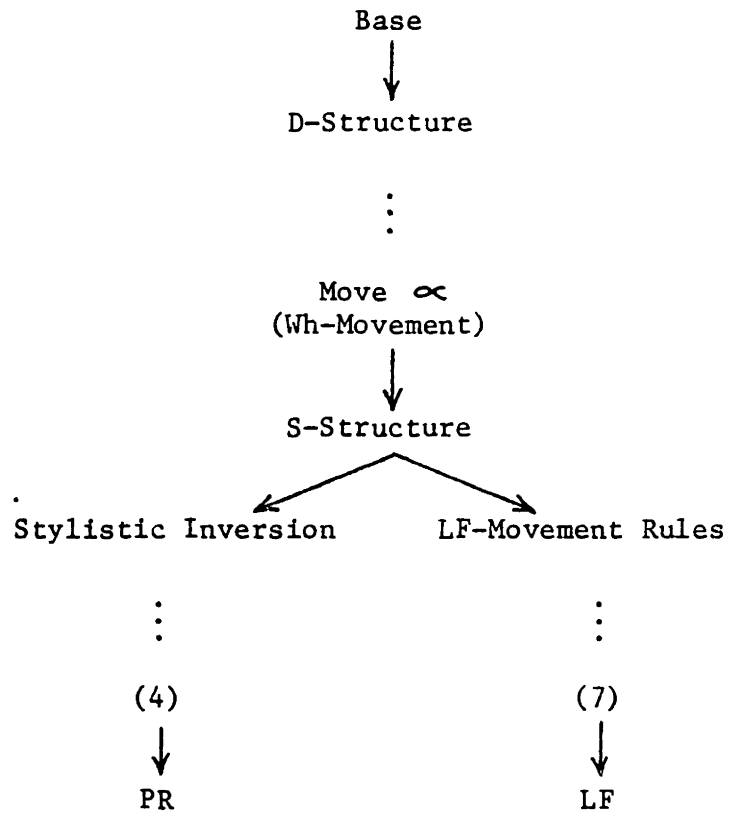
it was assumed that this trace is subject to the ECP. But subject position is not c-governed in Spanish, we argued. Why, then, are these sentences grammatical? We left the question open there, but now we are ready to provide a solution to this problem. (Incidentally, this problem arises with respect to every version of the ECP we know of, not only our own.) What we have discovered is that traces left by QR are constrained only by (7), and not by (5). This is natural if we assume that (4) applies on the phonology side of the grammar, and only (7) applies in LF. Given such a division, we predict that traces left by movement rules which apply in LF should not be sensitive to (4), but only to (7). (Our remarks on Focus in Spanish in the last section of Chapter 4 provide further evidence for this analysis.) Then, the following LF representations would be well-formed for the ECP:

- (9) [Todos los estudiantes] <sub>$\alpha$</sub>  [ $\alpha$  odian las dictaduras]  
 [Muchos de ellos] <sub>$\alpha$</sub>  [ $\alpha$  están dispuestos a pelear]

The reader can check that this reinterpretation of the ECP still accounts for the quantifier facts involving ninguno/nessuno. Notice that Wh-Movement from subject position will still be disallowed, since Wh-Movement is not an LF rule, but rather an instance of syntactic 'Move  $\alpha$ '. And (stylistic) Stylistic Inversion will only be constrained by (4), as we believe it must be. The trace in subject position left by that rule will not be subject to (7).

In other words, we want to suggest that these rules and conditions are organized as follows in the model of the grammar given in Chomsky and Lasnik (1977):

(10)



This organization avoids all the problems noted above and in Chapter 4 and predicts exactly the right results.

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