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A MINIMALIST THEORY OF PRO AND CONTROL

Roger Andrew Martin, Ph.D.

University of Connecticut, 1996

This thesis explores the nature of the empty category PRO within the Minimalist Program of Chomsky (1995). It is proposed that the distribution of PRO follows from Case theory, hence effectively eliminating the need for the notion government for this purpose. I argue, following Chomsky and Lasnik (1993), that PRO is marked with null Case and that null Case is checked only in the domain of certain instances of non-finite T(ense). Crucial to the proposal are arguments that non-finite T in control infinitivals is [+Tense], whereas non-finite T in raising infinitivals is [-Tense], as initially suggested by Stowell (1981). From this, the (near) complementary distribution of PRO and lexical DP/trace in the subject position of infinitives can be deduced.

The second part of the thesis is devoted to deriving

properties of obligatory and non-obligatory control. I argue that PRO is a clitic, corresponding roughly to the anaphoric/impersonal clitic SE in Romance. In obligatory control constructions, PRO must climb out of its own clause and cliticize to an appropriate host in the superordinate clause. This results in an instance of Chain Fusion, in which the Chain headed by the PRO-clitic and that headed by a DP in the higher clause (the "controller") are collapsed into a single Chain which receives two thematic roles. Non-obligatory control, on the other hand, involves licencing of PRO internal to its own clause by a functional head that encodes *point-of-view* (F in Uriagereka 1988). This lead to a sort of "pragmatic" control which has properties distinct from obligatory control. The difference in the mode of licensing PRO is also shown to account for a number of non-trivial differences between control in English and a variety of Romance languages.

A MINIMALIST THEORY OF PRO AND CONTROL

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B.A., University of Wisconsin-Madison, 1990

M.A., University of Connecticut, 1995

A Dissertation

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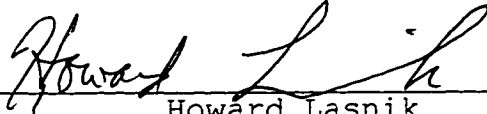
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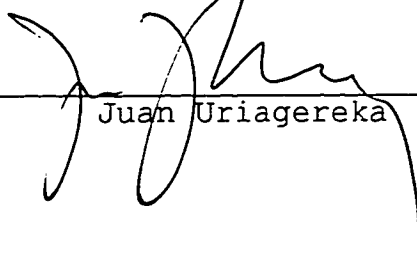
A MINIMALIST THEORY OF PRO AND CONTROL

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TABLE OF CONTENTS

Chapter 1: Introduction	1
1.1. The Minimalist Program for Linguistic Theory	1
1.2. The Minimalist Nature of Syntactic Relations .	4
1.3. A Brief Overview of the Thesis	
.	13
Notes to Chapter 1	14
 Chapter 2: The Distribution of PRO	 16
2.1. Classical Accounts of the Distribution of PRO .	16
2.1.1. Caseless PRO	16
2.1.2. PRO and the Binding Theory	18
2.2. PRO and Case Theory	21
2.2.1. The Visibility Hypothesis for PRO . . .	21
2.2.2. Does PRO Satisfy Last Resort?	24
2.2.3. The Extended Projection Principle . . .	27
2.2.4. Case-theoretic Constraints on	
Transformations	33
2.2.5. On Greed and Last Resort	37
2.2.6. Summary	44
2.3. PRO and Null Case	46

2.4. The Tense of Infinitives and Null Case	51
2.4.1. Future Tense or Modal?	54
2.4.2. Tense and Event Predicates	59
2.4.3. Propositional Infinitivals in Romance	70
2.4.4. Verb Raising in Icelandic Infinitivals	74
2.5. Agreeing Functional Categories and VP-Ellipsis	76
2.6. <i>Want</i> -type Verbs and <i>For</i> -Infinitivals	80
2.7. Raising-to-Subject Predicates	91
2.7.1. Raising Adjectives: <i>Likely</i> and <i>Certain</i>	92
2.7.2. Raising Verbs: <i>Seem</i> and <i>Appear</i>	101
2.8. Some Theoretical Consequences	105
Notes to Chapter 2	107
 Chapter 3: On Deriving Control Theory	 113
3.1. Some General Properties of Obligatory Control	115
3.1.1. Control and Anaphor Binding	118
3.1.2. The Local Nature of Control	120
3.2. Deriving Obligatory Control	130
3.2.1. Control and Clitic Climbing	134
3.2.2. The Symmetry of Control and Clitic Climbing	139
3.2.3. Kayne (1991)	150

3.3. On the Motivation for PRO-Clitic Movement . .	158
3.3.1. Case and Obviation	158
3.3.2. Grammatical Distinctness and Contextual Sameness	164
3.3.3. Null Case Revisited	167
3.3.4. On Object SE and PRO	179
3.4. Non-Obligatory Control	185
3.4.1. An F Position in Romance	186
3.4.2. <i>For</i> -infinitivals and Inflected Infinitives	199
3.5. Conclusions	205
Notes to Chapter 3	206
References	220

Chapter 1: Introduction

1.1. The Minimalist Program for Linguistic Theory

The context for this thesis is the Principles-and-Parameters approach to linguistic theory (Chomsky 1981, 1986b, 1991; Chomsky and Lasnik 1993) and, in particular, its most recent extension, the Minimalist Program (Chomsky 1993, 1995, and references cited therein). This approach to the study of human language starts with the premise that the mind/brain is endowed with a language faculty--a particular cognitive system responsible for our ability to acquire and use language. The language faculty consists in part of a 'lexicon' and a 'computational system' (C_{HL}). The latter operates on an array of items selected from the lexicon (i.e., a Numeration), yielding expressions of a particular language.¹ Throughout the thesis, the term 'language' is used to refer to

a particular state of the language faculty; or, following Chomsky, the term 'I-language' may be used interchangeably to emphasize the fact that "language" in this sense is internalistic, individual, and intentional.

As an illustration of the basic operation of C_{HL} , consider a case (simplified for the ease of discussion) where the following lexical items are selected from the lexicon: $N = \{\underline{the}(2), \underline{professor}, \underline{believed}, \underline{student}, T\}$. C_{HL} yields a (finite) number of options, one possibility being that the noun student is merged with determiner the, forming the set theoretic object $\{the, student\}$. C_{HL} can then merge the newly formed object with the verb believe, yielding a more complicated object $\{believe, \{the, student\}\}$. In some parallel space, the noun professor can be merged with the second occurrence of the, giving rise to $\{the, professor\}$. The two independent phrase markers are then merged, forming the object $\{\{the, professor\}, \{believe, \{the, student\}\}\}$. Finally, T is merged with this new object to form $\{T, \{\{the, professor\}, \{believe, \{the, student\}\}\}\}$. After the application of one or more transformations (Move), the result is the well-formed sentence The professor believed the student.

A purely combinatorial device could also generate structures corresponding to ungrammatical expressions such as: *the believe student-ed professor the, *professor the the believed student, as well as many other ill-formed outputs.

Hence, it must be the case that C_{HL} operations are restricted by way of grammatical derivational constraints (or, on some theories, constraints on outputs), hence limiting the class of grammatical expressions. It is thus one task of grammatical theory to determine the exact structure of C_{HL} and the constraints on its operation and/or possible outputs.

In terms of descriptive adequacy, the discrete computational procedure (for a particular language L) must generate all of the well-formed expressions of L , as well as account for relative degrees of *grammaticality*. It may be that some ungrammatical expressions are simply not generated by the procedure, whereas, in other cases, ungrammatical examples may be generated but determined as "unacceptable" or "gibberish" by some other aspect of the language faculty (or other cognitive systems).

To achieve empirical adequacy across the vast range of attested language-types appears to require a rich descriptive apparatus. On the other hand, the question of explanatory adequacy, which rests in-part on a solution to the logical problem of language acquisition, suggests that the range of possible variation between languages is quite narrow. The Minimalist Program in effect adds to this tension by asking a new question: To what extent is the language faculty a "perfect solution" to bare output conditions (that is,

conditions imposed by the general architecture of the mind/brain)?

1.2. The Minimalist Nature of Syntactic Relations

One of the major concerns in the thesis is the nature of syntactic relations; in particular, the question of what sorts of syntactic relations are empirically and conceptually justified as part of the computational component of the language faculty. This question is emphasized within the Minimalist Program, which is, in essence, a reductionist program. It poses the question of whether it is possible to limit the mechanisms/principles of the grammar to those which are conceptually necessary (i.e., given core assumptions about the architecture of the language faculty and its interface to other cognitive systems, things could be no other way), or at least minimal (i.e., nothing is added beyond that which is truly justified by some notion of empirical conditions).

During the past twenty or more years of research within the Principles-and-Parameters approach to generative grammar, many different syntactic relations have been proposed to account for a wide array of linguistic phenomena. For example, it is a fact that lexical items, when combined to form expressions, are structured together in a hierarchal manner. A sub-case of the 'higher-than' relation is 'command'. A

standard definition of command is as follows: A term α commands another term β , if and only if every term which dominates α also dominates β . Command turns out to be crucial, since it is implicated in a great number of grammatical principles. One of the many phenomenon that utilizes command is anaphor binding. An axiom of the theory states that certain anaphoric phrases, such as *self*-type reflexives (e.g., himself/herself), must be commanded by an antecedent.

First, it can easily be established that anaphors must have antecedents: (1a), where Mary can be taken to be the antecedent of herself, is grammatical, but expressions such as (1b), where no such relation can be established between John and herself, are ungrammatical.

- (1) a. Mary is proud of herself.
b. *John is proud of herself.

Second, as (2) shows, not only must there be an antecedent, but the antecedent must *command* the anaphor.

- (2) *_{[DP} Friends of Mary] are proud of herself.

In (2), one could argue that there is a perfectly appropriate antecedent for herself in the sentence--namely, the DP Mary--but since this DP is embedded inside DP[^] (= friends of Mary), it does not command herself (there is a node, DP[^], which dominates Mary, but does not dominate herself).

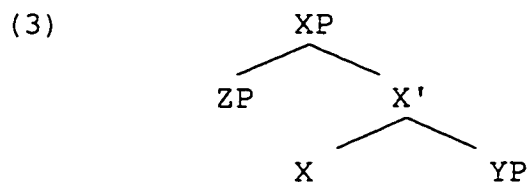
The kinds of questions that the Minimalist Program forces us to ask are: (i) Is command conceptually necessary? (ii) If not conceptually necessary, is command reducible? (iii) If neither reducible nor conceptually necessary, is command the simplest, most minimal mechanism capable of satisfying *some notion of empirical conditions*?² Under a Minimalist-type view of things, we expect that the answer to at least one of these questions is affirmative. In this particular example, Epstein (1995) argues that command is in fact conceptually necessary.

What other types of syntactic relations are accessed by the computational procedure? Much empirical and conceptual evidence can be adduced which shows that merged lexical items form phrasal constituents. In fact, on the simplest view of phrase-structure (Chomsky 1994, 1995), any lexical item by itself can be considered phrasal. In isolation, a determiner such as the is a determiner-phrase (DP): [_{DP} the]. Similarly, a noun, such as student, is a noun-phrase (NP): [_{NP} student]. If these two are merged together, we get a complex phrase: [_{α P} the student]. The interpretation of α P is at least the set $K = \{\text{the, student}\}$, but what type of phrase is α P? Evidence suggests that, in this example, α P is a DP. Hence, the determiner the is the *label* of the phrase.

Using the terminology of phrase-structure theory, the is the 'head' of the phrase (= DP) and the noun student is its

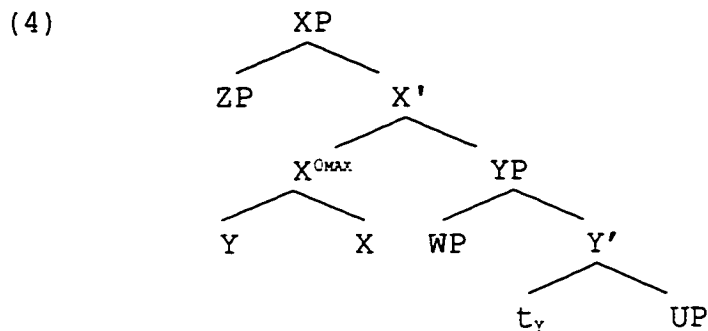
'complement'. Consider now the category T(ense). at some point in a derivation T is merged together with VP. At that stage, the label of the phrase corresponding to the set $K = \{T, VP\}$ is determined by T (i.e., it is a TP). However, some DP must still be merged into this structure to satisfy the strong EPP feature of T. This yields the phrase marker $K' = \{DP, TP\}$. The label of K' , in principle, could either be T or D, but in fact K' has all of the properties of a TP and no DP properties, hence it must be the case that T projects the label of K' (= TP) (see Chomsky 1995 for discussion). Since K' is now the *maximal* projection of T, K is rewritten as T' , merely a notational device to indicate a projection of T which is neither minimal (i.e., T itself) nor maximal.³ The position of the merged subject is called the 'specifier' of TP.

Thus, for any XP, there is a head X, and there may also be an optional complement and an optional specifier, as schematized in (3).



It appears, then, that at least two core syntactic relations emerge from phrase-structure theory, hence can be said to be conceptually necessary: (i) the relation between the head of

a phrase and its complement; and (ii) the relation between a head and its specifier. A further possibility is that the head Y adjoins to the head X; in effect, extending the lexical item:



Following the terminology of Chomsky 1995, I refer to the newly created node in (4) as X^{GMAX} since it is the maximal projection of X that functions as an X^0 .⁴

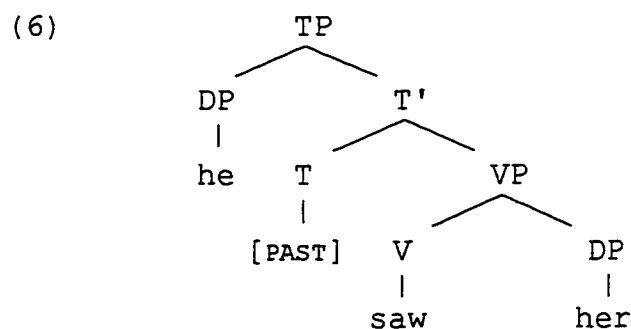
Given that the above relations simply emerge as a consequence of a bare phrase-structure theory, hence can be considered (virtual) conceptual necessities, it is not surprising to find that they play a pervasive role in syntactic computations. In fact, given Minimalism, we expect that *only* domains based on these relations will be utilized by the grammar, to the exclusion of other arbitrary relations such as, say, that between X^{GMAX} and WP, or ZP and UP in (4).

Chomsky and Lasnik (1977) show that DPs can only appear in certain positions in a structure. For example, DPs are possible as the subject of a tensed sentence, but not always

an untensed (i.e., infinitival) sentence, as the contrast in (5) shows.

- (5) a. It seems that Mary is here
 b. *It seems Mary to be here
 cf. Mary seems to be here

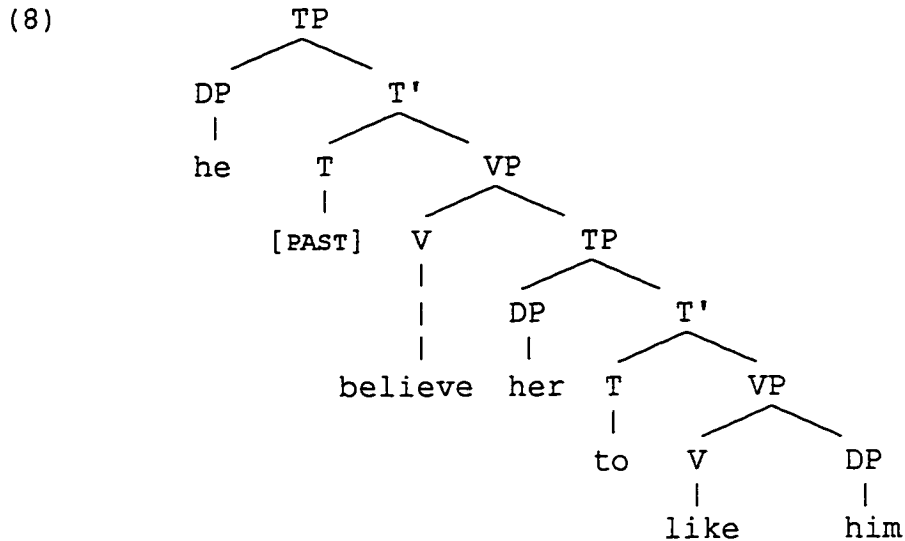
Vergnaud (1977) suggests accounting for the ungrammaticality of examples like (5b) in terms of a filter which marks as ungrammatical any sentence that contains a DP without Case. Interestingly, it seems that Case is typically licensed under core phrase-structure relations: Nominative Case is licensed in the specifier of finite tense and accusative Case is licensed in the complement position of transitive verbs:



However, in certain contexts, an accusative DP can appear in a position that is not the sister of V, such as (7).

- (7) He believed her to like him

The structure (ignoring several details) of such examples is given in (8), where I assume that to is non-finite T.



Crucially, the accusative DP her is not the complement of V, but rather the specifier of non-finite T, which presumably does not license any Case, as suggested by the ungrammaticality of (5b). However, it is not the case that there is no relation between believe and the accusative DP her. Rather, her is the *specifier of the complement of believe*. What is at issue is whether this is a *significant* relation. That is, are we forced to conclude, for the sake of empirical adequacy, that the computational system must make use of such a relation?

Chomsky (1981) proposes that the relation between believe and her in (7) falls under the definition of government:

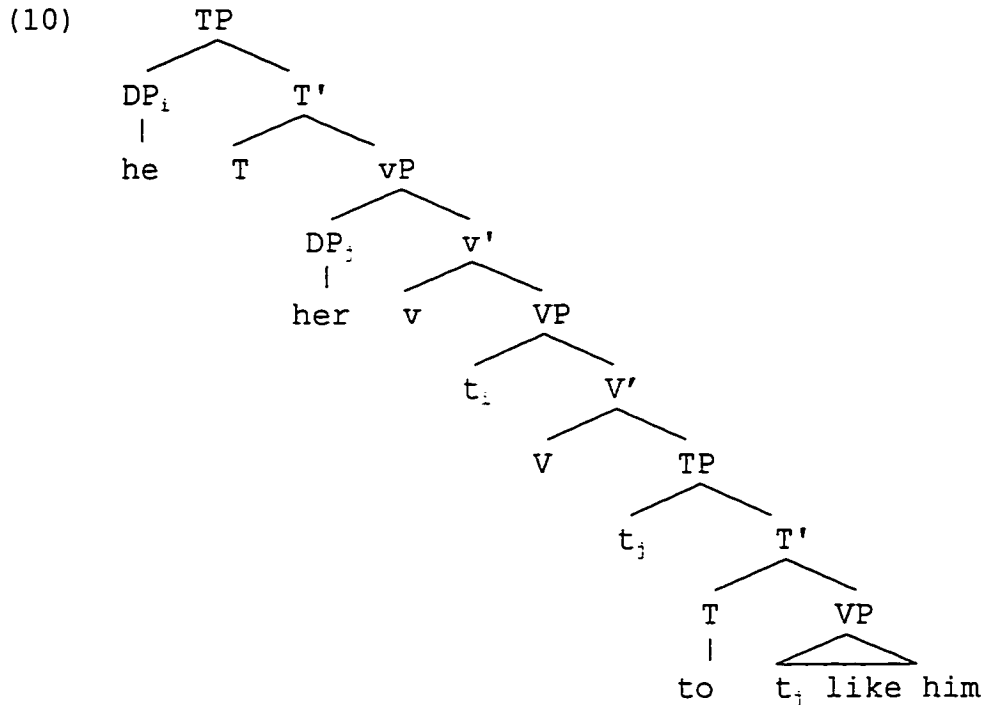
- (9) α governs γ in the structure $[\beta \dots \gamma \dots \alpha \dots \gamma \dots]$, where
- (i) $\alpha = X^0$
 - (ii) where ϕ is a maximal projection, ϕ dominates α if and only if ϕ dominates γ

This particular definition of government, due to Aoun and Sportiche 1982, has the virtue of including at least two of the configurations of Case licensing witnessed so far: head-complement, head-Spec. However, in order to include "exceptional" government of her by believe in (7), it must be assumed that the complement of believe is not a *maximal* projection. If the more natural (i.e., bare) assumption that all complements are, by definition, maximal projections is maintained, the definition in (9) simply reduces to a restatement of the core phrase-structure relations. Then, if one were to insist on claiming that believe governs her in (8) (i.e., that there is in fact a substantive relation between these two terms), further complications are necessary to ensure that some categories serve as *barriers* to government whereas others do not (see Chomsky 1986a).

Regardless, it is clear that government is not a (virtual) conceptual necessity and, further, that it does not follow in any way from a bare phrase-structure theory or the core computational operations Merge and Move/Attract. Hence the next obvious question to ask is whether government is reducible.

More recently, it has been argued--most notably by Chomsky (1991, 1993, 1995) and Lasnik and Saito (1991)--that the assumption that Case-licensing takes place under

government should be abandoned. It is argued that the accusative DP in examples such as (7) moves to a specifier position of believe prior to Case checking.⁵ A possible derivation is illustrated in (10).⁶



In (10), the embedded subject moves overtly to the specifier of the embedded (non-finite) TP to check the strong EPP-feature. Presumably at LF, the embedded subject moves to the specifier of the matrix v (to which the verb believe is adjoined) to check accusative Case. Thus, the “exceptional” relation between believe and her is reduced to a typical Case configuration: the core phrase-structure relation of head-Spec agreement.

Obviously the elimination of government in Case theory in

favor of a theory based solely on bare phrase-structure relations is desirable from the point of view of minimalism. It also raises a serious question: Can the notion government be eliminated from the theory entirely? Despite the successful reduction in Case theory, government has remained a crucial syntactic relation because it is needed to account for the distribution (and, in some theories, the interpretation) of the empty category PRO.

1.3. A Brief Overview of the Thesis

One of the purposes of this thesis is to eliminate the need for government in the account of PRO. In Chapter 2, I propose a theory that explains the distribution of PRO in terms of Case theory, based on the insights of Chomsky and Lasnik 1993, as well as Martin 1992b and 1993b.

In Chapter 3, I turn to another central issue regarding the empty category PRO: the nature of control theory. The theory of control is responsible for assigning an interpretation to PRO and raises similar questions in that it has eluded an explanation in terms of simple primitives or (virtual) conceptual necessities. I argue that control can be deduced from minimalist assumptions involving the nature of Case and agreement.

Notes to Chapter 1

1. The nature of what underlies the non-trivial differences between various languages, say, English versus Japanese is not entirely clear. Under one popular view (for example, Fukui 1986), the locus of all such differences is the lexicon. Following standard practice, I assume that lexical items contain three sets of features: phonological features, semantic features, and formal features, which are accessed by the computational system. Certainly, phonological features vary extensively across languages, but this variation is arbitrary, hence trivial. More interesting is the claim that all significant linguistic variation results from differences in the purely formal features of lexical items, the computational system itself remaining invariant. Although I adopt this view in the thesis, nothing crucial hinges on maintaining such a strong claim.

2. The italicized phrase is generally replaced by *the data*. However, this is extremely misleading, given that there is no known algorithm which identifies exactly what counts as data for the purposes of investigating the structure of the language faculty and, in particular, the computational system. Rather, what is typically referred by the term "data" (or alternatively, "the data") is the rather vague notion of native-speaker acceptability (or grammaticality) judgements. The reason for this, I believe, is that there is little else to base any so-called empirical arguments on, hence the use of acceptability judgements often appears to be the only way to proceed.

3. As a matter of fact, the interpretive component (C-I) appears to care only about maximal and minimal categories. It is an open question whether or not this entails (or should entail) that the computational system is also oblivious to intermediate projections. See Chomsky 1995 for discussion of these issues.

4. The issue of head adjunction creates numerous difficulties for a bare phrase-structure theory, which I largely ignore here. See Chomsky 1994, 1995 for discussion of these problems, as well as some possible solutions.

5. Once Case licensing is assumed to take place, at least in some instances, in the LF component, we are led to a theory of Case checking (as originally envisioned by Vergnaud 1977), rather than assignment. This is because although the Case

features of certain DPs are not licensed until LF, they are still "visible" in the PF component.

6. Here, I assume the theory from Chapter 4 of Chomsky 1995, which eliminates the AgrP projections in favor of a theory of multiple specifiers. I leave open the question of whether it is \bar{v} that checks accusative Case or whether Spec $\bar{v}P$ is only a Case checking position after raising of V to \bar{v} .

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Chapter 2: The Distribution of PRO

2.1. Classical Accounts of the Distribution of PRO

2.1.1. Caseless PRO

There have been previous attempts at accounting for the distribution of PRO in Case-theoretic terms. Analyses of this sort have typically assumed something like the principle in (1) (Bouchard 1984).

- (1) PRO must not have Case.

According to (1), PRO crucially differs from lexical DPs, which must have Case according to the Case Filter (or some similar condition).¹ The ungrammatical examples in (2) are accounted for by (1), given an additional assumption; namely, Case assignment (or checking) must be obligatory.

- (2) a. *Romário considers PRO is Brazil's best striker
 b. *Romário considers PRO to be Brazil's best striker
 c. *Romário thinks [many friends of PRO] admire him
 d. *Romário admires PRO

As pointed out in Lasnik 1992b, however, an account of the distribution of PRO based solely in terms of (1) faces a number of empirical difficulties. The subject position of a control infinitival is assumed to be a non-Case position, based in-part on the impossibility of lexical DPs. However, there do exist contexts that are apparently Caseless, yet still do not allow PRO. For example, the standard analysis of the ungrammaticality of (3a-b) is that the subject of the embedded clause fails to receive Case.

- (3) a. *Ana believed sincerely [herself to be smart]
 b. *Ana's proof [the theorem to be false]

In (3a), the matrix verb believe cannot (exceptionally) Case-mark the embedded subject due to the lack of adjacency (Stowell 1981). Similarly, the subject of the embedded infinitival clause in (3b) is not Case-marked due to the inability of nouns to assign Case across a clausal boundary (Chomsky 1986b). If PRO need only satisfy (1), in addition to heading a θ -chain, it should be possible in the Caseless environments in (3). However, this prediction is not borne out, as shown by the ungrammaticality of (4).

- (4) a. *Ana believed sincerely [PRO to be smart]
- b. *Ana's proof [PRO to be smart]

Thus, it appears that there is no obvious way to account for the distribution of PRO solely based on (1).²

2.1.2. PRO and the Binding Theory

Chomsky (1981) argues that the correct descriptive generalization is that in (5).

- (5) PRO is ungoverned.

Chomsky further attempts to derive (5) from the axioms of the binding theory stated in (6), the definitions given in (7), and the assumption that PRO is both a pronoun and anaphor.

- (6) a. An anaphor must be bound in D(omain).
- b. A pronoun must be free in D(omain).
- (7) a. The binding domain D for any Y is the Governing Category (GC) for Y.
- b. The GC for Y is the minimal DP or IP containing Y, a governor of Y, and an Accessible SUBJECT.

The logic is straightforward. Since PRO is both an anaphor and a pronoun, it must be simultaneously bound and free in its GC. The contradiction is resolved only if PRO has no GC, hence vacuously satisfying (6).

This analysis, which is known as the PRO Theorem, is attractive for the right reasons. First, given certain

assumptions, (5) correctly describes the distribution of PRO. Second, (5) can be made to follow, given certain assumptions, from the independently necessary theory of binding. However, it must be pointed out that the actual deduction resulting from (6)-(7) is weaker than (5) would have: It is only implied that PRO has no GC, not that PRO is ungoverned. Clearly, as things stand, an element could be governed, but still not have a GC, say, due to the absence of an Accessible SUBJECT. For example, in (8) PRO is governed, but lacks an Accessible SUBJECT, since the only SUBJECT, Agr, is coindexed with a category containing PRO.

(8) *[Pictures of PRO]_i Agr_i are on sale

Notably, the problem is not limited to PRO, since exactly the same situation arises with lexical reflexive anaphors:

(9) *[Pictures of herself]_i Agr_i are on sale

Assuming that it is desirable to rule out (8)-(9) by the binding theory, an auxiliary hypothesis must be made. The simplest modification that suffices to rule out the above examples is (10).

(10) If Y does not have a GC by (7), then the root IP is the GC for Y.

Although (10) correctly excludes both (8) and (9), it also

excludes any sentence containing PRO. Consider the grammatical examples involving PRO in (11).

- (11) a. [_{IP} [_{IP} PRO to study physics]₁ Agr₁ is difficult]
 b. [_{IP} Jenny likes [_{IP} PRO to study physics]]

Although IP is not a GC for PRO in either (11a) or (11b), since there is no governor of PRO, the root IP* is a GC for PRO by default, given (10). As Chomsky notes, for PRO to exist at all, (10) must be restated so that it only applies to *governed* elements:

- (12) If Y does not have a GC by (7), then the root IP is the GC for governed Y.

Chomsky's revised hypothesis correctly accounts for all of the data discussed, but it also raises a warning flag: Whereas something like (10) is surely needed to make the binding theory work for lexical anaphors and pronouns, the revision along the lines of (12) is necessitated solely to account for PRO.

There are further conceptual problems with the PRO Theorem. Certainly, we need something like the axioms in (6) to account for the distribution and interpretation of pronouns and anaphors. However, the fact that the domain D referenced in the binding axioms is defined in terms of government serves only to derive the generalization in (5). As Chomsky admits,

(7) can be restated as the much simpler (13) with only one significant consequence: the loss of an explanation for (5).

(13) The binding domain D for Y is the minimal DP or IP containing Y and an Accessible SUBJECT.

In fact, all reference to the notion government within the binding theory is made solely to account for the distribution of PRO.

2.2. PRO and Case Theory

A consequence of the PRO Theorem is that it presupposes that PRO is not Case-marked. Assuming Case requires government by a Case-assigning head (V or INFL), Case-marked PRO always has a GC, hence violating one of the binding conditions. In this section, I discuss some conceptual problems that arise under this view of PRO. I also review several potential empirical arguments that PRO is Case-marked in Chomsky and Lasnik 1993, but ultimately suggest that they are not conclusive.

2.2.1. The Visibility Hypothesis for PRO

Since the origins of Case theory, much effort has been aimed at determining exactly what principles underlie the

requirement that certain categories be Case-marked. One classical view is the (phonetic) Case Filter in (14).

- (14) *[DP], where DP is phonetically realized and does not have Case.

A problem for the Case Filter was immediately pointed out by Lasnik and Freidin (1981). They observed that not only lexical DPs, but also wh-trace must be Case-marked:

- (15) a. *The man [who [it seems [t to be here]]]
 b. *The man [ø [it seems [t to be here]]]

Since the filter (14) only applies to phonetically realized DPs, but not silent traces, the sentences in (15) should be grammatical. In particular, (15b) shows that even when the wh-operator is phonetically unrealized the Case requirement holds, hence the Case Filter in (14) cannot be salvaged by claiming that the Case requirement holds of the wh-operator, rather than the trace, as in Chomsky 1980.

Addressing Lasnik and Freidin's problem, Chomsky (1981) suggests that it is *arguments* which must be Case-marked. The proposal, referred to as the Visibility Hypothesis, is that arguments must have Case in order to be visible for θ -role assignment at LF. The trace of wh-movement, although not lexical, receives a θ -role, hence must ultimately be in a Case-position. The Visibility Hypothesis can be formally

stated in terms of a condition on Chains:

(16) Chain Visibility Condition

A Chain is visible for θ -marking only if it contains a Case-position.

Although it eliminates the difficulties caused by wh-traces, the Visibility Hypothesis has its own set of problems. Perhaps the most widely discussed is the question why expletives appear only in Case-marked positions, as indicated by the contrast in (17).

- (17) a. It seems [there is a man in the room]
 b. *It seems [there to be a man in the room]

Since expletives, by definition, do not receive a θ -role, any theory that equates the need for Case with the need for a θ -role clearly fails to explain this fact.

Chomsky (1986b, 1991, 1993) argues that this problem is only apparent. He suggests that the expletive is replaced by the associate at LF, creating an A-Chain of the standard sort (see also Belletti 1988 and Lasnik 1992a, 1995a for much relevant discussion). The LF representations of (17) after expletive replacement are given in (18).³

- (18) a. It seems [a man is t in the room]
 b. It seems [a man to be t in the room]

Given (18), the apparent fact that expletives must be in a Case position at S-structure is not because expletives require

Case. Rather, it is due to the Case requirements of the associated argument.

A more formidable challenge to the Visibility Hypothesis arises from the assumption that PRO is both ungoverned and Caseless. In particular, the question of how PRO is ever visible for θ -marking must be dealt with. Accordingly, the Chain Condition in (16) is reformulated:

- (19) Revised Chain Visibility Condition
 A Chain is visible for θ -marking if it contains a Case-position ~~or~~ is headed by PRO.

This is clearly an unsatisfactory move, since it introduces a disjunction in the Chain Condition that receives no explanation.⁴ Further, (19) constitutes a serious conceptual argument against the claim that PRO is Caseless, as dictated by the PRO Theorem (Martin 1992a; Chomsky and Lasnik 1993). In the following subsections, I review a number of potential empirical arguments that PRO is Case-marked presented in Chomsky and Lasnik 1993.

2.2.2. Does PRO Satisfy Last Resort?

In order to maintain the PRO Theorem, it must be assumed that, in examples like (20), PRO moves from its θ -position to an ungoverned position within the infinitive by S-structure.

- (20) a. John wants [to be arrested PRO]
 b. John wants [PRO to be arrested t]

Chomsky (as early as Chomsky 1986b, but most clearly in Chomsky 1993) argues that movement operations are possible only when there is a driving force, an idea which has been generally referred to as Last Resort. In particular, Chomsky argues that movement is driven solely by the need to check the formal features of lexical items. Under such a view, it is not clear that the derivation in (20) has an appropriate driving force, especially if movement to the specifier of non-finite TP, as in (20b), is only necessary to satisfy the binding axioms.

Chomsky (1993) argues for a version of Last Resort, which he calls Greed. According to Greed, not only must there be feature checking, but some feature of the *moved* element must be checked in order for a movement operation to be legitimate. If Greed is correct, then it will not suffice for there to be some feature of T that is checked as a consequence of the movement in (20), but rather, some feature of PRO itself must be checked. The most likely candidate for such a feature is Case. However, if Case is checked in the Spec of non-finite T in (20), it becomes difficult to accept the distinction, required by the PRO Theorem, that only finite T governs its specifier, since the same formal relationship exists in both instances.

More recently, Lasnik (1995b, 1996) and Chomsky (1995) have argued convincingly that Greed is empirically inadequate, and they propose a more relaxed version of Last Resort. They claim that movement is legitimate as long as it results in the checking of some feature, either of the moved element or the target. Under this proposal, the possibility that movement of PRO in (20) results solely in checking some feature of non-finite T resurfaces. Furthermore, there is, in fact, strong evidence suggesting that non-finite T has a feature which needs to be checked. Consider the data in (21)-(22).

- (21) a. *Kim wants to seem that she is intelligent
 b. Kim wants [PRO to seem [that she is intelligent]]
 c. Kim wants [to seem [that she is intelligent]]
- (22) a. Kim wants to seem intelligent
 b. Kim wants [to seem [PRO intelligent]]
 c. Kim wants [PRO to seem [t intelligent]]

Assuming that (21a) is ruled out because PRO fails to receive a θ -role, it must be the case that some principle demands the presence of PRO, as in the representation in (21b). Otherwise the alternative representation in (21c) should be possible, and the sentence is predicted to be grammatical. An obvious candidate is the Extended Projection Principle (EPP) (Chomsky 1981), which states, descriptively, that every clause must have a subject. In contrast to (21a), (22a) is grammatical. Again, the structure of (22a) cannot be as in (22b), as this would entail that (21a) can also have such a representation.

The structure in (22c), satisfies the EPP, as in (21b), the crucial difference being that, in the grammatical example, PRO heads a Chain which receives a θ -role. I conclude from this that non-finite clauses must obey the EPP and, furthermore, that PRO may move from its θ -position to Spec of TP for this purpose. It remains to be determined whether these conclusions provide any support for the claim that PRO is Case-marked. The answer, of course, will depend on exactly how the EPP is derived.

2.2.3. The Extended Projection Principle

In finite clauses, movement of DP to Spec of TP involves features of both the moved element and the target. In (23), the Case feature of the subject DP enters a checking relation with the Case feature of finite T.

(23) Kim is [t intelligent]

Clearly, the fact that DPs must check their own Case features does not suffice to derive the EPP. In (24), every DP is in a Case-checking relation, yet the sentence is ungrammatical.

(24) *John T believes [T seems [that Kim T is intelligent]]

Suppose that, in addition to those of DPs, the Case features of heads must also be checked. With this assumption,

the effect of the EPP is deducible for finite clauses (Martin 1992a, 1993a). In particular, (24) would be ruled out due to the presence of an unchecked Case feature of T. A distinction must be made between the Case feature of T and that of V, assuming that objects do not raise overtly. The distinction between strong and weak features introduced in Chomsky 1993 has exactly this effect: Strong features cannot enter into PF computations, hence must be checked overtly. Weak features, on the other hand, are permitted at PF, hence need only be checked prior to LF. Once it is stipulated that the Case feature of T is strong, whereas the Case feature of V is weak, the fact that EPP only holds for subject position and not for object position (at least overtly) follows.

Given that in finite clauses the EPP reduces to the presence of a strong Case feature in T, and, furthermore, the EPP holds in non-finite clauses, the null hypothesis is that non-finite T has a strong Case feature. However, this line of reasoning runs into a serious problem once Exceptional Case Marking (ECM) structures are added to the picture.

Chomsky (1991) and Lasnik and Saito (1991) argue that the Case feature of the subject of infinitival complements to ECM verbs is checked in the Spec of a higher AGRP, as illustrated in (25).

- (25) a. John believes her to be intelligent
 b. John T [_{AGRP} her [_{AGR} believes-Agr] [_{VP} t_{John} t_v [_{TP} t_{her} to be t_{her} intelligent]]]

If verbal Case features are weak, as in English, Case-driven movement of the accusative DP should procrastinate until LF. But, clearly there is overt movement in the derivation of (25a), since the embedded subject is not in its θ -position at Spell-out. Assuming that the accusative DP does not move all the way to the higher AGRP overtly, as seems to be the case, then it must be moving to some intermediate position within the infinitival clause. This intermediate position is presumably Spec of TP, yielding the structure in (26) at the point of Spell-out; hence, the movement is of the sort traditionally described by the EPP.

- (26) John believes [_{TP} her to be [t_{her} intelligent]]

The EPP effects in (26), cannot be deduced from the presence of a strong Case feature if, as I will argue extensively below, non-finite T in ECM infinitivals does not have any Case feature, the only Case position available to the accusative DP being in the higher clause. Also, if movement of the sort witnessed in (26) were Case-driven, multiple infinitival raising constructions, such as (27a), should not be possible, since raising out of a Case-checked position is

generally prohibited, as illustrated by the ungrammaticality of (27b).

- (27) a. John believes [Kim to seem [_{t_{Kim}}' to be [_{t_{Kim}} intelligent]]]
 b. *Kim is believed [_{t_{Kim}} is intelligent]

These examples show more generally that movement to Spec TP in (26) cannot be solely driven by the need to satisfy some feature of DP, otherwise multiple raising is predicted to be impossible.⁵ This leads to the conclusion that the movement is driven by the need to check a feature of T.

Chomsky (1995) stipulates that T, both finite and non-finite, has an EPP-feature, distinct from Case, which must be checked against the categorial feature D, in effect concluding that the EPP is not derivable from the theory of Case.⁶ One consequence of this proposal, if correct, is that it is no longer possible to argue that a DP is Case-marked, based on the observation that it undergoes movement to Spec of TP, since this movement may simply be a consequence of the EPP. In other words, (20) no longer provides evidence for Case-marked PRO, since any DP, with or without Case, can check the EPP-feature of T.

Chomsky and Lasnik note some further data that seems to suggest that the EPP may not be relevant to non-finite control clauses. If movement of PRO in (20) is directly analogous to

movement of DP in (26), it is predicted that an expletive can be inserted in Spec TP to check the EPP-feature, since this option exists alongside of examples like (26), as well as in finite contexts, as shown in (28)-(29).

- (28) a. John wants/believes [_{TP} a man to be [t here]]
 b. John wants/believes [_{TP} there to be [a man here]]
- (29) a. A man is [t here]
 b. There is [a man here]

However, the above prediction is not borne out, as illustrated in (30).

- (30) a. A man wants/will try [_{TP} PRO to be [t here]]
 b. *A man wants/will try [_{TP} there to be [PRO here]]

The LF representation of (30b) is identical to the grammatical (30a), following expletive replacement (or, alternatively, adjunction to the expletive). Recall that expletives do not need Case, as discussed above. Expletives typically appear in Case positions due to the need for the associate to check its Case features. If the associate is PRO, which, by hypothesis, does not need Case, there should not be any Case requirement on the expletive either.

Based on (30b), Chomsky and Lasnik (1993) conclude that PRO must move to the specifier of non-finite TP overtly, whereas other arguments may do so at LF. In Martin 1992b, I suggested an account of these facts based on the assumption

that the EPP-feature of non-finite T in control infinitivals is weak. However, it is not clear what it means for an EPP-feature to be weak, given that the EPP seems to be about *strength* and nothing else. A more appealing interpretation of the above facts involves postulating a Case feature: Suppose that there is not only a strong EPP-feature in these infinitivals, but also a strong Case feature. Then, insertion of an expletive in Spec TP would not be sufficient, since the expletive could not check the strong Case feature (or, alternatively, if it did check the Case feature, there would be no way for the associate to check Case at LF). If these conjectures are on the right track, we would be back to the conclusion that PRO has Case.

However, Howard Lasnik (personal communication) suggests that (30b) may be ruled out independently. Consider the examples in (31).

- (31) a. A man thinks he is in the room.
 b. A man believes himself to be in the room.
 c. *A man thinks there is he in the room.
 d. *A man believes there to be himself in the room.

The crucial examples are (31c-d), which show that pronouns and anaphors are interpreted as definite, even when bound by indefinite antecedents. This discussion assumes that (31c-d) violate the definiteness restriction on the associate of there (Milsark 1974). Since PRO is interpreted as (something like)

a bound variable at LF, (30b) may be ungrammatical for the same reason as (31c-d). While this argument is not conclusive, due to the lack of current theoretical understanding regarding both the nature of control and the definiteness restriction, it substantially weakens any conclusions made based on (30b).

2.2.4. Case-theoretic Constraints on Transformations

Chomsky and Lasnik (1993) provide one additional argument that PRO is Case-marked, based on the similarity between the behavior of PRO with respect to a certain Case-related constraints on movement and typical Case-marked DPs. It is well-known that there is no A-movement out of a Case-checked position (see, for example, Chomsky 1986b, 1993, 1995; Martin 1992a; and Chomsky and Lasnik 1993, among many others), as illustrated by the examples in (32)-(33).

- (32) a. *I prefer for him to seem to t that he is clever.
 b. I prefer for it to seem to him that he is clever.
- (33) a. *I prefer for him to strike t that he is clever.
 b. I prefer for it to strike him that he is clever.

In recent years, Chomsky has expressed this constraint in terms of an economy condition on derivations: The DP him, in (32a)-(33a), is already in a Case-checking configuration prior to undergoing A-movement, hence there is no "need" to move to a Case position, where economy considerations of some sort

prevent "unnecessary" movements. If the relevant notion of economy is Last Resort, it would seem that these examples argue in favor of something like Greed, since "need" must be defined solely in terms of the element that undergoes movement. In particular, although T is "needy" (it has an unchecked EPP-feature), this does not sanction movement in (32a)-(33a). I argue below that Last Resort does not play a role in the account of (32a)-(33a), hence these examples do not provide an argument for Greed. For the moment, it suffices to note that there is a question as to exactly how economy blocks movement in (32a)-(33a).

As Chomsky and Lasnik point out, PRO obeys the same constraint on movement. The examples in (34) are completely parallel to (32a)-(33a), except that PRO rather than lexical DP has moved from a Case-checked position.

- (34) a. *He prefers PRO to strike t that he is clever.
 b. *He prefers PRO to seem to t that he is clever.

In (34), PRO moves to a position where it can normally appear, as shown by the grammatical (35).

- (35) a. He prefers [PRO to strike John [as t clever]]
 b. He prefers [PRO to seem to John [t to be clever]]

Furthermore, movement of PRO in (34) satisfies the EPP, as discussed above. Apparently, no principle is violated in (34) other than the economy constraint which prohibits A-movement

from a Case position. Chomsky and Lasnik argue that, given the underlying intuition that this Case-theoretic constraint is Last Resort/Greed, if PRO does not have Case, it would be mysterious why it obeys this constraint. On the other hand, the ungrammaticality of (34a-b) can be naturally assimilated to the ungrammaticality of (32a)-(33a) by assuming that PRO, like all other (argument) DPs, is Case-marked.

Nonetheless, there is a major empirical problem for an account of (32a)-(33a) and (34) based on Last Resort/Greed. Consider the examples in (36)-(37).

- (36) a. *He seems to t [that Mary is clever]
 b. *It seems to he [that Mary is clever]
 c. It seems to him [that Mary is clever]
- (37) a. *He strikes t [that Mary is clever]
 b. *It strikes he [that Mary is clever]
 c. It strikes him [that Mary is clever]

In (36a)-(37a), the nominative Case feature of he cannot be checked in its original position, as shown by the ungrammaticality of (36b)-(37b), as compared to (36c)-(37c). Still, A-movement from checking configurations involving non-matching Case features is prohibited, despite the fact that this movement would be necessary to check the Case feature of he. Thus, the actual descriptive generalization is that there is no A-Movement of DP from a Case position P, regardless of whether or not the Case feature of DP match that of P.

Martin (1992a) shows that the facts in (36)-(37) follow immediately from the theory of feature checking and the assumption that all Case features, including those of heads, must be checked. A simple conception of feature checking is that it only involves configurations of *matching* features within a minimal (checking) domain. For example, if a DP in the checking domain of T (say, Spec of TP) and T both have nominative Case features, the matching features are checked and can be deleted, as shown in (38).

- (38) a. $\begin{array}{ccccc} [_{TF} & DP & T & [_{VF} & . & . & . &]] \\ & NOM & NOM & & & & & \end{array}$
- b. $\begin{array}{ccccc} [_{TF} & DP & T & [_{VF} & . & . & . &]] \\ & \emptyset & \emptyset & & & & & \end{array}$

In this light, consider the problematic examples in (36a) and (37a). The nominative Case feature of he does not match the Case feature of to or strike, hence neither feature is checked.⁷ Under the current view, there is no reason to assume that DP is not free to move to Spec of TP, at which point the matching Case features can be checked. However, the derivation will still crash (either at PF or LF depending on matters of strength), since the non-interpretable Case feature of to/strike remains unchecked. If this view of feature checking is correct, the ungrammaticality of (34) can be explained, even on the assumption that PRO is not Case-marked: PRO simply

fails to check the Case feature of the verb or preposition leading to a derivation crash.

2.2.5. On Greed and Last Resort

In my analysis presented in the preceding subsection, the ungrammatical examples in (32a)-(33a) are not considered to be violations of Last Resort; hence, they no longer constitute an argument that Last Resort must be stated as Greed. Boškovic (1995b) and Lasnik (1995b, 1996) discuss a different set of ungrammatical examples which do appear to require something like Greed if they are to be ruled out. Consider (39), where the DP Mary has raised from a Case position in an attempt to check an EPP-feature of non-finite T embedded under the ECM verb believe:

(39) *John believes [Mary to seem [t is clever]]

Sentences such as (39) do not pose a real problem, however, since the raised DP can only check one of the two non-interpretable Case features, either that of the most embedded finite T or that of believe. Hence, one of the Case features will remain unchecked and the derivation will ultimately crash. Boškovic, however, questions what would happen if the verb believe is replaced with a verb BELIEVE, which has the same properties as believe except that it lacks a Case

feature. Clearly, it is predicted that examples parallel to (39) with BELIEVE, as in (40), should be grammatical.

(40) *John BELIEVES [Mary to seem [is clever]]

However, there is no reason to think that BELIEVE in fact exists, so the ungrammaticality of (40) does not provide a strong argument one way or another.

A more interesting question is whether there are any verbs with the properties of BELIEVE; namely, verbs that take a propositional complement but do not have a Case feature. Two possible candidates in English are remark and conjecture, as illustrated by the following examples:

- (41) a. John remarked that Ana is clever
- b. *John remarked something
- c. *John remarked [Ana to be clever]
- (42) a. John conjectured that Ana is clever
- b. *John conjectured something
- c. *John conjectured [Ana to be clever]

Now, consider the data in (43)-(44), where the (a) examples are parallel to (39)-(40) and the (b) examples simply establish that the EPP must be satisfied in these contexts.

- (43) a. *John remarked [Ana to seem [t is clever]]
- b. *John remarked [to seem [Ana is clever]]
- (44) a. *John conjectured [Ana to seem [t is clever]]
- b. *John conjectured [to seem [Ana is clever]]

The ungrammaticality of (43b)-(44b) is not a problem because

the EPP-feature of non-finite T is unchecked. The reason for the ungrammaticality of (43a)-(44a), however, is less clear. If the matrix verbs do not have a Case feature to check, an analysis parallel to that for (39) above is impossible. Boškovic argues that Last Resort is responsible for ruling out (43a)-(44a). Furthermore, he argues that these examples provide evidence that Last Resort must be formulated as Greed. The movement in (43a)-(44a) facilitates the checking of the EPP-feature of the target, but, crucially, no feature of the moved DP is checked as a result of the operation.

However, note that the examples in (43a)-(44a) do not improve if an expletive is inserted in the intermediate Spec of TP to satisfy the EPP, rather than raising of the most embedded subject:

- (45) a. *John conjectured there to seem a woman is clever
 b. *John remarked there to seem a woman is clever

I assume, following Chomsky, that expletives do not require Case. Then, it is hard to see what could be wrong with these examples. In particular, Greed (or Last Resort) cannot be at issue, since no movement is involved in (the relevant parts of) the derivation of (45).

Boškovic also discusses several other contexts with the same abstract properties as infinitivals embedded under BELIEVE-type verbs, shown in (46).

- (46) a. *John's belief [Ana to seem [t is clever]]
 b. *[Ana to seem [t is clever]] is believed by John

Here too, there is no unchecked Case feature on which we can blame the ungrammaticality of these sentences. The assumption that nominals and passives do not have Case features is well motivated by the facts in (47).

- (47) a. *John's belief [Ana to be clever]
 b. *It is believed [Ana to be clever] (by John)
 c. *[Ana to be clever] is believed (by John)

As shown in (48), insertion of an expletive in Spec of TP also yields ungrammaticality, suggesting again that the problem is not purely Case-theoretic.

- (48) a. *John's belief [there to seem [a woman is clever]]
 b. *[There to seem a woman is clever] is believed by John

Ormazabal (1995) argues that propositional complements, whether finite or non-finite, of ECM verbs are necessarily CPs, due to reasons of semantic selection. Following Pesetsky 1991, Ormazabal analyzes the zero complementizer in such infinitivals as an affix, which must incorporate to the selecting head. Assuming that nouns such as belief are derived from the corresponding verbs by zero affixation (in other words, they are morphologically complex), further zero-affixation is blocked by Myers' Generalization (Myers 1984),

which states that a stem that has undergone zero-affixation cannot undergo further affixation. In this way, Ormazabal is able to account for the ungrammaticality of (47a). The ungrammaticality of (47b) is also predicted, since, after passivization, the selecting head fails to c-command the base position of the affix, preventing formation of a licit Chain. The point I would like to make is that Ormazabal's theory not only explains the ungrammaticality of (47), but also extends, trivially, to account for (46) and (48) in exactly the same way.

It could be argued that accounting for (47) in terms of constraints on zero affixation is unmotivated, given that Case-theoretic analyses of such sentences are also available. For example, if nouns do not check Case, the DP subject of the infinitival fails to check Case in (47a). Similar analyses extend to examples like (47b). However, Ormazabal provides very convincing evidence that an analysis in terms of Case is insufficient. He shows that examples such as (47a) are ungrammatical even in Romance languages, such as Spanish, where the subject of the infinitival is PRO.

- (49) a. Hobbes cree [PRO haber aterrizado en Marte]
 Hobbes believes have-INF landed on Mars
 'Hobbes believes himself to have landed on Mars'
 b. *Su creencia (de) [PRO haber aterrizado en Marte]
 his belief (of) have-INF landed on Mars

Since PRO is either Caseless, as in traditional analyses, or

has its Case checked by non-finite T, as in the analysis proposed in this thesis, the ungrammaticality of (49b) cannot be related to inability of nouns to check Case. The ungrammaticality of (49b) also cannot be due to a general constraint prohibiting nouns from taking infinitival complements. As Ormazabal shows, when the complement is a non-propositional infinitival, hence an IP on his analysis, the result is fully grammatical:

- (50) Su intencion de [PRO aterrizar en Marte]
 his intention of land-INF on Mars
 'His intention to land on Mars'

Hence, an account of (46) in terms of Greed is clearly redundant with Ormazabal's independently needed analysis of (47). Furthermore, unlike the analysis based on Greed, the zero complementizer analysis also extends trivially to (48).

Still unexplained, however, are the examples involving BELIEVE-type verbs, as in (43a)-(44a) above. I argue that this class of verbs, insofar as they exist, also falls under the scope of Ormazabal's explanation. Recall that the problem presented by this class of verbs arises from the fact that they do not have a Case feature. This leads to the prediction that a DP can raise from a Case position to check the EPP-feature of the infinitival complement of these verbs (where the subject of the infinitive does not receive a θ -role).

The real question, of course, is why there are transitive verbs that do not check Case to begin with.⁵ A probable answer, in my opinion, is that these verbs represent the reverse situation of the derived "verbal" nouns considered above. That is to say, verbs such as remark and conjecture are derived from underlying structures involving a light verb plus a *nominal* complement (e.g., make a remark, make a conjecture), where the light verb is a zero affix. If this analysis is on the right track, the ungrammaticality of (43)-(44) is easily explained by Ormazabal's theory. Also, the otherwise mysterious fact that these transitive "verbs" do not check Case is trivially explained: They consist, in part, of underlying nouns, which presumably absorb the Case feature of the verbal affix. Furthermore, the relative obscurity of this class of verbs (only a few BELIEVE-type verbs have been identified) is plausibly due to the low productivity of the morphological derivation that underlies them.

There is independent empirical support for my analysis of remark and conjecture. It is predicted that BELIEVE-type verbs not only disallow non-finite propositional complements, which always have zero complementizers, but that they also disallow finite complements with zero complementizers. This prediction is apparently borne out, as illustrated below:

- (51) a. Zico remarked [that he will soon retire]
 b. *Zico remarked [ø he will soon retire]
 c. The remark [that he will soon retire]
 d. *The remark [ø he will soon retire]
- (52) a. Zico conjectured [that he will soon retire]
 b. *Zico conjectured [ø he will soon retire]
 c. The conjecture [that he will soon retire]
 d. *The conjecture [ø he will soon retire]
- (53) a. Zico believes [that he will soon retire]
 b. Zico believes [ø he will soon retire]
 c. The belief [that he will soon retire]
 d. *The belief [ø he will soon retire]

As can be seen by the contrast between (51b)-(52b) and (53b), BELIEVE-type verbs differ systematically from believe-type verbs with respect to the possibility of a zero complementizer. Also, as expected, there is no difference in this regard in the corresponding noun-plus-finite-complement structures, as shown in (51c-d)-(53c-d).

I have argued in this subsection that Greed is both unnecessary and insufficient to account for the facts. This allows Last Resort to be stated in the conceptually and empirically superior terms of Chomsky 1995: A movement operation satisfies Last Resort if it results in feature checking.

2.2.6. Summary

Chomsky and Lasnik (1993) provide several very interesting empirical arguments that PRO is Case-marked,

contrary to the standard assumption. However, in the sections above, I have shown that, once the details and assumptions of a minimalist Case theory are spelled out, none of their arguments actually require that PRO has Case. In particular, PRO may move from a non-Case position in order to satisfy the EPP-feature of non-finite T, which does not reduce to Case according to Chomsky (1995). Also, the fact that movement of PRO is not possible from a Case position may simply follow from the fact that it necessarily strands behind an unchecked non-interpretable feature.

Still, I have shown conclusively that the EPP holds for non-finite control clauses. Even if the EPP does not reduce to Case per se, it still must involve feature-checking, if minimalist assumptions are to be maintained. Insofar as a feature-checking configuration is established between PRO and non-finite T, it is difficult to distinguish this from the relationship between lexical subjects and finite T. If finite T governs its Spec, how could non-finite (control) T not?

Also, the conceptual problem with the Visibility Hypothesis remains. I follow Chomsky and Lasnik in taking this to be one of the most compelling reasons to believe that PRO is Case-marked. In the remainder of this chapter, I will defend and elaborate this view. In doing so, I present several new empirical arguments that provide support for the claim that PRO does in fact have Case.

2.3. PRO and Null Case

Chomsky and Lasnik (1993) argue that, contrary to standard assumptions, PRO is Case-marked, effectively eliminating the anomaly in the Chain Condition in (19). They further propose that non-finite T can check Case, since PRO is typically the subject of an infinitival clause:

(54) Romário tried [PRO to score the winning goal]

Whereas PRO can be the subject of the infinitival clause in (54), lexical DP cannot, as the ungrammaticality of (55) shows.

(55) *Romário tried [Bebeto to score the winning goal]

To account for this, Chomsky and Lasnik propose that non-finite T checks *null Case*, which is distinct from other types of structural Case, such as nominative, accusative, and dative. Moreover, they suggest that PRO, which is in some sense "weak" or minimal, is the sole DP compatible with null Case. These assumptions are listed in (56).

- (56) a. Non-finite T checks null Case.
b. Only PRO has null Case.

The assumptions in (56) correctly predict that PRO can be the subject of a non-finite clause, as in (54). The contrast

between (54) and (55) is also predicted, since only PRO can be licensed in the null Case-checked position, given (56a).

Chomsky and Lasnik also argue that PRO can only have null Case. In other words, PRO is incompatible with other structural Cases, such as accusative, nominative, or dative:

(57) PRO is only compatible with null Case.

The assumption in (57), together with the assumptions in (56), significantly restricts the possible occurrences of PRO. Recall the ungrammatical sentences containing PRO in (2), repeated below as (58).

- (58) a. *Romário considers PRO is Brazil's best striker
 b. *Romário considers PRO to be Brazil's best striker
 c. *Romário thinks [many friends of PRO] admire him
 d. Romário admires PRO

If PRO can only be licensed with null Case and, furthermore, non-finite T is the only head that checks null Case, it is correctly predicted that PRO is possible only in the checking domain of non-finite T. In particular, PRO is not licensed in nominative or accusative positions, as in (58). This is an important result because much of the burden of accounting for the restricted distribution of PRO is alleviated by these Case-theoretic considerations. If it turns out that the distribution of PRO entirely follows from Case theory, the PRO Theorem, now redundant, becomes unnecessary. I have argued

that once the PRO Theorem is replaced, the notion government can be eliminated from the binding theory entirely.

Unfortunately, Chomsky and Lasnik's proposal falls short of fully accounting for PRO's distribution. Given their assumption that non-finite T invariably checks null Case, it is predicted that PRO can be the subject of any infinitival clause. However, this is not borne out, as the contrasts in (59)-(60) illustrate.

- (59) a. Tulio tried [PRO to stay onsidés]
 b. *Tulio believes [PRO to have stayed onsidés]
- (60) a. For Tulio, it is difficult [PRO to stay onsidés]
 b. *To Tulio, it seems [PRO to have stayed onsidés]

Some additional principle is necessary to rule out (59b)-(60b). As Watanabe (1993) notes, if verbs such as believe must check their accusative Case feature, as I have argued above, some accusative-marked DP must end up in its checking domain in order for a derivation to converge. Since PRO is not compatible with accusative Case, there is no way for believe to check its Case feature in (59b). However, this solution would not extend to (60b), since seem does not have any unchecked accusative Case feature.⁹

The grammatical examples in (61) show the problem to be all that more formidable.

- (61) a. The linesman believed Romário to have been onsidés
 b. Romário seems to the linesman to have been onsidés

As discussed extensively above, A-movement is never possible from a Case-checked position. This was illustrated by the impossibility of raising in (32)-(33), and is further shown by the parallel examples in (62) below.

- (62) a. *Romário_i seems to t_i that he was onsidies
 b. *Romário_i strikes t_i that he was onsidies

Also, recall that DP cannot undergo A-movement from a Case position P, even if DP's Case features do not *match* those of P, as evidenced by (36)-(37) above. Furthermore, the same constraint bars covert A-movement from a Case-checked position as well. This is shown by impossibility of LF movement of a man to the position of there in (63), assuming Chomsky's expletive replacement analysis.

- (63) *There seems to a man [that Kim solved the problem]

The seriousness of the problem raised by Chomsky and Lasnik's assumption in (56a) now becomes transparent. The sentences in (61) are incorrectly predicted to be ungrammatical, since A-movement should not be possible from the checking domain of non-finite T, even for a non-null Case-marked DP. (61b) shows an instance of overt A-movement of a lexical DP to the specifier of finite T, whereas (61b) involves covert A-movement of to to an accusative-checked position in the matrix clause. If this raising were to

originate from a Case position, as assumed by Chomsky and Lasnik, both of the examples in (61) should be as deviant as (62).¹⁰

In sum, Chomsky and Lasnik's assumption that non-finite T invariantly checks null Case raises two related problems. First, it incorrectly predicts that PRO should be possible as the subject of raising infinitivals: Given their assumptions, there is no obvious way to rule out the ungrammatical examples in (59b)-(60b) on purely Case-theoretic grounds. Second, both overt and covert raising of lexical DPs out of infinitivals, as in (61), is predicted to be impossible, contrary to fact. The first problem can be resolved by maintaining the government-based PRO Theorem. It is much less clear how the second problem could be overcome. More generally, Chomsky and Lasnik's theory fails to account for the following generalization:

- (64) a. The subject of an infinitival complement of a control predicate (at LF) is PRO.
- b. The subject of the infinitival complement of a raising predicate (at LF) is DP-trace.

Some way of distinguishing these two different types of infinitival complements is clearly needed. In this thesis, I propose that non-finite T in control infinitivals checks (null) Case, whereas non-finite T in raising infinitivals, on the other hand, does not check Case. The apparent similarity

between the infinitival clauses in (59a)-(60a) and those in (59b)-(60b) is misleading: PRO is not in a Case position in (59b)-(60b). In the following sections, I will show that there is both a principled basis for this distinction, as well as considerable empirical evidence supporting it (Martin 1992b, 1993b; Lasnik 1993).

2.4. The Tense of Infinitives and Null Case

I argue that the proposed Case distinction between control infinitivals and raising infinitivals correlates with an interpretive difference noted by Stowell (1982) (see also Stowell 1981). Stowell shows that infinitival control complements and raising complements exhibit dissimilar temporal properties. In (65), the event-time of the embedded infinitive is "unrealized" with respect to the event-time of the matrix predicate.

- (65) a. Ginny remembered [PRO to bring the wine]
 b. Kim decided [PRO to go to the party]
 c. Romário promised Bebeto [PRO to pass the ball]

For example, in (65a), the time of Ginny's remembering is necessarily prior to that of wine-buying. In (65), the matrix event-time, e.g., the time at which there was a certain decision, and the embedded "future" or "hypothetical" party-going event are disjoint temporally. In (65c), just because

Romário makes a particular promise does not entail that Bebeto will ever get a touch on the ball. In many infinitival control complements, the event time is clearly shifted into the future, as confirmed by the fact that perfective aspect is impossible in such cases:

- (66) a. *Ginny remembered to have bought some beer¹¹
 b. *Kim decided to have gone to the party
 c. Romário promised Bebeto to have passed the ball

It is important to note that, although similar to the interpretation of finite clauses containing the future tense modal will, the interpretation of the non-finite control infinitivals in (65) is distinct from that of the embedded finite clauses in (67).

- (67) a. Ginny remembered that she will buy some beer
 b. Kim decided that she will go to the party
 c. Romário promised Bebeto that he will pass the ball

In (67a), not only must beer-buying occur after remembering, it must also occur after *utterance time* (hereafter, UT). Even when embedded under a past tense, the modal will takes UT as its evaluation time (Enç 1987, 1996; Stowell 1993). In (65), there is no such restriction: The embedded event-time, although shifted into the future with respect to the matrix event-time, can be prior to UT.

This difference can easily be accounted for by insisting that complement clauses containing will always take wide-scope

over any c-commanding past tenses; hence, in effect, will always takes UT as its evaluation time (Stowell 1993; Uribe-Etxebarria 1994). Non-finite control clauses, on the other hand, can remain in the scope of a c-commanding past tense, much like clauses containing the modal would:

- (68) a. Ginny remembered that she would buy the beer (so she went to the store and bought it)
 b. Kim decided that she would go to the party (and she did go)
 c. Romário promised Bebeto that he would pass the ball (and he did)

Stowell (1982) observes that raising infinitivals, on the other hand, receive very different interpretations. In particular, the time/interval denoted by the infinitival must coincide with the matrix event-time, as seen in the sentences in (69).¹²

- (69) a. Everyone believed [Rebecca to be the best basketball player at UConn]
 b. The doctor showed [Bill to be sick]
 c. The defendant seemed to the DA [t to be a conspirator]

(69a), for example, is true if and only if at some past time (or interval) T every person believed that Rebecca was the best basketball player at UConn at (during) T. Crucially, (69a) cannot mean that at some past time T every person believed that Rebecca would someday become the best basketball player at UConn.

Stowell (1982) characterizes this interpretive difference between control and raising infinitivals in terms of a feature $[\pm\text{Tense}]$. In other words, non-finite T comes in two varieties. When selected by control predicates, it is $[\text{+Tense}]$, whereas $[-\text{Tense}]$ is selected by ECM/raising predicates. The proposed Case-checking distinction between non-finite T in control and raising infinitivals now receives a natural explanation: $[\text{+Tense}]$, in general, checks Case, the finite form being nominative and the non-finite form being null. T with a $[-\text{Tense}]$ specification, on the other hand, does not check Case at all.

2.4.1. Future Tense or Modal?

How is $[\text{+Tense}]$ interpreted in non-finite clauses? I have suggested, following Stowell (1982) and Bresnan (1972), that we are dealing with some sort of future-denoting element. Here, I attempt to characterize the nature of the $[\text{+Tense}]$ element in more detail. In all of the examples witnessed so far, $[\text{+Tense}]$ in control infinitivals seems to denote a "hypothetical" future time interpreted with respect to some evaluation time. The evaluation time need not be UT, as is the case with "absolute future" uses of the modal will. For this reason, I have suggested that the interpretation of $[\text{+Tense}]$ element in control infinitivals is more similar to the modal

would, which, in common usage, denotes a "hypothetical" future. This works well for the infinitival complements of most control predicates. However, as noted by Karttunen (1971), implicative verbs behave very differently, hence seem to be a barrier to a uniform treatment of tense in control infinitivals.¹³

Consider the following examples:

- (70) a. Dida managed to stop the goal
 b. Jenny remembered to bring the beer
 c. Riválido saw fit to wear the #10 jersey
 d. Brazil took it upon itself to win the World Cup
- (71) a. Dida stopped the goal
 b. Jenny brought the beer
 c. Riválido wore the #10 jersey
 d. Brazil won the World Cup

Karttunen observes that there is an entailment relation between each of the sentences in (70a-c) and those in (71a-c), respectively. In other words, if (70a) is true, then it must be the case that (71a) is also true.¹⁴ Thus, Karttunen assumes that the non-finite complements in (70) are past tense, as in the parallel finite sentences in (71).

Factive predicates raise a very similar problem. Consider the relation that exists between the sentences in (72a-c) and those in (73a-c):

- (72) a. Kerri was happy to win a gold medal
 b. Romário was proud to play in World Cup '94
 c. To win the race pleased Michael

- (73) a. Kerri won a gold medal
 b. Romário played in World Cup '94
 c. Michael won the race

Each of the sentences in (72a-c) presupposes the truth of the corresponding sentence in (73a-c), again suggesting that the [+Tense] element in the non-finite clauses in (72) is interpreted as past, rather than future.

The examples in (70) and (72) raise a serious problem if it is assumed that the [+Tense] element in non-finite control infinitivals is future tense, as has been pointed out by many people. On the other hand, if this element is a modal, such as would, no such problem arises.

I take the distinguishing properties of modals to be the following: First, they check (or at least co-occur with) "subject" Case. Second, they affect temporal interpretations. Third, although they are most often future oriented, modals, unlike pure tenses, can have a variety of different effects on temporal interpretations, depending on factors such as the presence of other operators, presuppositions, context variables, and the like.

The third point is made clearly by Enç (1996), who argues that English will is a modal, rather than a future tense, based primarily on the fact that it sometimes denotes present:

- (74) Pat will be sleeping now

In (74), the modal expresses *epistemic necessity*. Enç argues that the *intensional*, non-future uses of will can cover a variety of modalities. For example, (75) expresses what Enç calls *dispositional necessity* and is clearly non-future.

- (75) Sarah will sometimes play music loud to annoy her mother

From this perspective, note that overt occurrences of modals would or should in factive and implicative contexts can take on an “understood” past tense interpretation:

- (76) a. It turned out that Brazil would win the World Cup
b. As it happened, Brazil would win the World Cup
- (77) a. That Brazil should win the World Cup didn't surprise me at all
b. Mary was happy that she should win the race
- (78) a. For Bill to do something like that surprised me
b. It surprised me that Bill would do something like that

Also, note that, in certain contexts, non-finite tense is better paraphrased as should, rather than would, as the following examples illustrate:

- (79) a. Mary knew to do that
b. Mary knew that she should do that
c. Mary knew that she would do that
- (80) a. Mary wasn't sure whether to do that
b. Mary wasn't sure whether she should do that
c. Mary wasn't sure whether she would do that

- (81) a. Mary didn't know what to do
 b. Mary didn't know what she should do
 c. Mary didn't know what she would do

In (79)-(81), the best finite paraphrase for the (a) sentences are the sentences in (b), not those in (c). Thus, it appears that [+Tense] is realized as the null counterpart to should in indirect questions and factive complements, otherwise it is null would. Furthermore, I have shown that the possible interpretations of would/should in non-finite contexts are identical to those in finite contexts. While a formal semantics of modals and their effects on temporal interpretations is needed to make this precise, that task is beyond the scope of this thesis.

Finally, I must stress that what is crucial for the theory put forth in this thesis is that control infinitivals contain some sort of temporal operator and that it is implicated in the checking of null Case. Whether or not this element always expresses future is, to some extent, tangential to the central point being made here. As will be discussed extensively in the next subsection, there is another important litmus test for the presence of tense/modal operators that abstracts away from the issue of future orientation; namely, the possibility of event-denoting predicates.

2.4.2. Tense and Event Predicates

The tense distinction between control and raising infinitivals has already been shown to have many interesting consequences. In this section, I argue that it provides an explanation for the otherwise puzzling fact that 'eventive' predicates are possible in control infinitivals but not in raising infinitivals. The embedded predicates used in (65) all denote events, whereas the embedded predicates in (69) all denote states. The sentences in (82) show that event-predicates cannot occur in raising infinitivals.

- (82) a. *Everyone believed [Rebecca to win the game right then]
 b. *The doctor showed [Bill to take the wrong medicine at that exact time]
 c. *The defendant seemed to the DA [t to conspire against the government at the that exact time]

I assume, essentially following Enç (1990), that event-denoting predicates contain 'event' variables which must be bound by tense or some other (temporal) operator in order to denote an individuated event. In the absence of semantically significant tense or other like quantification, only state-denoting predicates are possible. If raising infinitivals do not have tense features, as I have claimed, the examples in (82) are correctly excluded. Embedded stative predicates, as in the grammatical (69), do not pose a problem, since they do

not contain variables. The presence of [+Tense] in control infinitivals, on the other hand, allows for the licensing of a predicate denoting a individuated (or punctual) event, as in (65).

Enç (1990) also observes that in English event-denoting predicates, although possible with past tense, are not possible with simple present:

- (83) a. John sang (yesterday)
b. John sings (*right now)

(83b) is completely ungrammatical on the present tense interpretation, which is forced by addition of the temporal adverbial right now. As expected, state-denoting predicates are possible in either tense, as shown in (84).

- (84) a. John was sick (yesterday)
b. John is sick (right now)

Informally, the interpretive rules, for past and present tense, are as in (85)-(86) (adapted from Enç 1990).

- (85) PAST: The event-time denotation of a sentence with past tense *is prior to* evaluation time (either UT in the case of a matrix tense or the event-time of the closest c-commanding predicate in the case of an embedded tense).
- (86) PRESENT: The event-time denotation of a sentence with present tense *is* evaluation time.

For example, (84b) is true if and only if John is sick at the

time of utterance. As noted above, if the interpretive rule in (86) is applied to (83b), the result is ungrammatical: There is no reading where 'John sings' is true if and only if John is singing at the time of utterance.

There are readings on which the sentence 'John sings' is grammatical. Enç argues that event-predicates are possible in present tense in English only if they are scope of a temporal operator. For example, on one reading, 'John sings' is true if and only if singing is a habitual trait/property of John. Assuming that this interpretation is the result of the presence of a null 'habitual' operator, no problem arises for the current theory. The examples in (87) illustrate other possible interpretations, in addition to the so-called habitual reading, which arguably involve temporal/modal operators; overt, in the case of (87a) and (87c), or covert in (87b).

- (87) a. John rarely/always sings (adverb of frequency)
 b. Firemen put out fires (generic property)
 c. If John puts out the fire, . . .

In (87a), the event variable of sing can be bound by a quantificational adverb of frequency. (87b) implies that putting out fires is a typical or generic property of firemen. The examples in (87) surely do not exhaust the ways in which present tense event-predicates can be interpreted, but they are indicative of the fact that this possibility always

requires the presence of some sort temporal quantifier or operator.

Given the argument that the absence of individuated event-denoting predicates in raising infinitivals is a consequence of the absence of semantic tense features, it is logical to conclude that English has no finite present tense either. Enç (1990) makes just such an argument, based on the facts in (83). In addition, she correctly observes that the interpretive rule for present tense in (86) is vacuous, in the sense that it does not affect the previously existing evaluation time (e.g., UT for a matrix tense or the event-time of the embedding predicate for an embedded tense).¹⁵ That is, the same interpretation results whether (86) applies or not.

However, Enç's analysis is not unproblematic. One obvious difficulty is that it becomes necessary to show that the different inflectional forms of non-past verbs, as well as Case and the EPP, are simply a matter of ϕ -features (Johnson 1992). A more serious problem for the claim that English does not have present tense arises from the fact that the sentences in (88) exhibit distinct interpretive properties.

- (88) a. John proved Mary to be pregnant
 b. John proved that Mary is pregnant

The correct interpretation of (88a) can be achieved either by the assumption that the embedded infinitival contains present

tense, subject to (86), or by the assumption that it contains no tense at all. In either case, the sentence is true if and only if Mary is pregnant at the evaluation time, which in this case is the matrix event time. On the other hand, (88b), in which a finite clause with present tense is embedded under past, has a very different interpretation. In order for the sentence to be true the duration of Mary's pregnancy must include both the matrix event time and UT. Such a reading is possible in (88a) as well, but the point is that it is obligatory in (88b).

The relevant distinction is more transparent in (89).

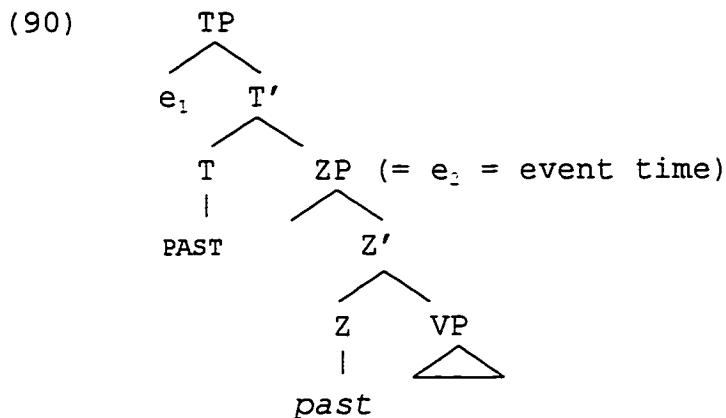
- (89) a. Two years ago, John proved Mary to be pregnant
 b. #Two years ago, John proved that Mary is pregnant

The only possible reading for (89b) is one in which the duration of Mary's being pregnant is at least two years, which leads to an absurdity given common world-knowledge. This is not the case in (89a), which allows the interval of Mary's pregnancy to be entirely in the past.

Thus, sentences containing present tense embedded under past have what Enç calls 'double access' interpretations: An embedded present tense is interpreted with respect to *both* the event-time of the next highest predicate and UT. What is crucial is that, even in English, the double-access reading seems to be a property of *present tense*, rather than the

absence of tense, as evidenced by the fact that such readings are not obligatory with raising infinitivals.

Slightly modifying ideas of Stowell (1993, 1995, to appear), I will assume that what is generally referred to as T(ense) in the syntactic literature corresponds to two distinct functional heads: A quantificational head located in T (represented hereafter as PAST, PRESENT, WILL, etc.), which relates evaluation times and event times according to rules like (85)-(86), and a head Z (referred to hereafter as *past*, *present*), which corresponds to the morphological tense features realized on the verb:¹⁶



I assume that the ZP complement of T denotes an event/state time, e_2 , for the VP. The head T locates the denotation of ZP in relation to its evaluation time, represented by a null argument e_1 in Spec of TP. This null argument appears to be something like a temporal context variable, normally fixed by

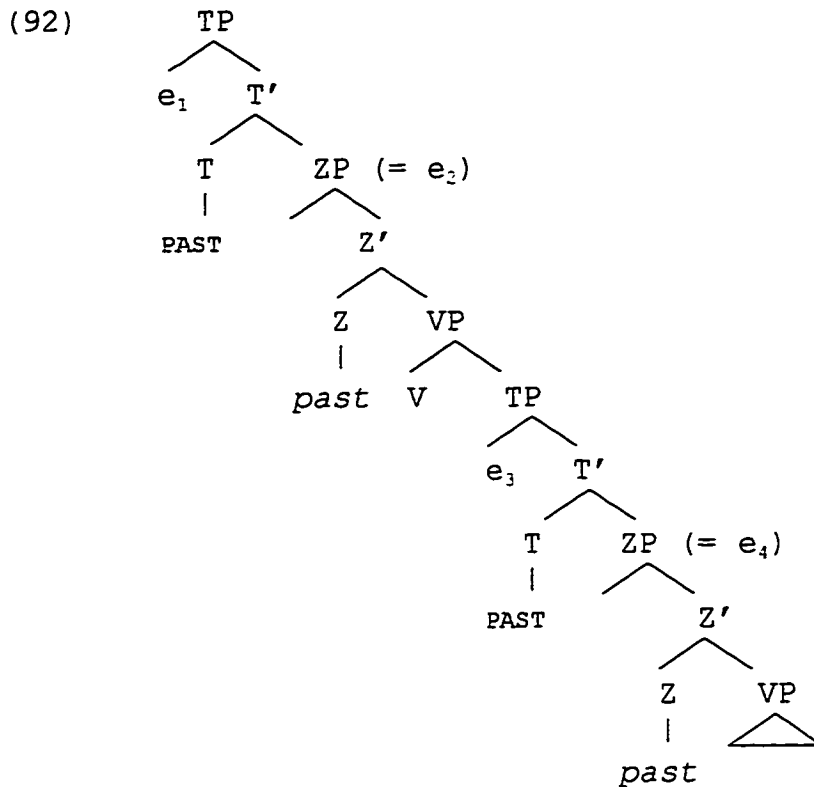
the speaker to denote either UT or some other time-denoting ZP.¹⁷

Stowell's bifurcation of tense into quantificational and morphological parts allows for a restatement of Enc's proposal: English lacks *PRESENT*, but it has *present*. All that is needed now is way to implicate *present* in the obligatory reference to UT when it is embedded under *PAST*.

Stowell proposes the sort of structure in (90) as part of his analysis of the so-called sequence-of-tense phenomenon witnessed in many languages including English. Compare the possible interpretations of a sentence such as (91a) to (91b).

- (91) a. John said that Bill was sick
 b. John said that Bill is sick

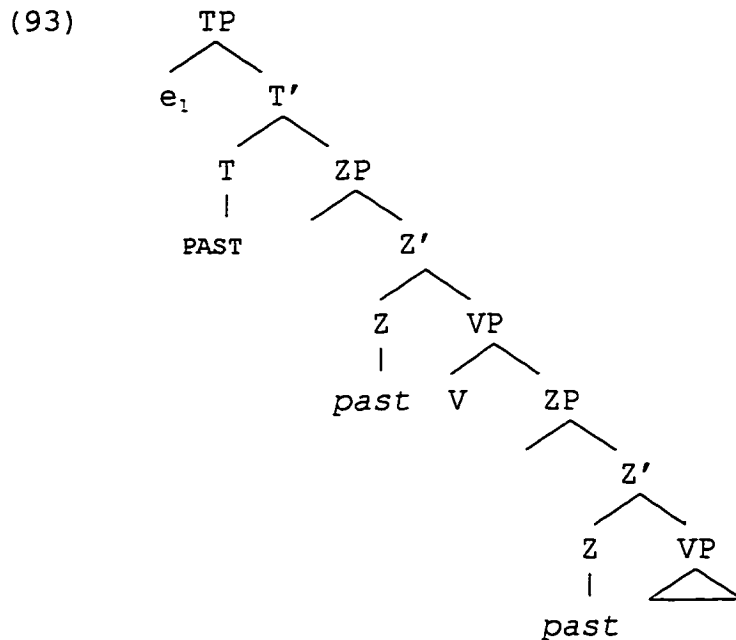
(91a) has two possible interpretations. First, on the so-called shifted reading, the matrix tense takes UT as its evaluation time and locates the event-time, the time of John's saying something, at a time *t* prior to UT. The embedded tense then takes *t*, the matrix event-time, as its evaluation time and locates the embedded event-time at some time *t'* prior to *t*. This interpretation maps transparently onto the structure in (92).



(91a) also has a second reading, on which the embedded event-time is interpreted as *simultaneous* to the matrix event-time. In other words, it is as if the embedded clause contained a present tense, or no tense at all, rather than past. Thus it is often argued that, on this reading, the embedded tense is actually present tense, but that it takes the morphological shape of a past tense due to a sequence-of-tense rule. Note, however, that if the embedded tense is actually realized as present, as in (91b), only a double-access reading is possible. Setting aside the problem raised by (91b) for the moment, Stowell's proposal captures part of the intuition behind the traditional analysis in that it

separates the semantic and morphological aspects of tense into different functional heads.¹⁸

Stowell suggests the following structure for the simultaneous reading of (91a):



In (93), both the matrix and embedded *past* are licensed by the matrix *PAST*, the embedded clause itself lacking "semantic" tense, hence giving rise to a simultaneous reading.¹⁹ The absence of embedded *PAST* or *PRESENT* on the simultaneous reading of (91a) is confirmed by the fact that when the embedded verb denotes an (individuated) event, only a shifted reading is possible:

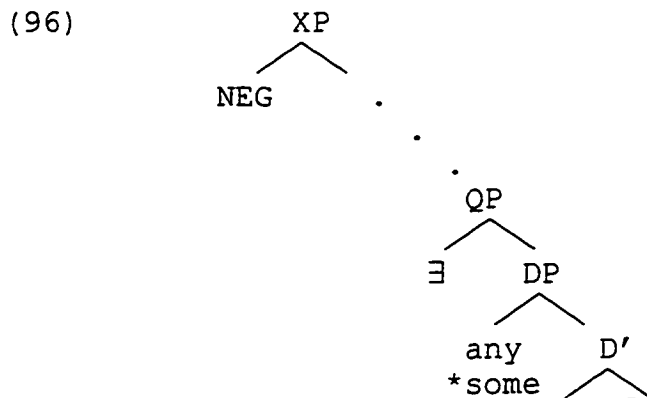
(94) John said Bill saw Mary

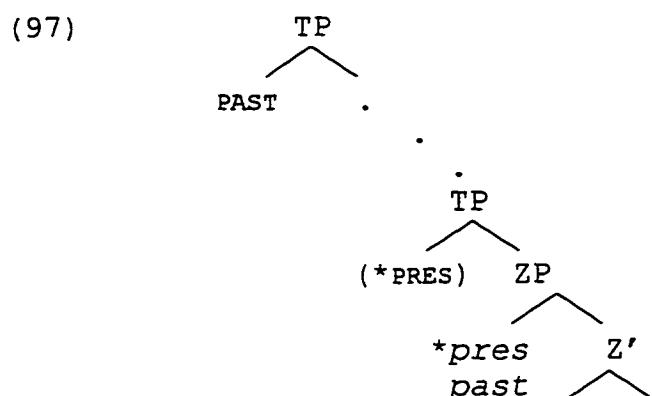
(94) is true if and only if John says at some time t prior to UT that Bill saw Mary at some time t' prior to t .

Stowell suggests that the impossibility of a simultaneous reading of *present* in (91b) is due to an obligatory alternation between *present* and *past* in scope of *PAST*, along the lines of the similar polarity alternation between some and any under the scope of negation, as in (95).

- (95) a. John didn't see someone
b. John didn't see anyone

When an existential quantifier interacts scopally with *NEG* and takes narrow scope (that is to say, to get the $\neg\exists$ reading), the determiner any, rather than some, must be used. Similarly, *past* must be used when c-commanded by *PAST*:





Although Stowell does not make note of this, it must be the case that neither *pres* nor *PRES* are possible realizations under the scope of *PAST*. This is because languages such as French and Spanish differ from English in that they allow individuated event-denoting predicates to appear in simple present, signaling the presence of *PRES*, yet still exhibit sequence-of-tense.

Stowell accounts for the fact that when *pres* does appear embedded under *PAST* it obligatorily gives rise to 'double-access' readings by claiming that it must move outside the scope of any c-commanding *PAST* by LF. He further argues that when a complement clause containing *pres* is 'scoped-out', it must leave a copy behind in the original position to satisfy the Projection Principle (Chomsky 1981). He argues that this yields the observed 'double-access' readings.

However, Stowell's analysis is problematic, and non-minimalist, in many respects. Here, I make the non-trivial assumption that if *pres* (or *PRES+pres*) is in the scope of *past*,

its temporal context variable must refer to UT. I suggest that this is related to the fact that the determiner some can be c-commanded by NEG only if it takes independent scope or is used *referentially*. In other words, it seems both reasonable and explanatory to treat the fact that embedded present tense "refers" to UT as identical to the referential use of indefinite quantifier in the scope of negation.

2.4.3. Propositional Infinitivals in Romance

Any analysis of the distribution of PRO must deal with the fact that, in most Romance languages, PRO typically appears as the subject of propositional infinitival complements, as in (98).

- (98) a. Je crois PRO avoir fait une erreur
 I believe to-have made a mistake
 b. Gianni crede di PRO essere intelligente
 Gianni believes to-be intelligent
 c. Maria creia PRO haber violada la ley
 Maria believes to-have violated the law

Of course, PRO is not possible in such contexts in English, which only allows lexical (ECM) subjects:

- (99) a. *I believe to have made a mistake
 b. I believe him to have made a mistake

Then, perhaps it is not unexpected that, in the languages that allow (98), the subject of the infinitive may not be lexical:

- (100) a. *Je crois Marie avoir fait une erreur
 b. *Gianni crede di Paolo essere intelligente
 c. *Maria creia Juan haber violada la ley

Under the traditional analysis of PRO, one could simply argue that the subject position in Romance infinitivals is always ungoverned, hence allowing PRO and disallowing lexical (i.e., necessarily Case-marked) subjects. Of course there is still the comparative question of why English should differ from Romance in this respect.

Alternatively, given the theory presented in this thesis, the following stipulation suffices to account for the facts:

- (101) Null Case is checked in the subject position of Romance propositional infinitives.

Assuming (101) to be valid, the grammaticality of (98) is straightforward. The ungrammaticality of (100) also follows immediately, given Chomsky and Lasnik's assumption that lexical DP cannot have null Case. Furthermore, there can be no ECM (i.e., raising to object) in (100), since this would leave the null Case feature of the infinitival clause unchecked. As argued by Raposo (1987b) and Picallo (1985), Romance infinitival clauses have Case features, hence no issue arises as to the accusative feature of the verbs in (98).

There remain at least two unanswered questions. First, I must address the stipulation in (101) and its consequences for

the claim that only [+Tense] infinitivals check null Case. Second, although sentences with lexical subjects in (100) are correctly predicted to be ungrammatical, if the subject undergoes Wh-Movement, there is a dramatic improvement, raising the question of how Case is licensed on the wh-phrase (or wh-trace).

The first point is made by Watanabe (1993), who notes, correctly, that (101) is unexpected, given the claim (Martin 1992, 1993b) that only [+Tense] infinitivals check null Case, assuming that the semantics of non-finite complementation in English and Romance is uniform. The logic of the argument is sound but, albeit somewhat surprisingly, the assumption turns out to be false. It appears that there is at least one significant semantic difference between propositional infinitivals in Romance and their counterparts in English that is relevant to the apparent stipulation in (101).

Boškovic (1995b) shows that Romance languages differ from English in that event predicates are possible in propositional infinitivals in the former but not the latter. The embedded event predicates in (102) can denote a non-habitual activity, most notably, in the absence of an aspectual or temporal modifier, which would otherwise serve to bind the event variable.

- (102) a. Je crois rêver
 I believe to-dream
 'I believe that I am dreaming'
 b. Pierre croyait embrasser Marie
 Pierre believed to-kiss Marie
 'Pierre believed that he was kissing Marie'
 c. Maria creia llegar tarde ayer
 Maria believed to-arrive late yesterday
 'Maria believed that she had arrived late'
 d. Ana julgou chegar atrasada ontem
 Ana believed to-arrive late yesterday
 'Ana believed that she had arrived late yesterday'

It appears, then, that what binds the event variables in the infinitival clauses in (102) is a null [+Tense] element, similar to that found in typical control complements. If so, the question of how null Case can be checked on PRO turns out to have a familiar answer: [+Tense] checks Case.

However, it is well known that, whereas a lexical DP is prohibited, the subject of propositional infinitivals in Romance can be wh-trace (Rizzi 1982, Kayne 1984, Deprez 1989, Ura 1993, Boškovic 1995b):

- (103) Qui_i Ana croyait-elle [t_i plaire à Pierre]
 'Who did Ana believe to please Pierre?'

Even if it is assumed that somehow a wh-phrase, unlike a standard lexical DP, can check accusative on the way to Spec CP, this raises a problem for Last Resort, since A-movement out of a null Case position should not be possible. However, Boškovic (1995b) shows that when wh-extraction has occurred, the possibility of an embedded event predicate disappears:

- (104) a. *Qui crois-tu rever
 'Who do you believe to dream?'
 b. *Qui Anna croyait-elle arriver en retard hier
 'Who did Anna believe to arrive late yesterday?'
 c. *Qui Pierre croit-il frapper un voluer
 'Who does Pierre believe to hit a burglar?'

Thus, lacking a more explanatory account, I simply follow Boškovic (1995b) in assuming that the existence of [+Tense] in Romance propositional infinitivals is optional and that only in its absence can a wh-phrase first undergo A-movement to the accusative position in the higher clause, followed by A'-movement to Spec CP. Boškovic argues that a similar derivation is impossible in (100) due to constraints on the locality of A-Chain formation.

2.4.4. Verb Raising in Icelandic Infinitivals

Additional support for the claim that control infinitivals are, in some sense, more similar to finite clauses than raising infinitivals comes from verb raising in Icelandic.²⁰ It is uncontroversial that finite verbs raise overtly to T in Icelandic (Thráinsson 1984; Holmberg 1986). The standard diagnostic for such movement is the positioning of the finite verb to the left of negation, which is assumed to head a maximal projection intermediate between TP and VP (Emonds 1978; Pollock 1989; Chomsky 1991). Consider, the

examples in (105).

- (105) a. að María las ekki bókina
 that María read not the book
 b. að María hefur ekki lesið bókina
 that María has not read the book

As Thráinsson (1984) demonstrates, Icelandic also exhibits obligatory V-to-T raising in control infinitivals:

- (106) a. María lofaði [að lesa ekki bókina]
 María promised read not the book
 'María promised not to read the book'
 b. *María lofaði [að ekki lesa bókina]
 María promised read not the book

Interestingly, as noted by Holmberg (1986), in contrast to control infinitivals, raising infinitivals do not allow V-to-T raising. This is illustrated in (107)-(108).

- (107) a. Ég taldi [Mariu ekki lesa bókina]
 I believed María not read the book
 'I believed María not to have read the book'
 b. *Ég taldi [Mariu lesa ekki bókina]
 I believed María read not the book
- (108) a. María virtist [t ekki lesa bókina]
 María seemed not read the book
 'María seemed not to read the book'
 b. *María virtist [t lesa ekki bókina]
 María seemed read not the book

Given the conclusions reached above, it is not at all surprising that obligatory V-to-T in Icelandic infinitivals correlates precisely with the presence of tense features. Thus, I assume that, in Icelandic, [+Tense] drives V-to-T

movement in both finite and non-finite clauses. The impossibility of V-to-T in the raising infinitivals in (107b)-(108b) follows, given the absence of any driving force of the movement, from Last Resort.

2.5. Agreeing Functional Categories and VP-Ellipsis

Lobeck (1991, 1995) and Saito and Murasugi (1990) argue that only functional categories that undergo agreement with an item in their Spec position permit ellipsis of their complement. The notion of agreeing functional categories, based on the taxonomy of Fukui and Speas (1986), refers, in current terms, to heads that enter a checking relation with some category in their checking domain:

(109)	<u>Category</u>	<u>Feature Checking</u>	<u>Non-Feature Checking</u>
	T	[+Tense]	<i>to</i>
	D	's	<i>a, the, that, this</i>
	C	[+Wh]	<i>that, if, for</i>

For example, Saito and Murasugi (1990) reanalyze *N'-Deletion*, under the DP hypothesis, as involving ellipsis of the NP complement of D. They argue that an NP complement can only be elided if D agrees with its Spec. This is illustrated by the examples in (110).

- (110) a. [_{DP} Saito [_D's][_{NP} class]] will only be offered if
 [_{DP} Lasnik [_D's][_{NP} e]] is canceled
 b. *[_{DP} [_D A][_{NP} student]] may select an advisor after
 [_{DP} [_D the][_{NP} e]] finishes her sophomore year
 c. A student may select an advisor after the student
 finishes her sophomore year

Also, IP ellipsis, or sluicing, is possible only when IP is the complement of a [+Wh] C and there is a wh-phrase in Spec:²²

- (111) a. Someone saw the defendant at the scene of the
 crime. And, ...
 b. The DA was told [_{CP} who [_C+WH] [_{IP} e]]
 c. *The DA was told [_{CP} [_C that][_{IP} e]]
 d. The DA was told [_{CP} that someone saw the
 defendant at the scene of the crime]

Finally, VP-ellipsis is allowed in (112a) because the elided VP is the complement of finite T, which checks the nominative Case feature of DP in Spec of TP. When VP is the complement of non-finite T, which does not check Case, ellipsis is impossible, as shown in (112b).

- (112) a. Romário scored and then Sávio did [_{VP} e]
 b. *John believes Romário to have scored the goal,
 but Mary believes Ronaldo to [_{VP} e]

However, as Saito and Murasugi (1990) and Takahashi (1992) point out, VP ellipsis is possible in infinitivals when the subject is PRO.²³ The examples in (113) contrast sharply with (112b).

- (113) a. Kim did not [_{VP} win the race], but she tried [PRO to [_{VP} e]]
 b. Rebecca wanted Jill to [_{VP} join the team], so Jen persuaded her [PRO to [_{VP} e]]

Furthermore, as Rizzi (1990) notes, VP-preposing is possible out of a control infinitival but not out of an ECM infinitival:

- (114) a. No one believed John would fix the car, but
 b. [fix the car], John did t
 c. [fix the car], John tried PRO to t
- (115) a. No one expects Jen to know the answer, but
 b. [know the answer], I believe she does t
 c. *[know the answer], I believe [her to t]

The acceptability of (113)-(114c), as compared to (112b) and (115c), has long resisted explanation. However, if the generalization is that only functional categories that undergo Spec-head agreement allow "empty" VP complements, these contrasts follow immediately from my proposal that to checks Case in control infinitives but not in ECM/raising infinitives.²³

It should be noted that there is a potential intervening factor that may affect the acceptability of VP ellipsis and VP-preposing in infinitives. Sam Epstein (personal communication) and Robyne Tiedemen (personal communication) independently point out that ellipsis of a stative VP is always somewhat degraded. The examples in (116) are less acceptable than those in (113), despite the fact that the

ellipsis occurs within a control infinitival.

- (116) a. ?Harry claims PRO to be happy, even though he
 doesn't strive to [_{VP} e]
 b. ?Many people think it is fun to [_{VP} be a linguist],
 but some people still prefer PRO not to [_{VP} e]

The marginality of (116) might suggest that it is the nature of the elided predicate, rather than the nature of T, that determines whether ellipsis is possible. However, there are several reasons to think that this is not the right generalization. First, although degraded, the examples in (116) are significantly better than those in (117) below and (112b).

- (117) a. *Harry claims to be happy, but very few people
 consider [him to [_{VP} e]]
 b. *Harry is said to be famous, but no one believes
 [him to [_{VP} e]]

Furthermore, the contrast between control and raising infinitivals with respect to the possibility of ellipsis is manifest with stative VPs headed by predicates other than be. This can be seen in (118)-(119), where the embedded predicate is the stative verb know.

- (118) a. John must [_{VP} know the answer], but he claims
 PRO not to [_{VP} e]
 b. *John must [_{VP} know the answer], but no one here
 believes him to [_{VP} e]

(119) a. Know the answer, I'm sure Bill wants PRO to t
 b. *Know the answer, I'm sure Bill believes Mary to t

Finally, note that ellipsis of VPs headed by be, as well as other stative verbs, is possible in finite clauses. Thus, any constraint prohibiting ellipsis of stative VPs in infinitivals, would have to be complicated so as to allow the fully grammatical sentences in (120).

- (120) a. John will be happy, and Karen will too
 b. John should know the answer, and so should Karen

Thus, although the slight degradation in (116) remains a mystery, the facts discussed above show that there is a clear distinction between VP ellipsis in the infinitival complements to ECM verbs and in the complements to control predicates. I have argued that this difference is due to the presence versus absence of Spec-head agreement (i.e., feature checking).

2.6. *Want*-type Verbs and *For*-Infinitivals

In this section, I address a number of questions raised by want-type verbs and their infinitival complements. First, consider the paradigm in (121).

- (121) a. Juninho wants [PRO to play in the World Cup]
 b. Juninho wants [for Brazil to win the World Cup]
 c. Juninho wants [Brazil to win the World Cup]

The most outstanding property of the infinitival complements in (121) is that either PRO or lexical DP, which are normally

in complementary distribution, can appear interchangeably as the subject. Under Chomsky and Lasnik's (1993) assumptions, the facts in (121) suggest that, unlike normal control infinitivals, more than one type of Case can be licensed on the subject of this class of infinitivals. I will argue in this thesis that all of the infinitival subjects in (121) are marked with null Case and that some other factors account for the limited distribution of lexical null Case-marked DPs.

The possibility of PRO in (121a) establishes that null Case is checked by to in want-infinitivals. It is standardly assumed that the Case feature of the lexical subject in (121b) is checked by the complementizer for. More controversial is whether (60c) involves ECM (i.e., the subject of the infinitive raises to the matrix AgrP, presumably in LF), or whether Case is checked by null for.

I argue that there is strong evidence that the embedded subject in (121c) checks Case only within the infinitival. Observe that VP ellipsis is possible in all three examples, as shown in (122).

- (122) a. Juninho wants PRO to play in the World Cup, and
Kiko wants PRO to [e] as well
b. Juninho wants for Brazil to win the World Cup, and
Kiko wants for Spain to [e]
c. Juninho wants Brazil to win the World Cup, and
Kiko wants Spain to [e]

I have argued in the preceding section that the possibility of

VP ellipsis correlates with a Case checking relation between T (which I now assume to be Z) and its Spec position. Then, the null hypothesis is that the relationship between to the DP in its Spec position, Brazil, in (122b-c), is the same one as that between to and PRO in (122a), namely, one involving Case-checking.

While the acceptability of (122c) merely shows that the Case feature of the embedded lexical subject can be checked within the infinitival, there is also evidence that Case cannot be checked in the higher clause. If the embedded Spec TP is a Case position in (121c), there can be no movement to the matrix AgrP due to Last Resort. This is confirmed by the impossibility of passivization of the infinitival subject in (123a), in contrast to the typical situation with ECM complements in (123b).

- (123) a. *They are wanted [t to win]
 b. They were believed [t to have won]

Lasnik and Saito (1991) provide extensive empirical evidence, based on the insights of Postal (1974), that ECM constructions involve movement of the subject of the infinitive to the higher clause. They show that the ECM subject is able to c-command into adjuncts modifying the higher clause. For example, in (124a)-(125a), the subject of the embedded infinitive can bind the anaphor or negative

polarity item located in a matrix adverbial phrase. (124b)-(125b) establish that binding is impossible when the embedded phrase is subject of a finite clause.

- (124) a. The DA proved [the defendants to be guilty] during each other's trials
- b. *The DA proved [that the defendants were guilty] during each other's trials
- (125) a. The CEO believed [none of the applicants to be qualified] during any of the interviews
- b. *The CEO believed [that none of the applicants should be hired] during any of the interviews

These facts are predicted if the subject of the infinitival in (124a)-(125a) moves to the matrix AgrP for Case checking in LF, as argued in Chomsky 1991 and 1993.

Interestingly, as Lasnik and Saito note, the subjects of infinitival complements to want-type verbs pattern more like the subjects of finite complements. (126)-(127) are significantly degraded if the adverbial containing the anaphor or negative polarity item is interpreted as modifying the matrix predicate.

- (126) a. *The DA wanted [the defendants to be convicted] during each other's trials
- b. *The DA wanted [for the defendants to be convicted] during each other's trials
- (127) a. *The CEO wanted [none of the applicants to be hired] during any of the interviews
- b. *The CEO wanted [for none of the applicants to be hired] during any of the interviews

The ungrammaticality of (126a)-(127a) is unexpected if raising of the embedded subject to the matrix AGRP is an available option for this class of predicates. Similar conclusions have also been reached by Bach (1977).

Assuming, based on the evidence above, that there is no raising (ECM or exceptional passive) with want-type verbs, it must still be determined exactly how Case is licensed on the lexical subjects in (121). I argue that (null) Case is uniformly checked in the Spec of non-finite T (more precisely, Z) in the complements to want-type verbs, as indicated by the VP ellipsis facts in (122). This forces us to eliminate Chomsky and Lasnik's (1993) stipulation that only PRO can have null Case features. The assumption that only PRO has null Case seemed necessary to account for the impossibility of sentences like (128a), which should be compared to (128b).

- (128) a. Romário tried (for) Bebeto to score a goal
 b. Romário wants (for) Bebeto to score a goal

In Chapter 3, I argue that the difference between (128a) and (128b) relates to the type of control involved, obligatory versus non-obligatory, as determined by selectional properties of control predicates. For now, it suffices to say that a lexical DP can be licensed with null Case only in the presence of for. I assume for heads a functional projection FP dominating TP, hence the structure of (128b) is as in (129).

(129) R wants [_{FF} for [_{TP} Bebeto to-T [_{zP} t_{SU} [_z t_{co} [_{VP} ...]]]]]

Then, the impossibility of lexical DP in control infinitivals such as (128a) is ultimately due to the absence of FP; a matter of selection.

Now consider the examples in (121a) and (121c) where for is absent. I assume, following Bresnan (1972) and Chomsky (1981), that for is present in (121c) as well, but that it is null, as indicated in (130).

(130) I want [_{FF} \emptyset_{for} [_{TP} them [_{T'} to [_{VP} . . .]]]]

A problem for this hypothesis raised by Lasnik and Freidin (1981), within a slightly different set of assumptions, is the fact that the distribution of \emptyset_{for} is very different from its overt counterpart for. For example, it is not clear why (131a) is ungrammatical, as compared to the grammatical (131b), if \emptyset_{for} is identical to for.

- (131) a. *Sávio wants very much [\emptyset_{for} Brazil to win the game]
 b. Sávio wants very much [for Brazil to win the game]

Examples such as these are often said to argue for the non-existence of \emptyset_{for} , as it would otherwise not be clear why Case on the lexical subject of the infinitive cannot be checked in (131a). However, this contrast is arguably part of a wider generalization, which is independent of Case theory. Notice

the strikingly similar contrast in (132) (Postal 1974; Bresnan 1976; Chomsky and Lasnik 1977; Stowell 1981).

- (132) a. I believe sincerely [that Brazil will win]
 b. *I believe sincerely [\emptyset_{COMP} Brazil will win]

As discussed above, Pesetsky (1991) and Ormazabal (1995) argue convincingly that zero morphemes are affixes, which must be supported by some lexical item. Then, in (132b), \emptyset_{COMP} must adjoin to the matrix verb believe in order to satisfy its affixal status. Assuming that the *V ADV CP* word order in (132) results from extraposition of the complement clause, the necessary adjunction of \emptyset_{COMP} to *V* in (132b) violates the Proper Binding Condition (Fiengo 1977).²⁴ The ungrammaticality of (131a) can be accounted for in exactly the same way, assuming that \emptyset_{for} is also a zero affix.

Another context where \emptyset_{for} is impossible is infinitival complements of adjectives or nouns, as shown in (133)-(134).

- (133) a. It is illegal [for citizens to criticize the government]
 b. *It is illegal [\emptyset_{for} citizens to criticize the government]
- (134) a. My desire [for Brazil to win the game]
 b. *My desire [\emptyset_{for} Brazil to win the game]

Again, the examples in (135)-(136) indicate that the distribution of \emptyset_{for} is identical to the distribution of \emptyset_{COMP} .

- (135) a. It is not likely that the earth is flat
 b. *It is not likely \emptyset_{COMP} the earth is flat
- (136) a. I believe that Kim is clever
 b. I believe Kim is clever
 c. My belief that Kim is clever
 d. *My belief \emptyset_{COMP} Kim is clever

The zero-affix analysis easily extends to (134b) and (136d), assuming that nouns such as desire and belief have already undergone zero-affixation (perhaps in the lexicon). As already discussed, Pesetsky and Ormazabal both rely crucially on the assumption that once a stem undergoes zero-affixation, further affixation of zero morphemes is blocked (Myers 1984; Pesetsky 1991; Ormazabal 1995).

It is less obvious how the ungrammatical examples in (133b) and (135b) can be excluded. If the clausal arguments of the adjectival predicates are underlying subjects which have undergone extraposition, then affixation of a zero morpheme results in an unbound trace. However, assuming that the embedded clauses are not extraposed, but instead are in their "base-generated" complement position, some other stipulation is necessary. A strong possibility is that these particular zero morphemes, \emptyset_{for} and \emptyset_{COMP} , must adjoin to a [-N] category, perhaps because they require Case. I leave the exact answer to this technical question somewhat tentative, merely noting that whatever principle accounts for the ungrammaticality of (135b), should also account for (133b).

Assuming that 'for' is always present in this class of infinitivals, at least when the subject is lexical, the following asymmetry with respect to wh-extraction needs to be considered:

- (137) a. Who do you want to win the game?
 b. *Who do you want for to win the game?
 c. *Who is it permitted for to park here?

One standard intuition regarding examples like (137b-c)--expressed, for example, by Bresnan's (1972) Fixed Subject Constraint--is that the asymmetry is related to a similar one witnessed in finite clauses:

- (138) a. Who do you think will win the game?
 b. *Who do you think that will win the game?

That is, both (137) and (138) are representative of so-called Comp-trace effects.²⁵

I will follow Pesetsky (1982) and Rizzi (1990) in taking the contrast in (138) to be a matter of agreement. This analysis assumes that a subject wh-phrase must agree with a local Comp and that the only "wh-agreeing" form of [-Q] C is \emptyset_{COMP} . I suggest that this analysis can also account for the asymmetry in (137), assuming that the wh-agreeing form of 'for' is \emptyset_{for} . There remains, of course, an important question as to how this agreement is formally instantiated. Within the minimalist program, it is tempting to think that a wh-phrase

is simply attracted by a Wh-feature in a non-interrogative Comp, inducing agreement of the necessary sort. But then, it is unclear why there is no parallel asymmetry with object extraction, as seen in (139).

- (139) a. Which game do you want for Brazil to win?
 b. Which game do you think that Brazil will win?

It is difficult to think of a reason why a subject wh-phrase must be attracted to an intermediate Spec CP position, but an object need not, although attempts at this sort of explanation have been made (see, in particular, Takahashi 1994). A more plausible assumption seems to be that the relevant agreement is not between a wh-phrase and C, but rather between T (or Z) and a subject. This immediately explains the subject-object asymmetry. This agreement may still have visible effects in C (namely, the sort of morphological alternations between agreeing and non-agreeing forms of the complementizer witnessed in English, as well as many other languages), assuming that T must raise to C at some point in the derivation.²⁵

Again, the technical details of the analysis of Comp-trace effects do not concern me here. I simply want to establish that, much like the distribution of ϕ_{for} in general, the problem raised by the apparent Comp-trace effects in (137) has an exact parallel in finite domains. Furthermore, once

this parallelism is acknowledged, it provides support for the analysis presented in this thesis over other possible analyses.

Although I have argued that *for* is always present in want-type infinitivals (and in *for*-infinitivals in general), a question arises as to the underlying structure of sentences with PRO subjects such as (121), repeated below as (140).

(140) Juninho wants PRO to play in the World Cup

There seem to be at least three obvious candidates for the structure of sentences like (140), illustrated in (141).

- (141) a. Juninho wants [_{FP} \emptyset_{for} [_{TP} T [_{zP} PRO [_z to [_{VP} ...]]]]]
 b. Juninho wants [_{FP} F [_{TP} T [_{zP} PRO [_z to [_{VP} ...]]]]]
 c. Juninho wants [_{TP} T [_{zP} PRO [_z to [_{VP} ...]]]]

In deciding between the structures under consideration, it should be pointed out that infinitivals with PRO subjects are possible in exactly those contexts where I have shown that \emptyset_{for} cannot appear. Compare the examples in (142) to the ungrammatical examples in (131a), (133b), and (134b).

- (142) a. Ronaldo wants very much [PRO to win the game]
 b. It is illegal [PRO to criticize the government]
 c. My desire [PRO to win the game]

Also relevant is a missing piece from the paradigm in (121); namely, sentences with overt for and PRO, such as (143), which are invariantly ungrammatical (in most dialects).

(143) *Ronáldo wants [for PRO to win the game]

The facts in (142) and (143) tell us that \emptyset_{for} is necessarily present when PRO is the subject and also that for must not be present. This further suggests that the structure of (140) is either that in (141b) or (141c), but not that in (141a). Based on the theory of control that I argue for in the following chapters, I will assume the structure to be as in (141b), although this decision is not crucial for the current discussion.

2.7. Raising-to-Subject Predicates

I have argued that control infinitivals differ systematically from raising infinitivals in numerous syntactic and semantic respects. However, for the most part, I have only considered raising infinitivals of the raising-to-object variety. A number of interesting questions arise when the infinitival complements of predicates like seem, appear, likely, and certain are introduced into the picture. Below, I discuss in detail the properties of these predicates.

2.7.1. Raising Adjectives: *Likely* and *Certain*

Adjectives such as likely and certain are traditionally assumed to select raising infinitivals. Unlike verbs of the *believe*-type, these predicates do not assign a subject θ -role, hence they permit raising of a nominative DP to subject position. In (144a-b), the matrix subject Jorginho originates as the thematic subject of to win but raises overtly to the Spec of finite T to check (nominative) Case. That the matrix subject position can be non-thematic is shown by (144c).

- (144) a. Jorginho is likely t to score a goal
 b. Jorginho is certain t to score a goal
 c. It is likely that Jorginho will score a goal

Given the formal similarity to raising-to-object constructions, the expectation is that these examples behave in the same way with respect to the various phenomena discussed above. However, this is apparently not the case.

One obvious difference is that the infinitivals in (144), unlike the raising infinitivals considered above, appear to have tense features. The event-time of the embedded infinitive is shifted into the hypothetical future with respect to its evaluation-time (i.e., the event-time of matrix predicate). More important is the fact that event-predicates are possible in these infinitival complements; another diagnostic for the presence of temporal operator of some sort.

Another striking difference between the infinitivals in (144) and the raising infinitival considered earlier is that they allow VP ellipsis, which is unexpected if there is no Case-checking relation with non-finite T:

- (145) a. Romário may [_{VP} play in 2002], but Bebeto is
certain to [_{VP} e]
b. No one thought she was likely to [_{VP} e], but
Kerri was finally able to [_{VP} prove the theorem]

The grammaticality of (144) is completely unexpected if these constructions involve raising.

The possibility of VP ellipsis in (144), together with the possibility of future tense construal and event predicates, suggest that these infinitival complements can in fact involve control structures. Other evidence, however, suggests that *likely*-type adjectives do not always select control infinitivals. The possibility of expletive subjects, as in (146), shows that raising is at least possible.

- (146) a. There is likely to be a riot
b. There is certain to be a man at the door

As predicted, when the subject is an expletive, hence unambiguously involving raising, VP ellipsis is no longer possible:

- (147) a. *If they say there will [_{VP} be a man at the door],
there is certain to [_{VP} e]
b. *John doubts that there will [_{VP} be a riot], but I
think there is likely to [_{VP} e]

Based on these facts I conclude that *likely*-type adjectives are lexically ambiguous between raising predicates and control predicates. The same conclusion is reached by Lasnik and Saito (1992) for independent reasons having to do with the binding of traces. They argue, based on the grammaticality of (148a), that the structure in (148b) must be possible, since the alternative structure in (148c) contains an unbound trace, hence violates the Proper Binding Condition (Fiengo 1977).

- (148) a. How likely to win the race is John?
 b. How likely [PRO to win the race] is John
 c. How likely [t to win the race] is John

Lasnik and Saito note, attributing the observation to Tony Kroch, that replacing the thematic subject in (81) with an expletive results in ungrammaticality:

- (149) *How likely [t to be a riot] is there

A similar argument can be made based on the properties of quantifier lowering in these constructions (May 1977, 1985). Barss (1986) discusses the following paradigm:

- (150) a. Some senator is likely to lie to every member of
 the committee
 b. How likely is some senator to lie to every member
 of the committee?
 c. How likely to lie to every member of the committee
 is some senator?

Barss observes that (150a) is ambiguous; in particular, some senator can take either wide or narrow scope with respect to likely. According to Barss, (150b) exhibits the same ambiguity. On the other hand, (150c) is claimed to be unambiguous; some senator must take wide scope.

Although Barss presents a different analysis, the facts in (150) are expected, given Lasnik and Saito's analysis of (148). The ambiguous (150a-b) can have either of the structures in (151a-b), since the trace of some senator is properly bound. (150c) can only have the structure in (152a), since the alternative in (152b) contains an unbound trace.

- (151) a. Some senator is likely [t to lie to every member of the committee]
- b. How likely is some senator [t to lie to every member of the committee]
- (152) a. How likely [PRO to lie to every member of the committee] is some senator
- b. How likely [*t to lie to every member of the committee] is some senator

On this analysis, the lack of ambiguity in (150c) follows from the impossibility of quantifier lowering to PRO:

- (153) Some senator tried [PRO to lie to every member of the committee]

In (153), some senator can only be interpreted as taking wide scope, as discussed in May 1985.

Additional support for my analysis is provided by the interaction of quantifier lowering and VP ellipsis in these types of constructions. According to my proposal, the possibility of VP ellipsis in the infinitival complement of likely is dependent on the control structure. Furthermore, if the complement is a control infinitival, there should be no quantifier lowering, as argued above. These predictions are apparently borne out, as the data below illustrate:

- (154) Do you think that a senator would ever lie to the public?
- (155) a. I think a senator is likely to lie the public
b. I think a senator is likely to

Although the judgements are subtle, as with the data in (150) discussed by Barss, it seems to me that (155a) is ambiguous, whereas (155b) allows only a wide-scope interpretation of a senator. If this interpretation of the data is correct, properties of quantifier lowering and VP ellipsis interact in subtle and unexpected ways which provide support for the theory of PRO argued for in this thesis.

There is another argument that can be made to support the claim that VP ellipsis demands a control structure. It is well known that certain predicates select complements whose subjects must be coreferential with a designated controller. A lesser known fact, noted by Lasnik and Fiengo (1974), is that such predicates only allow complements which denote

volitional actions; namely, actions which are under the control of the subject. The same restriction holds for imperative sentences:

- (156) a. The police tried to arrest the all of the students
 b. *All of the students tried to be arrested
 c. *Be arrested!

Interestingly, this restriction does not hold in infinitival complements whose subject can be either PRO or lexical DP:

- (157) a. The police want to arrest all of the students
 b. The government wants the police to arrest all of the students
 c. All of the students want to be arrested

Adjectives such as likely normally show no restrictions on the denotation of their complement, as in (156):

- (158) All of the students are likely to be arrested

However, if there is VP ellipsis in the complement, the embedded predicate is restricted in its possible interpretations:

- (159) a. I wonder who will [_{VP} *be arrested at the rally*]
 b. *All of the students are likely PRO to [_{VP} e]
 (160) a. I wonder who will [_{VP} *arrest all of the students*]
 b. The police are likely PRO to [_{VP} e]

The impossibility of (159b) is parallel to (156b), assuming that VP ellipsis demands a control structure. (160b) shows

that VP ellipsis is possible as long as the 'event' denotation is of the right type.

As I have shown, there is a significant amount of empirical evidence that so-called raising adjectives, such as likely, can optionally take a control complement. However, this conclusion does not answer all of the questions raised by this class of predicates. One remaining issue is whether the tense features of the infinitival complement of likely are invariantly present, regardless of the type of complement.

It is clear that, even in examples that unambiguously involve raising such as (146), there is some sort of temporal shift into the future. However, this future orientation might not be due to the presence of T, since the same temporal shift is evident even when likely takes a single DP complement:

- (161) a. A riot is likely
b. A riot is certain

Rather, it seems that even in the absence of tense the lexical features of likely and certain, themselves modal operators (Jackendoff 1972), give rise to the future interpretations not only in (161), but also in (146) above and (162).

- (162) a. There is likely to be a riot
b. There is certain to be a riot

In this regard it is interesting to note that event predicates are, at best, marginal when raising has clearly taken place:

- (163) a. There will arrive a man
 b. ??There is likely to arrive a man

(163a) shows that *there*-constructions are compatible with certain unaccusative predicates, such as arrive. However, the non-finite version of (163a), when embedded under likely, is somewhat degraded, as shown in (163b). However, it may be that (163b) is degraded for reasons more general than the inability to license an event predicate. Note, that although degraded, (163b) does not sound as bad as (164a) below. Also, (164b) suggests that the problem with (163b) has to do, more generally, with the difficulty of embedding the construction in (163a) (itself somewhat more marginal than standard *there-be* constructions), regardless of finiteness.

- (164) a. *There is believed to arrive a man
 b. ?It is likely that there will arrive a man

Also, there is evidence that suggests event variables can in fact be licensed in the infinitival complements to likely-type adjectives. Notice the following set of data:

- (165) a. There will/can/must be an explosion
 b. There was an explosion
 c. ?*There is an explosion right now
 d. There is an explosion every few days

Event-denoting DPs, such as explosion, can appear in past tense or in the scope of a modal, as in (165a-b). They cannot,

however, appear in present tense, unless there is some other temporal adjective or operator, as in (165c-d). This suggests that event-nominals also have event-variables which must be bound. With this in mind, consider (166), as well as the similar (162).

- (166) a. There is likely to be an explosion
 b. There is certain to be an explosion

Examples such as this show that an event-variables can be licensed in these infinitivals. However, this does not lead to the conclusion that the infinitivals in (166) have tense features. This is because, as mentioned above, likely and certain themselves are modal operators, which can bind the event-variables.²⁷

Thus, I have argued that *likely*-type adjectives are lexically ambiguous between control and raising predicates. The two structures can be disambiguated by using expletive subjects, which are incompatible with control, or inducing VP ellipsis, which requires a control structure. Insofar as the predictions can be tested, whenever examples clearly involve raising, exhibit only the properties of raising infinitivals. On the other hand, examples which must involve control exhibit only those properties associated with control.

2.7.2. Raising Verbs: *Seem* and *Appear*

Verbs such as seem and appear are also standardly assumed to select only raising infinitivals:

- (167) a. Flávio seems [t to be brilliant]
 b. Kim appears [t to be in love with someone]

As already observed, the infinitival complements of this class of verbs typically exhibit the temporal properties associated with raising. Thus, (167a) can only mean that it seems that Flávio is brilliant at UT, not, for example, that he shows promise of being brilliant after the World Cup. Similarly, (167b) entails that Kim appears at UT to be in love with someone at UT. Also, note that whereas the embedded predicates in (167) are all stative, replacing these with event predicates leads to ungrammaticality:

- (168) a. *Flávio seems to pass the ball right now
 b. *Kim appears to kiss someone right now

Also, as expected, VP ellipsis is generally quite marginal in the infinitival complement of seem/appear. Thus, the examples in (169) are considerably worse with ellipsis following to than those in (170).

- (169) a. *Carl Lewis may still be the fastest American, but he doesn't seem (to me) to
 b. *Kim really can be nice, even if she doesn't always appear to

- (170) a. Carl Lewis may no longer be the fastest American,
even though he claims to
b. Kim really can be nice if she wants to

In all of these respects, seem/appear behave just like believe.

However, when seem/appear are in the past tense, they exhibit very different properties. Most notably, event predicates contained in the infinitival complement of seem/appear are much better when the matrix contains a past tense, as in (171).

- (171) a. Flávio seemed to pass the ball just then
b. Kim appeared to kiss someone right in front of me

In this respect, seem/appear diverge from believe, which never allows an embedded infinitive to denote an event, as in (172).

- (172) a. *John believes Mary to hit Bill right now
b. *John believed Mary to hit Bill just then

There are further notable properties of (171). First, the complement behaves semantically like an irrealis control infinitival; the event-time of the embedded predicate is unrealized with respect to the matrix event-time. Also, there appear to be thematic differences. In (171), some sort of (weak) thematic role is associated with the matrix subject. Thus, in (171a), Flávio must have actually *done* something, some action which led to his seeming to pass the ball. For

example, suppose that I am reporting on a past situation where, say, I merely witness Ronaldo receiving a pinpoint pass and, quite reasonably, assume it to be the work of Flávio. To my ear, (171a) is not at all an appropriate report given these circumstances. In contrast, the sentence 'Flávio seemed (to me) to have passed the ball just then' is a much more appropriate way to describe such a situation.

The preceding discussion strongly suggests that seem/appear are also lexically ambiguous between raising verbs and control verbs. For example, the control verb seem differs from raising seem in that only the former assigns an agent-like role to its subject and can (optionally) select a [+Tense] infinitival. Hence, the raising structure is not available for (171), since raising predicates never select [+Tense] infinitivals.²⁸

It remains to be answered why the examples in (168) are ungrammatical if a control structure is possible in principle. Arguably, it is because control seem/appear, which assign a weak agent role to their subject, are themselves event predicates. Recall that event predicates are not licensed with present tense in English, unless they receive a generic or habitual interpretation. The sentences in (168) do, in fact, improve dramatically all of the temporal variables are in the scope of a generic operator, hence interpreted as involving habitual actions.

The above analysis makes obvious predictions regarding the possibility of VP ellipsis and quantifier lowering. VP ellipsis in the embedded infinitival should be more acceptable when control seem/appear are in the past tense, or habitual/generic present. Quantifier lowering, on the other hand, is expected to be impossible whenever event predicates appear in the infinitival complement. Despite the facts not being as sharp as one would like, these predictions are apparently borne out. Hence, VP ellipsis in (173) seems significantly improved, compared to (169).

- (173) Although John didn't really [_{VP} hit Bill], he
appeared PRO to [e]

Furthermore, it is difficult to get narrow scope of some student in (174a), whereas (174b) is fully ambiguous.

- (174) a. Some student appeared [PRO to read every book]
b. Some student appeared [t to have read every book]

Further confirmation is provided by the fact that, as was the case for *likely*-type adjectives, when VP ellipsis occurs, the infinitival must denote an event that is under the volitional control of the subject:

- (175) a. Which students seem to [be left-handed]
 b. *All of them appeared to [_{VP} e]
 cf. All of them appeared to be
- (176) a. Did the police arrest all of the students?
 b. They appeared to [_{VP} e]

2.8. Some Theoretical Consequences

The minimalist program of Chomsky (1995) is essentially a reductionist program, one of the central goals being to limit the mechanisms of the theory of grammar to irreducible primitives, while still accounting for a wide range of empirical phenomena. In this spirit, much recent work has attempted to eliminate the notion government, a central, yet highly arbitrary, geometric relation between terms in a phrase marker. As discussed in Chapter 1, this effort has been particularly successful with respect to the theory of Case; although traditionally thought to take place only under government, Case-checking relations are now reduced to the theoretically more primitive, highly local relations. Still, despite the reduction in Case theory, government has remained a crucial component of the binding theory for exactly one reason: It was needed to derive the distribution of PRO.

In this chapter, I have argued that the distribution of PRO follows largely from Case theory. Although there remain a few loose ends, which I resolve in the following chapters, it

suffices to say that, insofar as the binding-theoretic account of PRO can be shown to be unnecessary, the notion government can be eliminated from yet another significant module of grammar. Also, other ad-hoc stipulations needed to yield the PRO Theorem, discussed at the beginning of this chapter, can be dispensed with, leading to an overall simplification of the theory of binding. This is a significant achievement on minimalist grounds alone, but in addition, I have shown that the Case-theoretic account of PRO is empirically superior to an account based on government.

Finally, let me emphasize one other important result of the current work, which was briefly noted above. Since my analysis explains the distribution of both PRO in the familiar terms of Case theory, the well known fact that the trace of A-movement and PRO are in complementary distribution now trivially follows from Last Resort, as has been observed by Howard Lasnik (class lectures), and Bošković (1995b, 1996b). Thus, the impossibility of A-movement in (177) is entirely predictable, since the movement originates from a Case-checked position; no further assumptions are necessary.

- (177) a. *John was tried [t to park here]
 b. *John is illegal [t to park here]

This suggests that the notion *barrier* (Chomsky 1986a; Rizzi 1990) is reducible; a desirable result on minimalist grounds.

Notes to Chapter 2

1. Sam Epstein (personal communication) points out that the intuitive basis for the constraint--namely, that *non-lexical* DPs do not tolerate Case--is falsified by the fact that non-lexical DPs other than PRO typically must be Case-marked. For example, argument pro and the trace of null operators require Case (Rizzi 1982; Lasnik and Freidin 1981). Thus, the generalization is quite narrow, since it must be stated that PRO is the only argument DP that does not tolerate Case. I return to these sorts of issues in more detail below.

2. Below, I adopt an analysis of propositional clauses, due to Ormazabal (1995), that rules out the examples in (3) in a manner that is independent of Case. Thus, Lasnik's (1992b) data in (4) may receive alternative explanations as well. Still, I argue below that there are overwhelming conceptual arguments against any proposal based on (1).

3. In Chomsky 1991 and onward, it is suggested that the associate adjoins to the expletive, rather than actually replacing it. The motivations for the expletive-adjunction analysis and its consequences do not concern us here.

4. It is less clear that the Visibility Hypothesis, as stated, should be maintained within the minimalist program. Within the minimalist program, the question becomes why nouns must have non-interpretable Case features to begin with, not why they must appear in Case positions, since the latter follows from the fact that all non-interpretable features must be checked and erased by LF. I return to this question from various viewpoints throughout the thesis. It is my feeling that, however the question is answered, a stipulation such as the one above is needed regarding PRO, if this element truly need not have Case features.

5. It is derivations of the sort in (27a) that form the basis of Chomsky's argument against interpreting Last Resort as Greed.

6. For an earlier discussion of some of the relevant issues, but with a rather different conclusion, see Martin 1993a. See also Lasnik 1995b and 1996 for much relevant discussion.

7. Chomsky (1995) considers a different possibility; namely, that, in a feature checking configuration, features are checked, hence inaccessible to the computation, even if they

do not match. Yet another possible approach considered by Chomsky (1995 class lectures) is that feature mismatch leads to an immediate cancellation of the derivation.

8. Juan Uriagereka (personal communication) points out that the fact that verbs do assign (accusative) Case is itself equally mysterious. In Chapter 3, developing ideas of Uriagereka 1995c, I attempt to provide an answer to the question of why the grammar utilizes Case to begin with.

9. Another possibility is that there is an unchecked nominative feature in (60b), if it-type expletives are the same as there-type expletives in that they do not check Case. If such an analysis were to be maintained, it must be the case that in constructions such as (i), the finite CP is able to check the nominative Case feature of the matrix T (for arguments that finite clauses can sometimes have Case features, see Boškovic 1995a).

(i) It seemed to John [that Bill was crazy]

Plausibly, a non-finite clause, as in (60b), is unable to host a Case feature. I believe that such an analysis of it-construction may have to be ultimately adopted (but see Chomsky 1986b, 1995 for arguments against treating expletive it on par with there-constructions). Still, whether this line is correct or not, I present more compelling reasons to think that not all instances of non-finite T check (null) Case below.

10. As Boškovic (1996b) notes, the null Case hypothesis yields the desired consequences as far as A-movement out of true control infinitivals is concerned. Namely, the ungrammaticality of (ia-b) is predicted, since the A-movement in question, overt in (ia) or covert in (ib), originates from a Case position, in violation of Last Resort.

- (i) a. *John was tried [t to go to college]
- b. *I tried [him to go to college]

This consequence, if maintainable, is highly desirable, since the examples in (i) represent some of the few instances of illicit A-movement not reducible to a minimal chain link condition (Rizzi 1990; Chomsky and Lasnik 1993). Hence, the stipulation that the movement in (i) is ill-formed because it crosses a barrier is no longer necessary.

11. The verb remember has both implicative and non-implicative uses. Here, I intend the latter; I discuss

implicatives below.

12. Stowell actually claims that the interpretation (or "understood" tense) of raising infinitivals is determined by the meaning of the governing verb. He gives two examples to support this claim:

- (i) a. I expect [John to win the race]
- b. I remember [John to be the smartest]

As I argue below, on one interpretation, (ia) actually involves a control infinitival with covert for. The verb expect in English is complicated due to the fact, observed originally by Bresnan (1972), that it is (at least) three-ways ambiguous. On one of its possible interpretations, expect takes a *for*-infinitival, on another it involves object control, and on the third, it is an ECM predicate. I discuss expect in a bit more detail below. As for (ib), I doubt that this sentence actually has the reading in question. For me, (ib) presupposes that John is still the smartest. Compare the following examples:

- (ii) a. #Now that he's finally left home, John's mother remembers him to be a good child
- b. Now that he's finally left home, John's mother remembers him to have been a good child

(iia) sound very strange to my ear, suggesting that the generalization stated in the text is correct.

13. The fact that the interpretive properties of the complements of implicative verbs raise a problem for Stowell's theory is noted in Pesetsky 1991.

14. As Karttunen notes, on the basis of (70) alone, there is no reason to distinguish implicative from factive predicates, which presuppose the truth of their complements. However, unlike factives, if an implicative verb is negated, the negation "carries over" to the complement clause, as illustrated in (i).

- (i) a. Dida managed to stop the goal
- b. Dida didn't manage to stop the goal
- c. Dida didn't stop the goal
- (ii) a. Dida was happy to stop the goal
- b. Dida wasn't happy to stop the goal
- c. Dida stopped the goal

(ic) is entailed by (ib) but not (ia). With a factive predicate, on the other hand, both (ia) and (ib) presuppose the truth of (ic).

15. There is a non-trivial assumption here; namely, that the event time in a clause without tense the same as the event time of the next highest predicate, or UT in the case of a matrix clause. One could imagine an alternative state of affairs where, say, the event time of a tenseless clause is totally independent of any previously introduced tenses.

16. I continue to use the terminology 'past' and 'present' (i.e., no italics, no small caps) when the distinction between the semantic and morphological aspects of tense is irrelevant or when I am not referring specifically to the syntactic structure below.

17. I further assume that "subject" Case and agreement is checked by Z (= *past*, *present*, etc.) in Spec TP following Z-to-T raising, although there are other conceivable options.

18. This is not to say that "morphological" entails no semantic effect. As we will see below, past or present in Z may contribute to the overall interpretation of the sentence.

19. I have omitted the embedded T node all together. Another possibility is that TP is present, but headed by a T with no semantic content. The latter possibility is desirable only if the embedded event-time cannot be fixed without accessing an embedded evaluation-time (e), which I have assumed to occupy Spec TP.

20. This point is made, independently, in Martin 1993b and in Watanabe 1993.

21. Notice that (i) is ungrammatical.

(i) *Jill said someone will come, but I'm not sure whether [e]
(cf. . .but I'm not sure who [e])

I argue in this thesis that whether is in fact a wh-phrase in Spec of CP, not a complementizer. I assume that the ungrammaticality of (i) thus shows that there is no formal agreement (feature checking) between whether and C.

22. Lobeck (1995) notes that VP-ellipsis not always possible in control to-infinitivals, but rather that it only occurs only under certain conditions, which she argues to involve government. I assume instead, following Zwicky (1982), that

the cases where ellipsis is unexpectedly prohibited arise due to phonological matters.

23. I should point out that it is far from clear what the explanation for this generalization could be. In particular, whereas Lobeck, Zagana, and others have tried to account for these phenomena in terms of the notion proper government, it is not easy to see how this can be translated into a minimalist approach. Since the generalization about Spec-head agreement governs both VP-ellipsis and the possibility of VP-trace, both of which presumably involve PF deletion of a copy (Chomsky 1995), it is tempting to think that it may follow from some sort of bare output condition at this level. Another possible way to state the generalization is to say that a complement of a head H can be deleted at PF if and only if H has a specifier. Once the generalization is stated in this way, it becomes more plausible that the requirement is related to PF matters. Note, that in order to maintain this "version" of the generalization, it must be assumed that the ECM subject of the infinitival complement to verbs like believe is not located in the specifier of to, but rather occupies some higher specifier position. One possibility is that ECM subject undergoes "overt object shift" to the matrix clause, as proposed in Lasnik 1995c, Koizumi 1995, Johnson 1991, Ura 1993, and Bošković 1995b. Another possibility is that, given the assumptions made here, Case checking takes place in Spec ZP, whereas the EPP feature is in Spec TP, though this latter solution runs afoul of Chomsky's treatment of super-raising examples, to be discussed in Chapter 3. In any event, given the current lack of understanding of PF conditions, I will have to leave these issues unresolved here. However, see Park 1994 for an analysis of VP ellipsis/fronting within the general approach of minimalism.

24. I should note that I am not committed to an analysis of these facts based on the Proper Binding Condition; so long as some principle rules out (132b), I assume that it will rule out (131a) as well. An obvious alternative would be to assume that zero-complementizers are PF affixes, rather than syntactic affixes, and that the adjacency condition on PF merger is responsible for the ungrammaticality of both (131a) and (132b). See Bošković 1995b for consideration of this possibility. Of course, the real issue is whether or not the PBC exists or whether its effects can be deduced from more general minimalist assumptions. For discussion of these issues, see Takano 1993, Chomsky 1995, and Collins 1994.

25. It should be noted that Chomsky and Lasnik (1977) argue explicitly against a unified account of (137b-c) and (138b).

26. This analysis is reminiscent of Law 1991.

27. Presumably, the same sort of analysis can be extended to the English verb expect. As shown by Bresnan (1972), expect is at least three ways ambiguous, allowing raising, object control, and for-infinitivals. Still, even clear instances of raising infinitivals with expect have a future orientation and license event predicates:

- (i) a. There is expected to be a riot (tomorrow)
- b. A riot is expected (tomorrow)
- c.??There is expected to arrive a man

28. Also, note that these verbs can appear in the progressive form and are compatible with agent-oriented adverbs:

- (i) John is intentionally appearing to hit Bill

The verbs seem and appear can optionally take an experiencer phrase, as in (ii), in addition to a clausal complement.

- (ii) John seems to Mary [t to have hit Bill]

An interesting, yet mysterious, fact supporting the proposed ambiguity of these verbs is that, when the experiencer is present, the clausal complement, if non-finite, exhibits only the properties of raising infinitivals. Event predicates are not possible in the infinitival clause, as illustrated in (iii), and VP ellipsis is ungrammatical, as shown in (iv).

- (iii) *John seemed to Mary [t to hit Bill]

- (iv) *Although John didn't actually [hit Bill], he seemed
 (*to Mary) to [e]

Furthermore, the matrix subject position can no longer be agentive when the experiencer is present, as the following contrast attests:

- (v) a. John is intentionally seeming to hit Bill
- b. *John is intentionally seeming to Mary to hit Bill

Although I do not have an analysis of why an agent role cannot be assigned when an experiencer is present, the above contrasts support the proposed lexical ambiguity. Howard Lasnik (personal communication) conjectures that verbs such as these may be so thematically weak that they are incapable of assigning more than one θ -role.

Chapter 3: On Deriving Control Theory

Control theory is concerned with the question of how PRO is assigned an interpretation. In this chapter, I attempt to derive the basic properties of obligatory and non-obligatory control from basic Minimalist principles. The literature on control reveals many different uses of the terms obligatory and non-obligatory control; for example, see Williams 1980; Chomsky 1981; Bresnan 1982; Manzini 1983; Bouchard 1984; Chierchia 1984; Koster 1984; Chomsky 1986b; Farkas 1988; Borer 1989; Clark 1990; Larson 1991; Lasnik 1992b; Vanden Wyngaerd 1994; Watanabe 1996, which constitute a few representative works. Whereas all of these authors make slightly different proposals regarding how the whole of control phenomena is to be classified and/or categorized, most agree that there are at least two different varieties of control.

Here, I argue for a theory which bifurcates control into two types. I refer to these as obligatory and non-obligatory

control, following the tradition at least since Williams 1980. However, it will become clear that this terminology is not entirely appropriate. In brief, I argue that obligatory control involves movement of the clitic PRO to the superordinate clause. PRO thus winds up in the same checking domain as a non-distinct DP controller. In such a situation, I argue, the Chain headed by DP and the Chain headed by PRO are fused into a single Chain with two thematic roles. I take the distinguishing property of non-obligatory control to be the absence of movement of PRO to the higher clause, hence the absence of Chain fusion. I argue that this is possible only when there is a functional head F in the control infinitival which is capable of licensing PRO in a way to be specified below. I further argue that the distinction between Chain fusion and licensing via F yields similar, but distinct interpretive effects.

In the theory I propose here, the distinction between obligatory and non-obligatory control is one of selection. In English, for example, I equate non-obligatory control with control of PRO in infinitivals that can optionally appear with (overt or zero) *for* plus lexical DP. Presumably, *for*-infinitivals are the default, since they occur in matrix and adjunct contexts, where selection is irrelevant. Obligatory control, on the other hand, is implicated in the complement set of control infinitivals (i.e., those where *for* is

impossible), which I take to be bare TPs, rather than FPs headed by *for*.¹ Arguably, the complement choice of TP, rather than FP, is a matter of selection by particular predicates, such as try and persuade in English.

3.1. Some General Properties of Obligatory Control

The example in (1a) is said to involve obligatory control of PRO by the matrix subject.

- (1) a. Nadal tried [PRO to score a goal]
 b. *Nadal tried [Kiko to score a goal]

(1a) can only mean that Nadal did something that he believed would lead to him, Nadal, scoring a goal. Certainly, one can imagine an alternative state of affairs: Say, Nadal makes a pass into the penalty area to an onrushing teammate, Kiko. In other words, it is now Kiko who has a chance to score a goal as a result of Nadal's attempt. Despite the semantic and pragmatic plausibility of the intended reading, (1a) can have no such interpretation.

I share the common intuition that the lack of ambiguity in (1a) is somehow related to the fact that (1b) is ungrammatical.² At issue, however, is whether the interpretive constraint at work here follows from the semantics of try and similar verbs; that is, are there meaning postulates such that

the recipient of a designated thematic role of these verbs is necessarily the subject their non-finite complements? I will argue, on the contrary, that the facts in (1) follow largely from the syntax of Case and agreement, as well as the nature of PRO itself.³

The claim that the interpretive constraint manifest in (1a) is essentially syntactic, rather than semantic, is supported by considering languages that do allow a lexical subject in (quasi-non-finite) complements to verbs like try. Interestingly, in many such cases, the subject of the complement need not be coreferential with the matrix subject. Consider the Mohawk example in (2a), from Baker 1996, and the Modern Greek example in (2b) from Joseph 1992.⁴

- (2) a. Sak wa-ha-[a]te'nyAt-' raúha a-ha-nhotúko-'
 Sak FACT-ms.sg.SUB-tried-PUNC him OPT-ms.sg.SUB-open
 'Sak_i tried for him_{i/j} to open it.'
 b. prospaθó na érθi o jánis
 try-1.sg SUBJUNC come-3.sg the John-NOM
 'I try for John to come.'

Furthermore, these languages allow disjoint reference between the subjects of try and its complement even when the latter is an empty category:

- (3) a. A-ha-[a]te'nyAtA-' ne a-yako-yéshu-'
 FUT-ms.sg.SUB-try-PUNC NE OPT-fm.sg.OBJ-laugh-PUNC
 'He will try for her to laugh.'
 b. eyó prospaθisa na érθis
 I-NOM tried-1.sg SUBJUNC come-2.sg
 'I tried for you to come.'

Far from unexpected, the availability of the interpretations in (2)-(3) is in accord with semantic plausibility, as suggested above. Based on such evidence, I conclude that the interpretive facts in (1)-(3) do not follow from meaning postulates or the like. The broader conclusion to be drawn is that an account of obligatory control based entirely on the *lexical semantics* of control predicates will not suffice.

Williams (1980) distinguishes several further properties of subject control in (1a). First, the controller must c-command PRO, as shown by the ungrammaticality of (4).

(4) *Bill's mother tried [PRO to encourage himself]

Second, the controller must be relatively local. Thus, in (5) PRO cannot be controlled by the matrix subject Kiko, but rather is controlled by the "closer" subject Nadal.

(5) Kiko said that Nadal tried [PRO to score a goal]

Furthermore, PRO cannot be controlled by both Kiko and Nadal in (5), as shown by the ungrammaticality of (6).

(6) *Kiko said that Nadal tried to score a goal together.

Finally, there must be a syntactically realized controller; hence (7) is ungrammatical.⁵

(7) *It was tried [PRO to score a goal] (by everyone)

So far, I have only discussed examples where PRO is obligatorily controlled by a subject. Of course, there are also cases where PRO is controlled by an object, as illustrated in (8).

- (8) a. They_i persuaded Bebeto_j [PRO_{i/j} to play for Flamengo]
 b. The police_i forced the students_j [PRO_{i/j} to leave]
 c. John_i told Kazu_j [PRO_{i/j} to go to Rio]
 d. Rebecca_i convinced Jill_j [PRO_{i/j} to join the team]
 e. Bebeto_i's return to Flamengo prompted Romário_j
 [PRO_{i/j} to leave for Valencia]

Examples such as those in (8) exhibit all of the properties of obligatory control constructions discussed above, differing only in that the controller is the matrix object, rather than the subject. Additionally, it now becomes apparent that PRO must have a unique controller, even when the control predicate has two arguments. For example, in (8a), PRO must refer only to Bebeto and cannot include the referents of they, hence the ungrammaticality of (9).

- (9) *They persuaded Bebeto [PRO to play together again]

3.1.1. Control and Anaphor Binding

It is often pointed out that many of the properties of (obligatory) controlled PRO above are shared by reflexive anaphors (Manzini 1983, Bouchard 1984, Koster 1984, Lebeaux

1984, among others). Compare the examples in (10) to those in (1) and (4)-(7) above.

- (10) a. Nadal_i believes himself_{i/*j} to have scored a goal
 b. *Bill_i's mother admires himself
 c. Kiko_i said that Nadal_j believed himself_{i/j/*k} to have scored a goal
 d. *Kiko_i said that Nadal_j believed themselves_{i/j} to have scored a goal together
 e. *It seems to himself that he is clever

The anaphor himself is necessarily coreferent with the matrix subject in (10a). It must be c-commanded by its antecedent, as shown by the ungrammaticality of (10b). Further, himself must have the closest subject as an antecedent in (10c), and cannot have split antecedents in (10d). Finally, if there is no structurally present antecedent, as in (10e), the result is ungrammatical. Also, like PRO in (9), lexical anaphors never allow split antecedents within the same minimal clause, as shown by (11).

- (11) *John_i told Bill_j about themselves_{i/j}

Although parallels between controlled PRO and bound anaphors are easily drawn, a reduction is not without problems, for the reasons discussed by Lasnik (1992b). Still, it should be noted that, given my proposals in Chapter 2, one of the biggest obstacles to reducing control to the theory of binding is no longer relevant. Namely, most analyses of this sort have ultimately been rejected because they are

incompatible with the PRO Theorem, which demands that PRO *trivially* satisfy the binding conditions to exist at all. However, in providing an alternative Case-theoretic account of the distribution of PRO, I have at least reopened the door for a binding-theoretic account of the interpretation of PRO.

It should already be evident exactly where the parallelism between control and anaphor binding breaks down. As Lasnik (1992b) notes, whereas there is no choice of controller for PRO, anaphors (at least in English) can typically pick out any sufficiently local antecedent.⁶ As noted above, in all of the examples of object control in (8), PRO must be controlled by the matrix object, coindexation with the matrix subject giving rise to ungrammaticality. Compare this situation to that of anaphor binding in (12).

- (12) a. John told Mary about herself
 b. John told Mary about himself

In (12a), the anaphor can be bound by the direct object of tell, particularly if Mary is suffering from some sort of loss of memory. Equally good, however, is (12b), where the anaphor is bound by the subject.

3.1.2. The Local Nature of Control

As we have seen, obligatory control is highly local in a

way that is not shared by anaphor binding. The locality of control is expressed most accurately, I believe, by Rosenbaum's (1967, 1970) Minimal Distance Principle (MDP), a version of which I state in (13).

- (13) Minimal Distance Principle (MDP)
 PRO is controlled by the *closest* c-commanding
 referential DP.

According to (13), if a control predicate has an object, as in (8), it must be the controller, since it is closer to PRO than the subject.⁷ In other words, subject control is only possible when the control predicate does not have an object.

Although it appears to be correct for the vast majority of cases, there are well-known examples that have been claimed to refute the MDP. Arguably, none of these apparent counter-examples involve *obligatory* control. Consider the following notorious example:

- (14) John promised Mary [PRO to be home from work by 5:00]

I follow Rosenbaum 1967, however, in classifying promise as a predicate that selects a *for*-infinitival.⁸ This is evidenced by relative well-formedness (15).

- (15) ?I promised your mother [for you kids to be home from
 school by 5:00], so don't be late

Although marginal for some speakers, there is a clear contrast

between (15) and (16a), on one hand, and (16b), which is completely out for all speakers, on the other.

- (16) a. ?John promised Mary for the kids to go to a good college
 b. *John persuaded Mary for the kids to go to college

Further distinctions between the infinitival complements of promise and persuade have been noted by Larson (1991):

- (17) a. What John promised Mary was (for the kids) to be home by 5:00
 b. *What John persuaded Mary was to go to college
- (18) a. What did John promise Mary? (For the kids) to be home by 5:00
 b. *What did John persuade Mary? To go to college

Assuming that the distinctions in (16)-(18) are related to differences between obligatory and non-obligatory control, as I will suggest below, the evidence weighs in favor of treating promise as involving non-obligatory control, unlike the clear instances of obligatory object control in (8).

Furthermore, promise marginally (and under limited circumstances) allows object control:

- (19) ??The teacher promised the kids_i PRO_i to be able to leave school early today

This sort of shift in controller is never witnessed with obligatory control predicates, such as those in (8). Rather than contradict the claim that obligatory control invariably

involves a *unique* controller (i.e., the closest one, according to the MDP), I suggest that promise be analyzed as invoking non-obligatory control. If so, the controller shift phenomenon in (19) plausibly results from a shift in *point of view*, as will be clarified below. Also, note that object control with promise in (19) behaves exactly the same, with respect to the diagnostics in (16)-(18), as subject control in (14):

- (20) a. What the teacher promised the kids was to be
able to leave school early today
b. What did the teacher promise the kids?
To be able to leave school early today.

Another well-known property of promise is that it does not normally undergo passive when it takes a control complement:

- (21) a. Fernando promised the coach to cut his hair
b. *The coach was promised to cut his hair (by
Fernando)

The ungrammaticality of (21b) contrasts with (22b), where a passivized object can control PRO.

- (22) a. Luis persuaded Fernando to cut his hair
b. Fernando was persuaded to cut his hair (by Luis)

The non-uniform behavior of (21) and (22) seems to indicate that the nature of control differs in the two cases, as I have argued.⁹

More often, it is concluded that the ungrammaticality of

(21b) indicates obligatory control, and, furthermore, that such control involves semantic (or thematic) determination of the controller, rather than structural determination (see Chierchia 1984, Farkas 1988). I think that there is something behind this intuition, but I suggest that it is because (21) involves non-obligatory control, which is (in part) pragmatically determined, that the passivized object cannot be the controller.

Consider the following examples where promise takes a finite complement:

- (23) a. Fernando_i promised the coach_j that he_i would cut his hair
 b. The coach was promised that Fernando would cut his hair
 c. The coach was promised that he would cut his hair by Fernando

(23a) seems to be almost an exact paraphrase of (21a). (23b) simply shows that promise can be passivized when it takes a finite complement. (23c) is more interesting. Here, the embedded pronoun simply cannot refer to Fernando (the same is true, to my ear, even if the *by*-phrase is absent). That is, it is at least very difficult to interpret both the referent of he and the agent of promise as the same person (with or without the presence of the *by*-phrase). These facts suggest that, from a purely syntactic point of view, one of the "missing" readings in (21b) need not be worried about. That

is, the absence of a reading where PRO is controlled by the thematic subject seems to be independent of control, since the same restriction applies whether the complement is finite or non-finite.

This leaves one possible controller for PRO in (21b): the promoted subject (i.e., "d-structure" object) of the passive verb. Loosely speaking, passive sentences, unlike their active counterparts, express the point of view of an underlying (thematic) object. If so, the existence of a control relation between the passivized object is expected only when the embedded infinitival also expresses the point of view of the superordinate (surface) subject. Note, in this regard, that the following are perfect:

- (24) a. The coach_i was promised that he_i could get a
haircut (before the game)
b. The coach_i was promised PRO_i to be able to get a
haircut (before the game)

While coreference between the coach and he in (23c) is degraded, once a pragmatically appropriate complement is used, as in (24a), the example becomes perfect. Notably, the same is true when the embedded subject is PRO, as shown by the acceptability of (24b).

Similar exceptions to the MDP can be treated in much the same way. Unlike promise, the verbs ask and scream normally appear to exhibit object control:

- (25) a. I_i asked the boss_j [$PRO_{j/i}$ to go home early]
 b. I_i screamed at the boss_j [$PRO_{j/i}$ to go home early]

However, PRO can sometimes be controlled by the subject of these verbs, but only when the infinitival complement is of the right semantic sort (Jackendoff 1972). Compare (25) with (26).

- (26) a. I_i asked the boss_j [PRO_i to be allowed to go home early]
 b. I_i screamed at the boss_j [PRO_i to be allowed to go home early]

The fact that the examples in (26) allow control of PRO by the matrix subject seems to be the same sort of phenomenon as that witnessed in (19) above. However, although examples parallel to (26) do allow *for*-infinitivals (albeit somewhat marginally) lexical DP is not possible in examples parallel to (25):

- (27) a. ?* I asked the boss [*for* Mary to go home early]
 b. ?* I screamed at the boss [*for* Mary to go home early]
- (28) a. ? I asked the boss [*for* Mary to be allowed to go home early]
 b. ? I screamed at the boss [*for* Mary to be allowed to go home early]

Other diagnostics yield similar results, as shown in (29)-(30) (similar examples are noted in Larson 1991).

- (29) *What I_i asked the boss_j was . . .*
 a. *to be allowed to go home early.*
 b. ?*for Mary_k to be allowed to go home early.*
 c. ?**to give me a raise.*

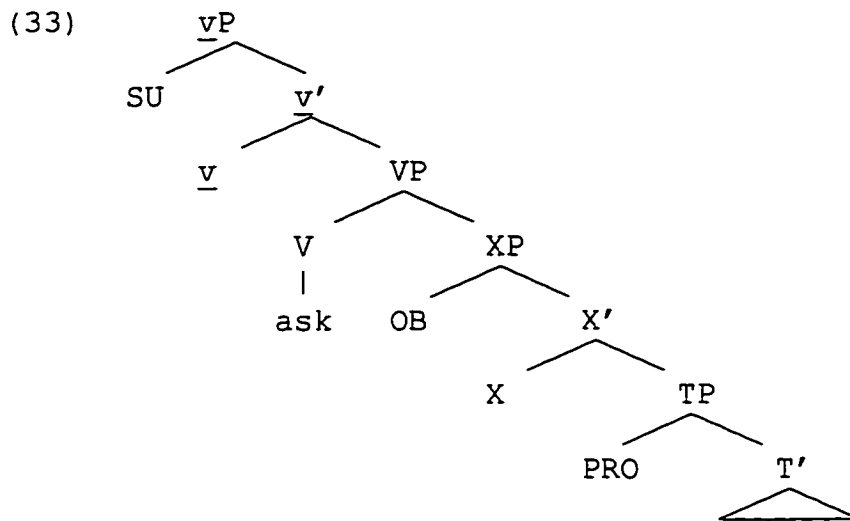
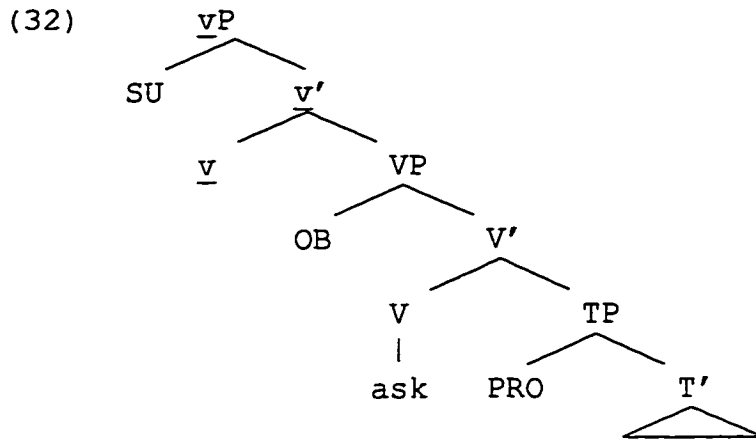
- (30) *What did you ask the boss?*
 a. ?For Mary to be allowed to go home early.
 b. To be allowed to go home early.
 c.?*To give me a raise.

I suggest that the erratic behavior of verbs like ask and scream ultimately derives from the fact that they are lexically ambiguous. This is evidenced by the fact that, when these verbs exhibit obligatory (object) control, there is an quasi-imperative or "weak" causative aspect to their meaning that is otherwise not present. Thus, in (25), I am not requesting permission from the boss, but rather making a particular demand. This is not the case with non-obligatory control in (26), where a request of some sort is clearly being made. Note also that, although ask can take a DP as its second complement, the interpretation associated with object control is no longer available:

- (31) a. I asked the boss permission/a request/a favor.
 b. *I asked the boss a demand/an order.
 (cf. ?I made/gave the boss a demand/an order.)

This interpretive difference suggests that there is additional predicative structure involved in object control constructions. I propose the structures in (32) and (33) for (26) and (25), respectively, where I set aside the exact semantic import of the head X in (33) and merely assume that it has an effect more or less corresponding to the semantic intuitions noted above (see Mulder 1992 for a very similar

analysis of object control).



The structures proposed above make an additional prediction:
Only in (32) can the object be dropped, since in (33) the
object is really the subject of the small clause headed by X.¹⁰
Consider the following data:

- (34) a. I asked to be allowed to leave.
b. I asked to leave.

As predicted, (34a) is grammatical. Interestingly, (34b) is

also grammatical, but it takes on the meaning of (34a); in particular, (34b) cannot mean that I asked someone to leave. This is for understandable reasons. On the analysis I have presented, the fact that (25) cannot have the structure in (30), in which case it should allow subject control, is surprising. One possibility is that the structure in (33) is, in some sense (perhaps related to processing), the default strategy in a null context. If so, the structure in (30) should only be salient when clearly disambiguated. The pragmatics of the embedded infinitival serve this purpose in (26) and, partially, in (34a), whereas the syntax suffices to disambiguate the structure in (34b). In this regard, note that (35), where the context is sufficiently rich to override the preference for the structure in (33), is much better with subject control than are the examples in (25).

(35) I felt really sick at work yesterday, so I went and asked the boss to go home early.

The possibility of subject control in (35) contrasts sharply with (36).

(36) I felt really sick at work yesterday, so I went and persuaded/forced/convinced the boss to go home early.

Assuming my arguments above are on the right track, the so-called counter-examples to Rosenbaum's MDP all involve a different sort of control from that witnessed in (8). Thus, I

conclude that the MDP is maintainable, as long as it is only applicable to obligatory control. Of course, even if the MDP is correct, the real question is still why control obeys such strict locality to begin with. As we have seen, other "anaphoric" relations, such as anaphor binding, do not obey this principle. I will argue that the MDP is in fact not a principle per se, but rather a descriptive generalization that follows from the way in which obligatory control is derived.

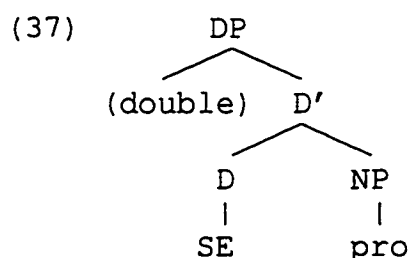
3.2. Deriving Obligatory Control

What sort of object is PRO? Are there any formal requirements that PRO must satisfy, besides Case? Why is PRO interpreted as "strictly" anaphoric in some cases and "loosely" anaphoric in others (e.g., yet to be discussed instances of non-obligatory control)? These are the sorts of questions that any adequate theory of control must address.

To begin, I argue that PRO is an "anaphoric" clitic, but that its anaphoricity is derived in a way quite different from that of English *self*-type reflexives. More specifically, my proposal is that PRO is a special clitic of the type found throughout the Romance languages. Its interpretive properties indicate that it is *essentially* the same entity as the reflexive/impersonal clitic SE (se in Spanish and Portuguese, si in Italian), interpreted as strictly anaphoric, indefinite,

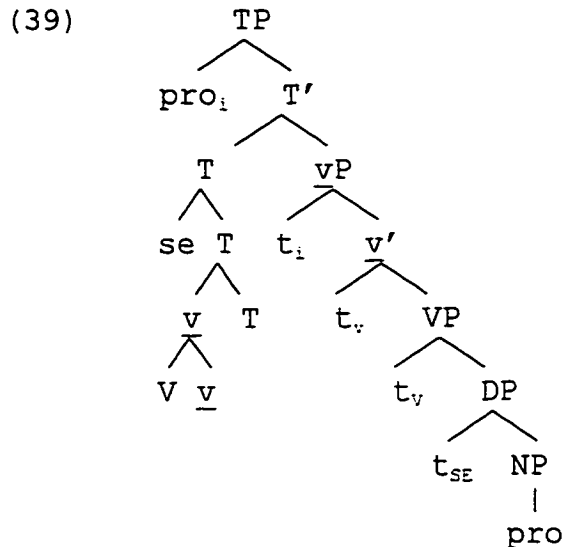
or as expressing the point of view of the speaker (or embedded subject), depending on contextual, as well as syntactic, issues (Cinque 1988; Raposo and Uriagereka to appear).

I assume along with Uriagereka (1995c) that the fact that SE (typically) gives rise to "anaphoric" dependencies derives from its weak morphological nature. In brief, object clitics, including SE, adjoin to T overtly to satisfy some property (perhaps just that of being a clitic), hence they ultimately wind up in the same checking domain as a subject in Spec TP. Under such circumstances, if the feature-content of SE is not rich enough to distinguish it from the subject, a collapsed Chain (i.e., a single Chain with two thematic roles) results. Following Uriagereka (1988, 1995a), I take the structure of special clitics to be as in (37), where the clitic heads a DP and takes a pro-NP complement.¹¹ The semantic import of (37) will be roughly 'the one' along the lines of Postal's analysis of pronouns (Postal 1966).



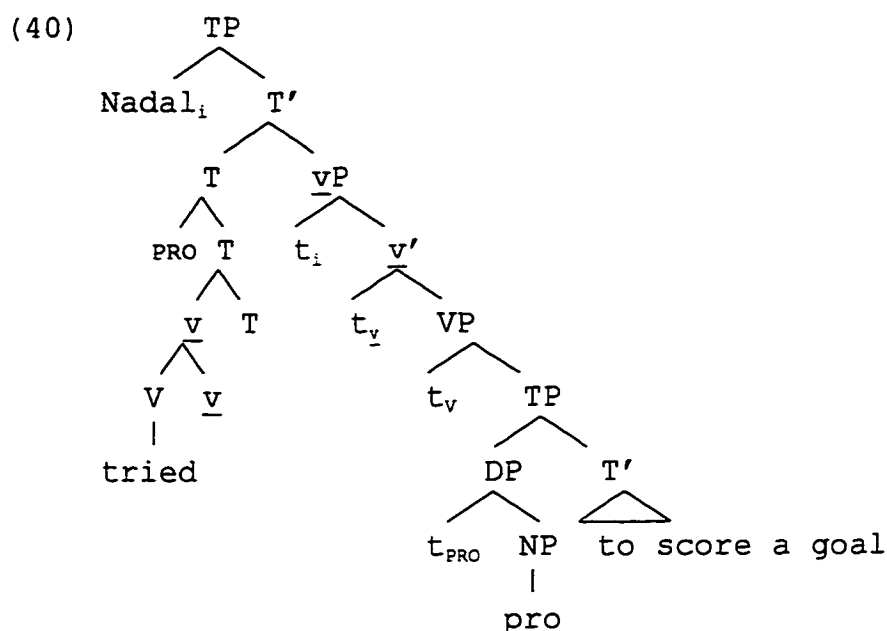
Now, consider the derivation of the Spanish (38), given in (39).

- (38) Se levanto (a si mismo)
 SE raised.III (to the same)
 'He raised himself.'



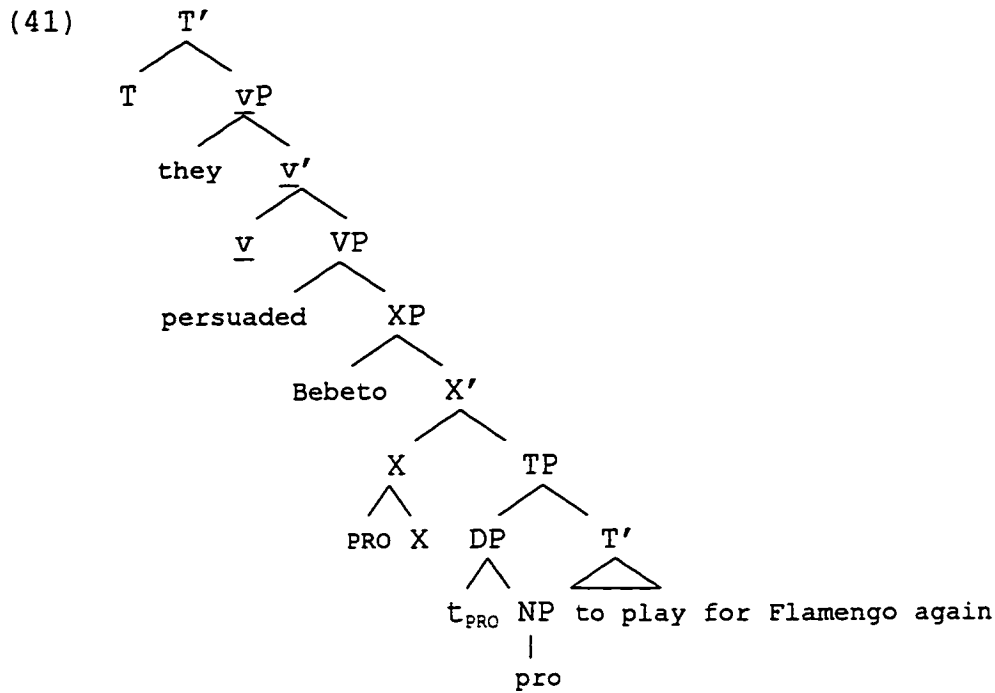
The desired result is that the two relevant Chains in (39), namely, (pro_i, t_i) and (se, t_{SE}) , become a single "fused" Chain (pro_i, t_i, t_{SE}) , yielding strict anaphoricity. In effect, SE disappears due to lack of formal distinctness, in a way to be discussed in detail in below.

My proposal is that the syntax of obligatory control is identical to the syntax of SE-type clitics in (39). For example, a sentence such as (1a) will have a derivation as in (40).



Even with the minimal background that I have provided so far, it can easily be seen how the anaphoric status of PRO follows from the structure in (40), assuming Chain fusion, or some similar process.

Now consider obligatory object control structures. Assuming my proposal in the previous section to be correct, a sentence such as (8a) will have the structure in (41).



Throughout the rest of the chapter, I detail the assumptions and arguments that underlie my proposal, and address many as-of-yet-unanswered questions that arise. Next, however, I would like to present some conceptual and empirical motivation for the general approach; namely, taking PRO to be a clitic, and obligatory control, in particular, to involve clitic climbing.

3.2.1. Control and Clitic Climbing

One of the main proposals of this thesis, made in Chapter 2, is that the distribution of PRO follows essentially from the theory of Case rather than government. As I have already

mentioned, there is a deep sense in which this result is significant: Within Minimalism, there is no place for arbitrary geometric relations like government. Ideally, syntactic relations should be limited to only those (minimal) domains which are a *consequence* of derivations (i.e., the way in which the phrase-markers are derived). These will involve the primitive relations of a bare phrase-structure theory: at most the head-complement, head-specifier, and head-head relations, but perhaps limited more radically to relations between elements merged to a single head (see especially Chomsky 1993, 1995; and Epstein 1995).

However, this conclusion is challenged by a well-known distinction between whether and if with respect to control. If PRO need only be in a null Case-checked position, both (42a) and (42b) are expected to be grammatical.

- (42) a. I don't know [whether PRO to go to the movies]
 b. *I don't know [if PRO to go to the movies]

Note that the contrast in (42) disappears if the complements are finite, as shown in (43).

- (43) a. I don't know [whether I should go to the movies]
 b. I don't know [if I should go to the movies]

Kayne (1991) argues that (42) follows from the PRO Theorem, assuming that if is a C^0 , whereas whether is a wh-phrase, which, like all other wh-phrases, is in Spec CP. Kayne's

proposal is schematized in (44).

- (44) a. . . . [_{CP} whether [_C e] [_{TP} PRO to go to the movies]]
 b. *. . . . [_{CP} (*Op*) [_C if] [_{TP} PRO to go to the movies]]

This is plausible since, as (45) shows, control is generally possible across *wh*-phrases.¹²

- (45) a. Ginny remembers [_{CP} where [_C e] [_{TP} PRO to go]]
 b. Sarah isn't sure [_{CP} what [_C e] [_{TP} PRO to do]]
 c. Kim knows [_{CP} how [_C e] [_{TP} PRO to solve the problem]]

In order to maintain Kayne's analysis, it is crucial that, whereas *if* governs PRO in (42b), an empty complementizer in (42a) and (45) does not. This is highly suspect if government is purely a geometrical relation. Still, it is a necessary assumption for the PRO Theorem to be tenable. Examples such as (46) also require the stipulation that empty C fails to govern PRO.

- (46) a. John tried [_{CP} e [_{TP} PRO to meet Pam]]
 b. John asked Pam [_{CP} e [_{TP} PRO to meet him]]

The examples in (42), to my knowledge, constitute the sole residue of the PRO Theorem. Therefore, it is important to ask if there is an alternative explanation for this contrast in terms of Minimalism. My analysis of obligatory control above provides an answer: The contrast in (42) follows immediately from a well-established constraints on movement. In particular, I argue that (42b) violates Travis's (1984)

Head Movement Constraint, which I take to be derivable from Shortest Move, along the lines proposed in Chomsky and Lasnik 1993.¹³ Thus, I assume that a PRO-clitic can climb past the empty complementizer in (42a), but that head-movement past a lexical C^0 , *if*, is blocked in (42b).¹⁴ This is schematized in (47).

- (47) a. ... PRO-T ..._{CP} whether [_C e] ... t_{PRO} ...]
 b. ... PRO-T ..._{CP} [_C if] ... *t_{PRO} ...]

There is, in fact, strong independent evidence for treating the contrast in (42) as an example of clitic climbing. As is well-known, many Romance languages, including Italian and Spanish, allow climbing of clitics out of infinitival complements to so-called restructuring verbs (see in particular, Rizzi 1982). The examples in (48a-b) and (49a-b) differ only in the placement of the accusative/dative clitic.

- (48) a. Mario vuole risolverlo da solo.
 Mario wants to-solve-it by himself
 b. Mario lo vuole risolvere da solo.
- (49) a. Gianni continua a raccontargli stupide storie.
 Gianni continues to-tell-him stupid stories
 b. Gianni gli continua a raccontare stupide storie.

Rizzi's argues that restructuring is involved based in part on the fact that impersonal *SI*-constructions involving DP-preposing are possible in the same contexts:

- (50) a. Si vuole vendere queste case a caro prezzo.
 SI wants to-sell these houses at a high price
 b. Queste case si vogliono vendere a caro prezzo.
 c. Si continua a dimenticare i problemi principali.
 SI continues to-forget the basic problems
 d. I problemi principali si continuano a dimenticare.

However, as originally noted by Rizzi (1982) and discussed in detail by Kayne (1989), in certain instances clitics can climb out of an infinitival clause in what are not obviously restructuring contexts. For example, in Italian, a clitic may raise out of an embedded question headed by a *wh*-phrase, as in (51).

- (51) a. pro non saprei [che PRO direti]
 Neg would know what to-say-you
 'I would not know what to say to you.'
 b. pro non ti saprei [che PRO dire t]
 Neg you would know what to-say

However, in contrast to (51b), movement of a clitic past *se* 'if' results in strong ungrammaticality, as shown in (52).¹⁵

- (52) a. pro non so [se PRO farli]
 pro Neg know if to-do-them
 'I don't know if to do them.'
 b. *pro non li so [se PRO fare t]
 pro Neg them know if to-do

Based in part on these observations, Kayne (1989) concludes that clitic climbing involves (successive cyclic) head movement. Given the proposed analysis of control, the contrast in (42) can be made directly analogous to the strikingly

similar contrast between (51b) and (52b).

Despite the obvious affinity between Kayne's analysis of (51)-(52) and my analysis of control in (42), a substantial problem exists. Given the fact that se blocks climbing of an overt object clitic, as in (52b), the grammaticality of (52a) is unexpected, assuming that the PRO-clitic must climb to the matrix clause in Italian. In other words, it is the contrast between (42b), ungrammatical in English, and (52a), grammatical in Italian, that is in need of an explanation under my analysis.¹⁶ One possible conclusion is that PRO need not move out of the infinitive in Italian, at least in contexts like (52a); in other words, some additional option is available for PRO in (52a) but unavailable in (42). Below, I will argue that PRO in fact does remain *in situ* in Italian, hence the problem raised by (52a) is only apparent. In the next two sections, however, I first discuss some further similarities and apparent differences between obligatory control and clitic climbing, and then review Kayne's (1991) analysis of the above facts.

3.2.2. The Symmetry of Control and Clitic Climbing

Kayne (1989) and Rizzi (1982) show that there are further contexts in which clitic climbing out of an infinitival clause is not a possible option. Clearly, given my analysis,

obligatory control is also predicted to be impossible in these, and similar, contexts. I show that the prediction is borne out to a large extent. Still, in some cases, there do appear to be differences between the two phenomena. I argue, however, that other factors are involved in accounting for the differing behavior of clitic climbing and control in the cases where the predicted symmetry is absent.¹⁷

As noted above, Kayne (1989) claims that clitic climbing involves head movement. In addition to the argument drawn from (51b)-(52b), Kayne provides additional evidence for this claim based on the fact that intervening negation also blocks climbing, as shown by the ungrammaticality of (53b).

- (53) a. Gianni non li vuole vedere
 Gianni Neg them wants to-see
 b. *Gianni li vuole non vedere

This contrast is explained, in Kayne's terms, by taking Neg to be a head that does not L-mark its complement.¹⁸ Alternatively, one could claim that Neg induces a violation of Relativized Minimality or the Minimal Link Condition, crucially assuming Neg to be a head and clitic climbing to involve head movement. Negation in either the matrix or embedded clause, however, does not appear to block obligatory control, as shown in (54) and (55).

- (54) a. Without Romário, Flamengo managed [PRO not to win a single game]
 b. Without Romário, Flamengo did not manage [PRO to win a single game]
- (55) a. After the arrival of Bebeto, they must persuade Romário [PRO not to go to Valencia]
 b. After the arrival of Bebeto, they will never convince Romário [PRO to stay]

(54a) and (55a), in which the embedded clause is negated, are unproblematic, since the relevant movement arguably originates from a position higher than Neg; namely, Spec TP. Examples with object control, as in (55b), are also irrelevant, since matrix negation is obviously higher than the target of clitic movement; namely, the head X. (54b), however, does raise a question as to how the PRO-clitic can cross matrix negation if not is in fact a head. Put differently, why doesn't not induce the same effect as if in (42)?

I argue that the problem posed by (54b) is only apparent. I assume, following Lasnik (1995d), that there is no need to account for the contrast in (56) in terms of the ECP, HMC, or any other such condition, either overtly or in LF.

- (56) a. *John likes not soccer
 b. *John not likes soccer
 cf. John does not like soccer

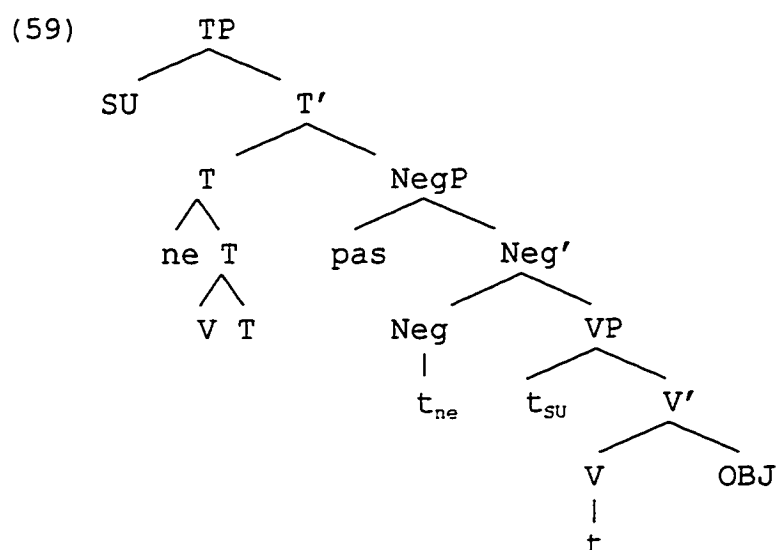
That this assumption is correct is confirmed by the possibility of auxiliary verb raising past not in English, as in (57), as well as the additional possibility of main verb

movement past pas and other adverbials in French, as in (58).

- (57) a. Jana is not here yet
 b. Farah has not scored any goals yet this year

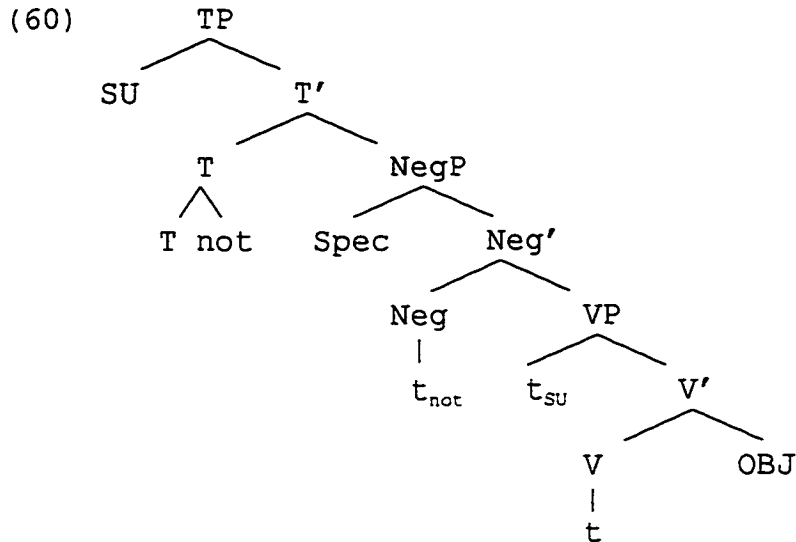
- (58) a. Je ne mange pas
 I not eat Neg
 b. Je n'ai pas mangé
 I not have Neg eaten

Following Belletti (1990), I take ne/non/no/não to be the head of NegP in Romance and certain negative polarity adverbials, such as pas in French or mai in Italian, to be located in Spec NegP. Belletti argues that the head Neg obligatorily cliticizes onto Agr (here, I will assume that this is actually T), yielding a structure such as (59) for (58b).



Following Pollock (1989), I take English not to correspond to the head of NegP (however, I continue depart from Pollock 1989 in assuming, along with Belletti and Kayne, that French ne,

instead of pas is the head of NegP). I further claim that the structure of English negative clauses is the same as that in French (59), except that not right-adjoins to T:¹⁹



Evidence for this claim is provided by the fact that, as clausal negation, not is obligatorily pied-piped along with T-to-C movement:

- (61) a. Isn't Jana usually here?
 b. *Is Jana not usually here?
 c. Hasn't Farah scored any goals yet?
 d. *Has Farah not scored any goals yet?

If this is so, arguably, the reason verb movement is possible past the head Neg in (57)-(58), as is movement of the clitic in (53a), is that Neg is a trace, which is invisible for the purposes of Shortest Move (Noam Chomsky, class lectures, 1995).

Kayne also notes that clitic climbing is apparently incompatible with object control. This is surprising, since cases with subject control are common. He argues that this asymmetry follows, since climbing, on his analysis, necessarily involves T-to-T restructuring, which leads to coindexation of the matrix and embedded T nodes. Assuming that T also obligatorily shares an index with its specifier, climbing will only be possible when the matrix and embedded subjects are identical; such is the case with subject control, but not with object control, hence the asymmetry. One can easily object that this analysis relies on the rather technical stipulation that a head is always coindexed with its specifier.²⁰ In fact, for quite the right reasons, the existence of indices themselves is denied in the Minimalist Program (their effects taken to be epiphenomenal; namely, a result of the interpretive component). More serious, however, is the fact that clitic climbing is impossible even with the passives of object control verbs, a problem that Kayne himself notes but leaves unresolved.

On the other hand, the asymmetry between the existence of clitic climbing with subject control and its absence with object control arguably follows from the structure I have proposed in (33).²¹ In particular, the head X can be assumed to block climbing of embedded object clitics.²² The difference, then, between climbing of PRO-clitics to X and standard clitic

climbing, is that only the latter must involve movement of the clitic all the way to T. This is presumably related to differences in the motivation (or driving force) for the movement. Uriagereka (1988) argues convincingly that object clitics climb for reasons having to do with scope. I also assume that in order for a specific clitic to take wide scope, it must reside outside of the superordinate VP. If so, the head X in object control structures will intervene between the clitic and its target. Raising of PRO clitics, on the other hand, is arguably just *cliticization*; namely, adjunction to a possible host, for which X suffices. In other words, there is no "need" for a PRO-clitic to move as far as the superordinate T, since it is not moving to a scope-taking position.

Consider next the class of examples discussed in Rizzi 1982; namely, contexts involving cleft formation, Right Node Raising, and rightward movement. As noted in my discussion of promise above, obligatory object control predicates do not allow their infinitival complement to be pseudoclefted. This is illustrated again in (62a). Also, note the contrast between (62a) and (62b) where the embedded VP has been pseudoclefted.

- (62) a. *What Bill persuaded John was to move to Rio.
 b. What Bill persuaded John to do was move to Rio.

As Noam Chomsky (personal communication) notes, a similar contrast obtains with subject control, though the effect is

somewhat weaker:

- (63) a. ?*What John tried/managed was to move to Rio.
 b. What John tried/managed to do was move to Rio.

The same fact is noted by Rosenbaum (1967), who further observes that obligatory control verbs, as in (64), contrast sharply with non-obligatory control verbs, in (65), with respect to the possibility of passivization and pseudoclefting of their infinitival complement.²³

- (64) a. John condescended to stay here.
 b. *What Bill condescended was to stay here.
 c. *To stay here was condescended by Bill.
 d. *What was condescended by Bill was to stay here.
- (65) a. Bill prefers to stay here.
 b. What Bill prefers is to stay here.
 c. To stay here is preferred by Bill.
 d. What is preferred by Bill is to stay here.

Similar facts also arise with cleft constructions:

- (66) a. *It is to move to Rio that Bill persuaded John.
 b. *It is to move to Rio that John tried.
 c. It is to move to Rio that John prefers.

Turning now to Italian, although Rizzi (1982) does not discuss pseudocleft or passive constructions, he notes that some of the verbs that can trigger clitic climbing also allow the infinitival complement to be clefted, as in (67).²⁴

- (67) a. E'proprio a riportargli i soldi che sto andando.
 is just to-bring-him his money that am going
 'It is just to bring him back his money that I am going.'
- b. E'proprio a raccontarla a Maria che ho cominciato.
 is just to tell-it to Maria that have begun
 'It is just to tell it to Maria that I have begun.'

However, when the infinitival has been clefted, the clitic pronoun cannot be moved:

- (68) a. *E'proprio a riportare i soldi che gli sto andando.
 b. *E'proprio a raccontare a Francesco che la ho cominciato.

The same effect is exhibited in Spanish with cleft and pseudocleft sentences. Examples illustrating the interaction of pseudocleft and clitic climbing in Spanish are given below:

- (69) a. Quiero comerlo
 want.I to-eat-it
 'I want to eat it.'
- b. Lo quiero comer
 it want.I to-eat
- c. Lo que quiero es comerlo
 it what want.I is to-eat-it
 'What I want is to eat it.'
- d. *Lo que lo quiero es comer
 it what it want.I is to-eat

Rizzi also notes that clitic climbing is impossible from an infinitival that has undergone Right Node Raising (RNR). He provides the following data:

- (70) a. Mario vorrebbe, ma a mio parere non potrà mai,
 Mario would like, but in my opinion Neg able ever
 pagargli interamente il suo debito
 to-pay-him his debt
 'Mario would like, but in my opinion he will never be
 able, to pay him his debt.'
 b.*Mario gli vorrebbe, ma a mio parere non gli potrà
 mai, pagare interamente il suo debito
- (71) a. Francesco comincerà, e probabilmente per molto tempo
 Francesco will begin and probably for a long time
 continuerà, ad andarci di mala voglia.
 continue to-go-there against his will
 'Francesco will begin, and probably for a long time
 he will continue, to go there against his will.'
 b.*Francesco ci comincerà, e probabilmente per molto
 tempo ci continuerà, ad andare di mala voglia.

As the examples below indicate, infinitival complements of obligatory control verbs appear to differ in that they can (somewhat marginally) undergo RNR in English:

- (72) a.?Mario tried, but he could not even begin, to write
 his thesis on control theory.
 b.?They convinced Beбето, but they could not persuade
 Leonardo, to return to Brazil.

While these sentences are not perfect, I do not find them bad enough to warrant exclusion. However, it is not clear why clitic extraction out of an infinitival in (70)-(71) is degraded to begin with. This is especially troublesome in light of the fact that other types of extraction are possible in RNR contexts (Wexler and Culicover 1980):

- (73) a. Who does Mary buy and Peter sell, [pictures by t]
 b. Who did she say Mary believed and John proved that
 Peter kissed t
 c.?One minute there was, and the next minute there
 wasn't, someone standing in front of me.
 d.?Mary refuses to believe, even though Bill claimed
 (that) Peter kissed John.

Facts such as those in (73) have led some researchers to argue that RNR involves deletion of a phrase in the first conjunct, rather than across-the-board movement to the right (Bošković 1996; Kayne 1994; Wexler and Culicover 1980). Notably, these accounts leave the clitic placement facts in (70)-(71) unexplained. However, Juan Uriagereka (personal communication) observes that, at least in Spanish, there is a clear contrast between examples where the clitic has undergone climbing in both conjuncts and those where the clitic is raised out of only one conjunct:

- (74) a. Mario querria, pero en mi opinion no pódra
 Mario wants, but in my opinion will never be able to
 pagarle la deuda
 pay him the debt
 b.*Mario le querria, pero en mi opinion no pódra pagar
 la deuda
 c.*Mario querria, pero en mi opinion no le pódra pagar
 la deuda
 d.??Mario le querria, pero en mi opinion no le pódra
 pagar la deuda

Taking (74) to represent the general case, the relative acceptability of (72) can be treated on par with that of (74d).²⁵ Of course, since there is no way to tell, at least phonetically, whether the PRO-clitic has undergone climbing in

both conjuncts or not, there is no parallel example to the strongly ungrammatical (74b-c) involving control.

3.2.3. Kayne (1991)

In an important paper on comparative Romance syntax, Kayne (1991) argues that there is a correlation between the possibility of control across a lexical C^0 and the ordering of clitics with respect to the infinitive. He notes that French contrasts with Italian, Spanish, Catalan, and Galician in that sentences corresponding to (52a) are ungrammatical.²⁶ A (near) minimal pair, illustrating the French pattern, on one hand, and Italian pattern, on the other, is given in (75).

- (75) a. *Je ne sais pas [si PRO aller au cinéma]
 I Neg know not if to-go to-the cinema
 'I don't know if to go to the cinema.'
 b. Gianni non sa [se PRO andare al cinema]
 Gianni Neg knows if to-go to-the cinema
 'I don't know if to go to the cinema.'

(75a) is ungrammatical despite the fact that French, like English and Italian, otherwise allows control across a wh-phrase in Spec CP:

- (76) Je ne sais pas [où PRO aller]
 I NEG know not where to-go
 'I don't know where to go.'

Kayne (1989) suggests a correlation between the possibility of control across a lexical complementizer and the null subject parameter: In addition to Italian, other null subject languages, such as Spanish, Catalan, and Galician Portuguese allow the construction in (75b)/(52a), in contrast to French, a non-null subject language. Relevant examples from Spanish, Catalan, and Galician are given in (77).

- (77) a. No sé se ir al cine (Spa.)
 Neg I-know if to-go to the movies
 b. En Pere no sap si ferho (Cat.)
 Pere Neg knows if to-do-it
 c. Non sei se ir ao teatro (Gal.)
 Neg I-know if to-go to the theater

Kayne (1991), however, rejects his earlier conjecture, based on consideration of additional Romance languages. In particular, Sardinian and Occitan, both null subject languages, appear to pattern with French, rather than Italian/Spanish/Catalan/Galician as would be expected. Compare Occitan in (78a) and Sardinian in (78b) with (77).

- (78) a. *Sabi pas se anar al cinema.
 I-know not if to-go to the cinema
 b. *No'isco si andare.
 Neg I-know if to-go

Kayne (1991) argues that there is still a correlation to be made, but that it has to do with the ordering of the infinitive with respect to clitics: In all of the Romance languages that prohibit control across se/si ('if'), object

clitics must precede the infinitive.

As (79) shows, in French, object clitics must precede the non-finite verb.

- (79) a. *Lui* parler serait une erreur
 him to-speak would be an error
 'To speak to him would be an error.'
 b. *Parler*lui* serait une erreur

In the languages studied so far that allow control over se/si, including Italian, Spanish, and Catalan, object clitics come after the infinitive.²⁷ Thus, in Italian, as the examples in (80) illustrate, object clitics obligatorily follow the infinitival verb.

- (80) a. Parlargli sarebbe un errore
 to-speak-him would be an error
 b. *Gli parlar sarebbe un errore

In sum, there appears to be a correlation such that if a language has (perhaps, allows) the order *infinitive-clitic*, then control of PRO across se/si is possible. Moreover, Kayne attempts to derive this fact from the PRO Theorem, hence his analysis must be considered in detail in light of the conclusions in Chapter 2.

First, consider Kayne's account for the word order differences with respect to clitics and the non-finite verb. Kayne proposes that this follows, in part, from a difference in the scope of verb movement in the two (groups of)

languages.²⁸ According to Kayne, in both French and Italian, the infinitive raises to a head *Infn*, which hosts the non-finite verbal morphology (*-r* in Romance). In French, object clitics then adjoin to *Infn*, yielding the final structure in (81). In particular, note that the infinitive does not raise to *T* since, as Kayne suggests, there is no "need" for it to amalgamate with a featureless Tense.

(81) ...*T*...*Cl*+ [_{*Infn*} *V*+*Infn*]... [_{*VP*}... [_{*v*} *e*]...]...

Kayne argues that Italian differs from French in that *Infn*, containing the verb, further adjoins to *T'*. Kayne also assumes that Italian clitics are adjoined to *T*, thus yielding the infinitive-clitic order.²⁹

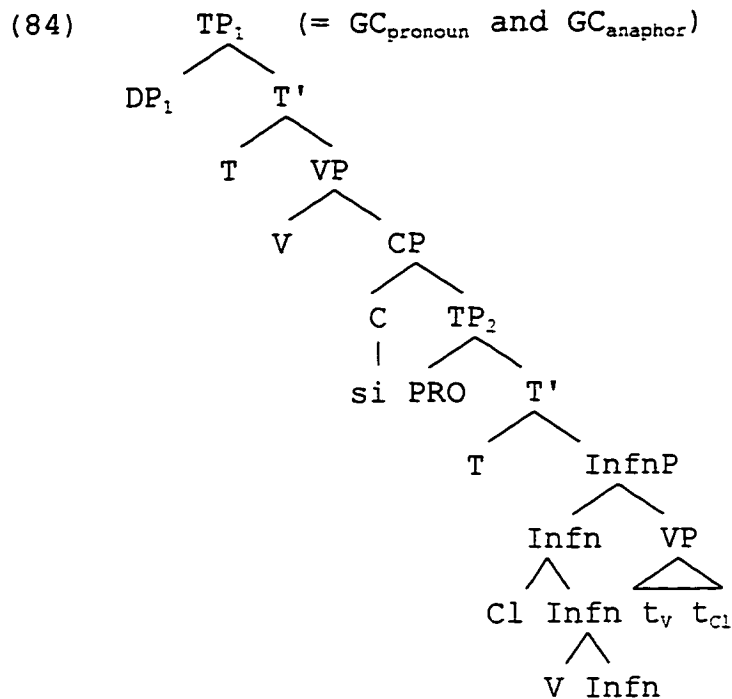
(82) ... [_{*T'*} *V*+*Infn* [_{*T'*} *Cl*+*T*... [_{*Infn*} *t*]... [_{*VP*}... [_{*v*} *t*]...]...]]...

Kayne attempts to deduce the correlation between infinitive-clitic order and control across 'if' in the following way. He assumes that the ungrammaticality of (75a) in French is due to the PRO Theorem: si governs PRO. Why doesn't se govern PRO in (75b)? Kayne's answer is that it does not because the leftward-moved infinitive governs PRO; that is to say, the infinitive adjoined to *T'* serves as a closer governor, hence obviating government by se.³⁰ There is, of course, a remaining question: If the infinitive adjoined to *T'* governs PRO, why doesn't this violate the PRO Theorem?

Kayne argues that a particular interpretation of the binding theory proposed by Chomsky (1986b), surprisingly, gives exactly the right results. Chomsky argues (based in part on the results of Huang 1983) that the notion governing category must be defined differently for pronouns and anaphors. He argues that the governing category for an anaphor must contain a *potential* antecedent for the anaphor, whereas there is no such requirement for pronouns. The essence of Chomsky's theory is captured by the definition of *governing category* in (83).

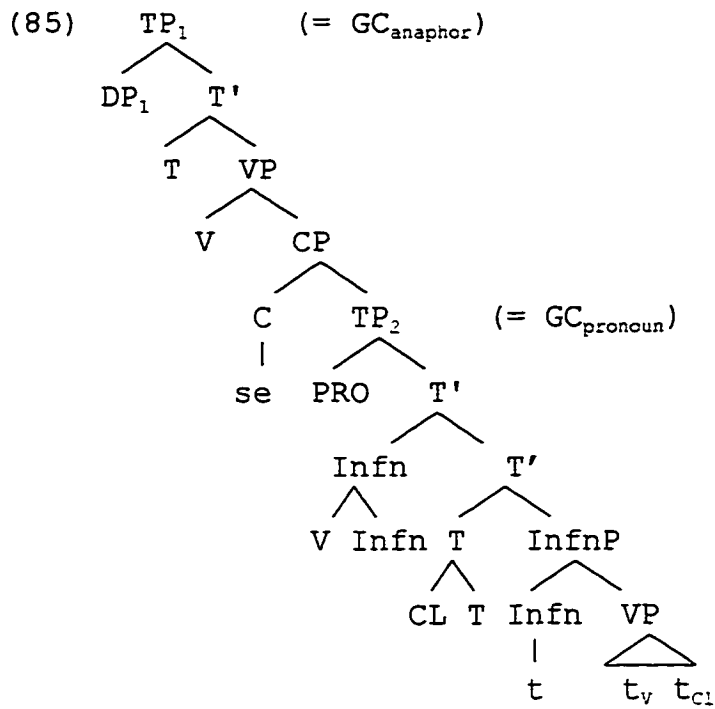
- (83) The *governing category* for α is:
- i. Where α = a pronoun, the smallest XP containing a governor of α and a subject position.
 - ii. Where α = an anaphor, the smallest XP containing a governor of α , a subject position, and a potential binder for α .

Kayne's proposal is to modify (83) so as to allow a single instance of α to have more than one governing category.³¹ Consequently, PRO, which is assumed to be both a pronoun and an anaphor, can now be assigned two *distinct* governing categories (which may, but need not, turn out to be the same category). With this in mind, consider the following structure for (75a):



In (84), PRO is assigned two governing categories: $GC_{anaphor}$ and $GC_{pronoun}$, respectively. In this case, the matrix TP_1 serves as both, since it is the smallest XP (with a subject position) that contains PRO, a governor of PRO (namely, si) and in the case of $GC_{anaphor}$, a potential antecedent DP_1 . Hence, no different from the situation under the standard binding theory, one of the binding conditions will be violated and the sentence is correctly excluded.

Now consider the structure for Italian (75b) below:



(85) differs from (84) in that PRO is governed by Infn. As a result, TP_2 is the governing category for PRO qua pronoun, since it is the minimal XP (with a subject position) containing PRO and a governor of PRO. However, TP_2 does not contain a potential antecedent for PRO, hence the definition of $GC_{anaphor}$, according to a revision of (83). It is TP_1 , then, that is the governing category for PRO qua anaphor. If PRO is coindexed with DP_1 , it satisfies the binding conditions as both an anaphor and as a pronoun, since, although bound in $GC_{anaphor}$ (TP_1), it remains free in $GC_{pronoun}$ (TP_2). This analysis is appealing since it accounts for the grammaticality of (75b) in Italian, relates this fact to the infinitive-clitic order in this language, and is further able to account for the

interpretation of PRO in (75b) in terms of the binding theory.

Despite its appeal, I argue that Kayne's analysis must be rejected on a number of grounds. The most obvious, of course, is that the analysis relies crucially on government, a highly dubious relation, given the assumptions of the Minimalist Program. Further, even accepting the notion government, one may still object, as in Chapter 2, that Kayne's analysis still requires the binding theory to be defined in terms government, which serves no other purpose than to account for facts relating to PRO.

Also, although Kayne is able to account for the interpretation of PRO in (75b), as things stand, his analysis fails to do so generally: In grammatical French (or similar English) sentences such as (86), since PRO is ungoverned, it will not be assigned any governing category.

(86) Jean veut aller au cinéma.
 Jean wants to-go to-the cinema

Addressing this potential difficulty, Kayne proposes that French (and English) looks like Italian at LF, in that the infinitive adjoins to T' covertly. However, to ensure that (75a) is not let in at LF, Kayne must stipulate that the binding condition regulating pronouns must be satisfied *throughout* the derivation. Again, this runs contrary to the Minimalist assumption that the binding conditions hold only at

(or beyond) the interpretive interface level.

For these reasons, I reject Kayne's binding-theoretic account of control. Below, I argue for an alternative analysis of the facts involving control into *wh*-complements, including the variation among the languages discussed so far. The analysis is, as I suggested above, based on the claim that PRO need not move to the same minimal domain as its controller in the relevant constructions in Italian/Spanish/Galician-type languages, but rather is licensed (and interpreted) internal to the infinitival clause. This alternative mode of licensing, I argue, is to be directly associated with non-obligatory control, the exact properties of which have yet to be discussed, and is found in English (and presumably French) as well, though not necessarily in the same contexts. However, before we can ask why PRO sometimes need not move and how this yields non-obligatory control, it is necessary to make more precise the reasons why PRO sometimes must move.

3.3. On the Motivation for PRO-Clitic Movement

3.3.1. Case and Obviation

Central to my proposal is the claim that a null Case marked DP must be part of a non-trivial Chain. To see why this should be the case, it is necessary to review the theory of

Case and obviation effects in (Uriagereka 1995c).

Uriagereka observes that the domain in which pronouns exhibit disjoint reference effects is identical to that in which Case is necessarily distinct. Consider the following paradigm:

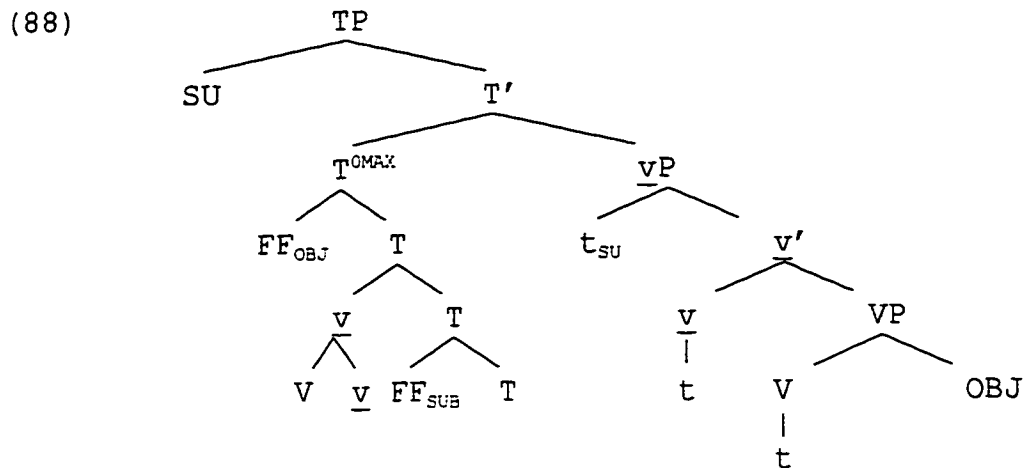
- (87) a. He_i likes him_j
 b. * He_i likes he_j
 c. * He_i likes him_i
 d. He_i thinks he_i likes him

In (87a), not only must the reference of the subject and object pronouns be disjoint, as shown by the ungrammaticality of (87c), but their Case features must also be distinct, as shown by the contrast between (87a) and (87b). Notably, when the pronouns in question are in different clauses, as in (87d), both disjointness effects disappear. The same facts hold when a clause contains three arguments (e.g., *He showed him to him*): All three arguments must have a distinct reference and Case. It is natural, then, to ask why disjoint reference and Case obviation should overlap in this way, and further, why clauses appear to be the domain in which these effects hold.

Uriagereka suggests a way to relate the phenomenon of disjoint reference to Case disjointness. Assume that the "bag" of formal features (henceforth, FF-bag) of each argument related to a single predicate eventually winds up in the same

checking domain. More precisely, following Chomsky (class lectures, 1995), the FF-bag of the subject raises to T overtly, whereas the FF-bag of an object raises to \bar{v} , either overtly or covertly. Assuming that \bar{v} eventually raises to T at some point in the derivation, FF_{OBJ} and FF_{SUB} are contained within the same X^{OMAX} category at LF.

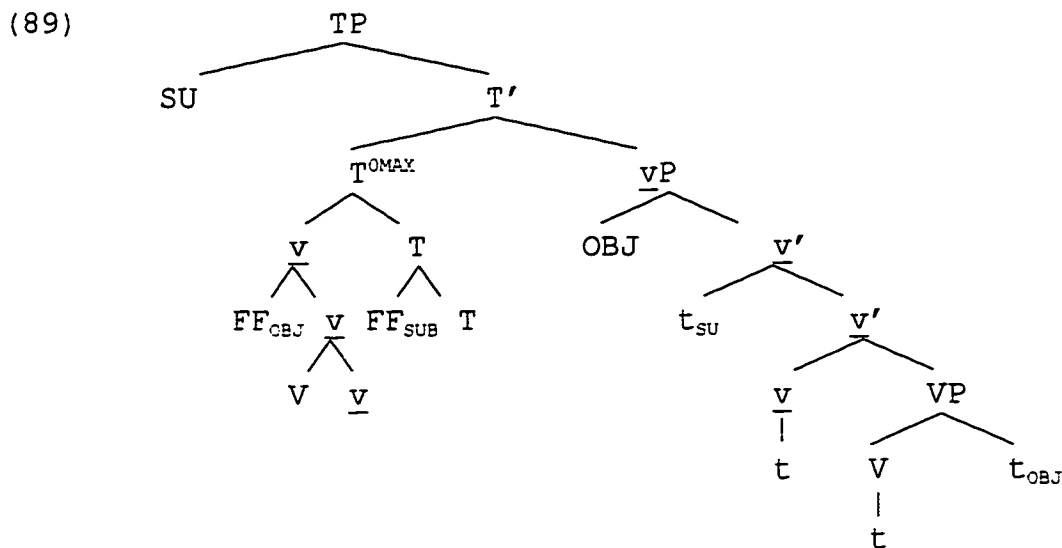
(88) illustrates a possible LF in languages, such as English, where T, but not \bar{v} , has the feature [STRONG].



The derivation of (88) is as follows: Overtly, V adjoins to \bar{v} , and FF of the subject adjoins to T, consequently pied-piping DP_{SUB} to Spec TP, thereby checking the feature [STRONG], as well as the Case and agreement features of T. Covertly, \bar{v} adjoins to T, and FF of the object adjoins to T, checking the Case and agreement features of \bar{v} (this time without pied-piping, since the operation is subsequent to Spell-out).

The structure in (89), on the other hand, results from

optional overt raising of FF_{OBJ} to \underline{v} , hence DP_{OBJ} is pied-piped to the outer Spec of \underline{v} . According to Holmberg's generalization, as restated by Chomsky (class lectures, 1995), the possibility of overt raising of the object is dependent on the nature of T: If T has the capacity to look down the tree far enough to attract the subject past the raised object, then it also attracts V overtly. Thus, (89) is the structure both at Spell-out and at LF.



The important thing to note about (88)-(89) is that, at some point, FF_{SUB} and FF_{OBJ} are part of the same extended lexical item, T^{OMAX} . The question, then, is: How does the interpretive component see T^{OMAX} ? The simplest assumption is that, at the interface, T^{OMAX} is interpreted as a set (of interpretable features). Of course, FF-bags are themselves sets of features; furthermore, by the time a convergent LF is

reached, only interpretable features remain. Now consider a case where the interpretable formal features of the subject and the object are identical (e.g., $FF_{SUB} = \{3person, singular, D\}$, and $FF_{OBJ} = \{3person, singular, D\}$, as in *He likes him*). The interpretation of T^{OMAX} is, at least, the set $K = \{\{3person, singular, D\}, \{3person, singular, D\}, \{T\}, \{V\}\}$. The problem that Uriagereka correctly points out is that the interpretation of K should be identical to that of $K' = \{\{3person, singular, D\}, \{T\}, \{V\}\}$, which is clearly not what we want.

Uriagereka (1995c) argues that some mechanism is needed to formally distinguish two or more FF-bags in the same checking domain (i.e., contained within the same X^{OMAX}). He proposes that Case not only serves this purpose, but that this is in fact the reason that the grammar has such *relational* features to begin with: "it is because arguments in the same checking domain are in fact non-distinct that they must be marked with Case." This idea is formally instantiated by the Checking Convention in (90).

(90) Checking Convention

When a relational feature [\bar{R} -F] is attracted to match a feature [F-R], the FF-bag containing the attracted feature is \bar{R} -marked.

For example, the process of matching the accusative feature of an object with the [I-check-accusative] feature of \bar{y} results

in [accusative]-marking the attracted FF-bag. In effect, this creates a label for FF-bags, which, in set-theoretic terms, can be represented as $K = \{\underline{R}, \{FF\}\}$.³² Thus, two otherwise identical FF-bags will be distinct in the same checking domain *if* their labels are distinct.³³

Uriagereka relates the phenomenon of Case to that of local obviation by proposing that the semantics seeks to interpret as disjoint in reference arguments that are marked as grammatically distinct by (90). This is expressed technically by way of the Transparency Condition in (91).

(91) Transparency Convention

In the absence of a more specific indication to proceed otherwise, where FF-bags α and β are grammatically distinct, the speaker confines the range of α 's context variable differently from the range of β 's context variable.

(91) essentially restates the basic intuition behind Lasnik's (1976) Disjoint Reference Rule in a way that captures the close relationship between Case and obviation. In addition, Uriagereka assumes the theory of Higginbotham (1988), where definite descriptions, which can be taken to include pronouns, as in Postal 1966, have context variables whose range is confined by the speaker. Thus, reference is, in some sense, assumed to be *speaker dependent*, a view which I will adopt here (for reasons that will become clear). The various

qualifications in (91) relate to the interpretation of certain types of anaphors, an issue I turn to directly.

3.3.2. Grammatical Distinctness and Contextual Sameness

As Uriagereka notes, given the above apparatuses, coreference should certainly be a marked option for elements in the same minimal domain. As Pica (1987) has shown, one class of local anaphors is typically bimorphemic, consisting of a pronoun plus an added morpheme meaning *same* or *self*. I take English himself, herself, etc., to be examples of this type of anaphor:

- (92) a. Raúl praised himself.
 b. Raúl told Luis about himself.
- (93) a. [the x: Raúl(x) & X(x)] [the y: one(y) & same-as-before(y)] x praised y
 b. [the x: Raúl(x) & X(x)] [the y: Luis(y) & Y(y)]
 [the z: one(z) & same-as-before(z)] x told y about z

Uriagereka argues that (90)-(91) apply to these elements just as in the cases discussed above. How then, in the case of *self*-type anaphors, does the interpretive component deal with the apparent paradox that, on the one hand, (90)-(91) seem to entail disjointness, whereas on the other hand, the interpretive import of the *self*-morpheme implies coreference (or "sameness")? The paradox disappears, however, once (91) is realized to be a default interpretive condition: There is more

specific information to the effect that the context variables in, say, (93) have the same value.³⁴

Treating English *self-type* reflexives in this way resolves a potential problem with my analysis of the difference between obligatory control and (local) anaphor binding. Recall the argument that Rosenbaum's MDP follows from the proposal that PRO is a clitic which undergoes head movement: PRO must obey the strict locality of head movement, hence the strict locality of control. Lasnik's argument that control is different from anaphor binding in English was based on the fact that the latter does not exhibit the same locality but rather allows binding by either the subject or the object, as in (92b). This strongly suggests that *self-type* anaphors do not undergo LF clitic movement, as proposed by Chomsky (1986b) (following insights of Lebeaux).

If so, the ungrammaticality of (94) is potentially a problem.

(94) Ronáldo thinks himself will score many goals for Barça this year.

Although Chomsky's (1986b) binding theory fails to account for the ungrammaticality of (94), he argues that it violates the ECP at LF, assuming that the anaphor undergoes movement to the matrix INFL. If my arguments above are correct, however, an alternative account is needed.³⁵

Given the current approach to *self*-type anaphors, an alternative explanation is available: Ronáldo and the pronominal "anaphor" are in *different* minimal domains, hence there is simply no need for *self*. In other words, the fact that (95) has a transparent reading where Ronáldo and the pronoun he corefer shows that the grammar does not invoke the Transparency Convention in such cases.

(95) Ronáldo thinks he will score many goals for Barça this year.

Then, the status of (94) plausibly follows from the assumption that the grammar makes use of the *self* morpheme (in English) solely as a means to override (91).

Of course, there is another class of so-called anaphors, represented by the SE-type clitics in Romance and, as I have argued, PRO. As discussed earlier, I take these to involve collapsed Chains of the sort proposed by Uriagereka (1995c). I now make explicit exactly what these collapsed Chains are, how they come to be, and their involvement in the syntax of PRO.

3.3.3. Null Case Revisited

As a starting point, reconsider the theory of null Case proposed in Chapter 2. The heart of my proposal was the claim, originally made by Chomsky and Lasnik (1993), that PRO has null Case. From this, I deduced the distribution of PRO from the distribution of heads with the feature [I-check-null], namely, [+Tense, -finite] T. But, it is fair to ask what this null Case is. In particular, why can PRO only have null Case, but not, say, nominative, accusative, or dative? How does null Case, checked by non-finite T, differ from Case checked by finite T or \bar{y} ? And, finally, what is the status of Chomsky and Lasnik's claim that only PRO can be selected from the lexicon with null Case? Is this an irreducible stipulation?

In Chapter 2, I showed that in order to derive the distribution of PRO from Case theory, it must be assumed that PRO can only have null Case, so as to prevent its appearance in nominative or accusative Case positions:

- (96) a. *Romário thinks PRO is the world's best striker
 b. *Romário admires PRO
 c. *Romário often sends pictures (of) PRO to his friends

It is highly unlikely that this is just a morphological gap, which would have to be represented in the lexicon, since facts similar to (96) are apparently universal. Rather, one

would hope that there is a more systematic reason why PRO does not check Cases other than null. I argue that this is so, precisely because PRO lacks [person-number] ϕ -features.³⁶ It is notable that essentially the same claim has been made for Romance SE, most emphatically by Burzio (1986) and Raposo and Uriagereka (to appear), further suggesting that these elements should be unified.

I assume, following Chomsky (1995), that finite T and y have both non-interpretable Case and [person-number] ϕ -features. If so, even if PRO has the appropriate Case features, the examples in (96a-c) are ruled out: The derivation immediately cancels since PRO does not check the [person-number] features of T or y. While this may seem that one stipulated deficiency of PRO has merely been reduced to another, I argue that the current analysis is more natural. That is to say, while it is easy enough to entertain the idea that certain elements lack a particular type of feature (e.g., *there*-type expletives lack ϕ -features), perhaps due to morphological or semantic reasons, it is much less obvious how an element could be specified as allowing only one particular value of a relational feature such as Case. Additionally, to the extent that PRO is SE, and SE lacks [person-number], the null hypothesis is that PRO lacks these features as well.

Still to be determined is what happens when PRO checks

null Case. This relates directly to the second question posed above: How does null Case differ from other values of Case? My answer, which is nearly identical to the one given in Martin 1992b, is that [+Tense, -finite] T has a (null) Case feature but no [person-number] features. This hypothesis is supported by the morphologically transparent fact that the overwhelming majority of languages never exhibit overt [person-number] agreement between PRO and the infinitive. (I consider Portuguese and Galician inflected infinitives below.) Assuming this to be the case, there is no problem when PRO checks null Case: The derivation does not cancel, since T's entire set of (non-interpretable) features is checked.

Something further still needs to be said in order to deduce the near-complementary distribution of PRO and lexical DPs. In particular, contrasts such as in (1), repeated here as (97) need to be accounted for.

- (97) a. Nadal tried [PRO to score a goal]
 b. *Nadal tried [Kiko to score a goal]

Noting the ungrammaticality of examples like (97b), Chomsky and Lasnik (1993) stipulate that PRO is the sole DP compatible with null Case. Although they devote little discussion to this aspect of their analysis, Chomsky and Lasnik make a speculation which, to a large extent, predicts the account above: "...we might regard PRO as the 'minimal' NP argument,

lacking independent phonetic, referential or other properties." I have argued that regarding PRO in this sense provides a natural explanation for the fact that PRO only appears in null Case positions. I do not believe, however, that it necessarily explains the stipulation that lexical DPs cannot have null Case. While it is true, if my arguments are correct, that [+Tense, -finite] T is also 'minimal' in the sense that it does not have [person-number] features. Moreover, it suggested in Martin 1992b that this can account for (97), assuming that the ϕ -features of lexical DP must be checked by T, whereas PRO can license agreement via control. However, this no longer suffices as an explanation, assuming, along with Chomsky (1995), that the ϕ -features of DPs are interpretable, hence need not be checked.

A remaining question is whether the derivation is canceled due to feature mismatch whenever a lexical DP enters a checking relation with non-finite control T. Given my proposal, DP has the features {Case, [person-number]}, whereas T has only {Case}. This situation is highly reminiscent of Chomsky's discussion of super-raising examples, such as (98).

(98) It_i T seems [t_i T-was told John [that . . .]]

Chomsky (1995) argues that (98) crashes at LF: Although the raised expletive it checks the matrix ϕ and D-features, the matrix nominative Case feature is not checked, the expletive

having already checked and, crucially, erased its Case feature in the embedded clause. Also, the Case feature of John remains unchecked. However, Eduardo Raposo points out that, given the system in Chomsky 1995, nothing prevents FF of John from raising to the matrix T at LF to check both its own Case feature with that of T, erasing both non-interpretable features and leading to the prediction that (98) should be grammatical.

Chomsky (1995 class lectures) suggests an alternative analysis. As before, the expletive it is attracted to the matrix T to check the feature [STRONG]. Furthermore, due to the fact that it has interpretable ϕ -features, a checking relation is necessarily established with the ϕ -features of T. Chomsky argues that consequently there must be a Case checking relation between it and T, Case and ϕ -features being inseparable. Hence, the derivation cancels due to a failure in Case matching: {nominative} does not match \emptyset .

It is conceivable that Chomsky's analysis of (98) would also rule out the possibility of a lexical DP checking null Case, due to a failure in matching: DP has [person-number], but T does not. However, recall that, in Chapter 2, it was argued that lexical DPs can in fact check null Case. The evidence discussed there came from examples such as (99), where the possibility of VP ellipsis in the infinitival complement in both (99c-d) suggests that Case is checked in

the same domain for both PRO and lexical DP.

- (99) a. Nadal wants PRO to score a goal
 b. Nadal wants (for) Kiko to score a goal
 c. Nadal wants PRO to [e]
 d. Nadal wants (for) Kiko to [e]

If so, it is not the case that the derivation cancels when a lexical DP enters a checking relation with [+Tense, -finite] T. Rather, I conclude that non-finite T differs from finite T in that only the latter necessarily checks Case along with ϕ -features.

This brings us back to the problem of how to distinguish (97b) from (97a). To address this issue, I propose that null Case is unable to mark an argument as distinct; in other words, it is defective with respect to the Checking Convention in (90). Furthermore, I assume that non-R-marked DPs are not tolerated by the grammar, but rather result in an LF crash. Some stipulation to this effect appears to be independently needed to account for the fact that referential DPs are necessarily Case-marked even in clauses with a single argument, or additionally, in examples where some feature other than Case could arguably serve to safely distinguish two FF-bags in the same checking domain:

- (100) a. She arrived yesterday.
 b. She likes us.

In (100a), the pronoun never winds up in the same checking

domain as another argument yet still must be Case-marked. Similarly, in (100b), the she is presumably distinguishable from us by the features [person] and [number] (and perhaps [gender]) but, again, must be Case-marked. Uriagereka (1995c) addresses this issue, suggesting that it is less costly for the grammar to utilize a single paradigm for all arguments, rather than one for Case-marked DPs and another for Caseless ones. This step seems to be very well motivated empirically and has interesting conceptual implications as well. Thus, given the view taken here, one could easily argue that there is a certain functional motivation/rationalization for Case. Yet it appears that the grammar formally encodes this in a way that serves to reduce computational complexity, rather than as an expression of pure functional need. Of course, this is to be expected if the grammar is a "dumb" computational procedure that utilizes simple, economical, and uniform paradigms.

Further evidence suggests that null Case is itself *non-distinct* from all other types of structural Case, which I suggest is tied to its inability to R-mark FF-bags.³⁷ In many languages, such as Icelandic and Russian, certain predicates exhibit overt Case agreement, even when they are predicated of PRO. This has always been a serious problem for the PRO Theorem, which insists that PRO is Caseless, a point made emphatically by Halldór Sigurdsson in numerous works (e.g., Sigurdsson 1991). Of course, the theory of null Case PRO

presented in Chapter 2 partially solves this problem (as did Sigurdsson's own proposals, within a somewhat different set of assumptions). Still, one fact remains largely mysterious: The overt realization of null Case is neither morphologically *uniform*, in that it varies from context to context, nor *distinct*, since it always assumes the phonological shape of some other Case.

Consider the following Icelandic paradigm illustrating Case-agreement between PRO and adjectival predicates (from Hornstein 1990):

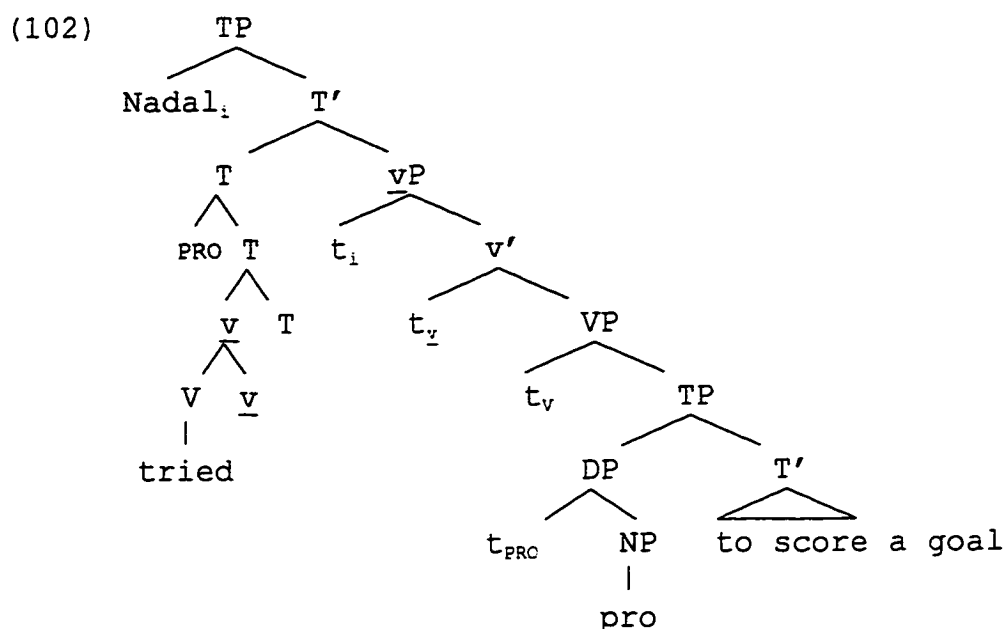
- (101) a. Ég bad hann að PRO vera góður
 I asked him-ACC to-be good-NOM
 b. Ég bad hann að PRO vera góðan
 I asked him-ACC to-be good-ACC
 c. Hún skipaði honum a PRO vera góðum/góður/*góðan
 She ordered him-DAT to-be good-DAT/NOM/*ACC

As (101) shows, in object control structures, an adjectival predicate can either "agree" in nominative or the Case of the controller.³⁸ Parallel facts are observed with subject control: If the subject controller is nominative, the predicate of which PRO is the subject can only be nominative, whereas if the subject is dative or accusative (a situation that arises in Icelandic), this predicate can appear either in the nominative form or share the same Case (dative/accusative) as the controller (Sigurdsson 1991).

These facts are extremely difficult to account for under

the assumption that PRO only has null Case. However, if null Case is something like a wildcard or "chameleon" Case, in that it has no morpho-phonological properties of its own, but rather exhibits either default or inherited properties, these data receive a natural explanation within the theory advocated here. Thus, the default morphological realization of null Case in Icelandic is nominative. However, assuming that PRO moves to the position of the controller in (101), resulting in a collapsed Chain of the sort discussed above, null Case can be optionally realized in a form identical to the Case of the head of the collapsed Chain.³⁹

Returning to (97), suppose PRO undergoes clitic climbing to the higher clause, as argued above. This yields the structure in (40), repeated here:



In (102), FF_{PRO} (which I assume to be contained in the D^0 that undergoes cliticization) is in the same checking domain as the FF -bag of the matrix subject. FF_{PRO} is not R-marked due to the fact that it has null Case. This would normally lead to an LF crash. However, I argue that PRO has a way to avoid this consequence. Namely, since PRO is 'non-distinct' from the matrix subject, the two chains (Nadal, t) and (PRO, t) can be collapsed into a single Chain by (103), proposed by Uriagereka (1995c) for examples involving anaphoric SE.

(103) Chain Fusion Situation

Where α and β are different Chains, if α 's head is *non-distinct* from β 's head within a given checking domain (contained within the same X^{0MAX}), and the tail of α c-commands the tail of β , then α and β can fuse into an integrated Chain γ , subsuming the properties of α and β .

Something further must be said about the conditions under which (103) can successfully apply. Made explicit in Uriagereka 1995c is the assumption that (103) should only be applicable to SE and similar sorts of elements--the intuition being that collapsed Chains are only possible when the operation does not violate (some notion of) *Recoverability*. Uriagereka suggests expletive-argument Chains also involve collapsed Chains of this sort. If my arguments are correct, the relation between PRO and its controller is yet another instance. The fact that collapsed Chains are possible in precisely these cases is presumably because PRO and SE, although clearly arguments in that they receive a θ -role, also share properties with expletives in that they lack [person-number] specification.

Thus, PRO is able to escape a violation in (97a) by forming a collapsed Chain, an option not available to fully specified DPs, following *cliticization* in the higher clause. The non-R-marked lexical DP in (97b), on the other hand, has no further recourse, and the derivation ultimately crashes. Still, there is at least one potentially troublesome derivation which warrants further discussion. Suppose that PRO does not move to the higher clause, but rather remains in the embedded infinitival clause. The question is, if this is possible, why can't PRO become (in effect) R-marked by forming a collapsed Chain with the embedded object in (104)?

(104) Ana often tries [PRO to praise him]

Consider the structure of (104) in more detail. If (the head of) PRO does not cliticize to the matrix T, it presumably must still attach to some functional head. Thus, it needs to be determined exactly which heads PRO can attach to. It is at least conceivable that there is no possible host for a PRO-type clitic in the infinitival, in which case the potential problem does not arise. However, suppose that the PRO-clitic in fact can adjoin to the embedded T and, further, that DP-PRO is in Spec TP (or perhaps Spec ZP), as in (105).

(105) Ana T tries [_{TP} [_{DP} t_i [_{NP} pro]]_k [_T FF_{OBJ}-v-V-PRO_i-T]
 [_{ZP} t_k to [_{VP} t_k t_v [_{VP} t_v him]]]

In (105), the tail of the Chain headed by PRO, t_i , does not c-command the tail of the Chain headed by the FF_{OBJ}, hence (103) does not apply. Uriagereka analyzes in much the same way the ungrammaticality of similar examples involving SE, originally discussed by Rizzi (1986). Consider (106a), to which Uriagereka assigns the structure in (106b).

(106) a. *Juan se ha sido encomendado a si mismo
 Juan SE has been entrusted to self same
 b. Juan_i se [ha sido [econmendado-v]] [_{VP} [_{XP} ... t_{SE} ...]
 [t_v t_i]]

Crucially, given the structure in (106b), the trace of SE does not c-command the trace of the matrix subject Juan, hence the

two relevant Chains cannot be collapsed, leading to a derivation crash.

Finally, it should be pointed out that, although I have argued that lexical DP can check null Case in the Spec of non-finite TP, given the analysis so far, examples such as (99) are still incorrectly ruled out, since the fully specified DP is not R-marked. I argue that 'for' (i.e., either for or \emptyset_{FCR}) is able to R-mark a lexical DP in these contexts. This analysis of *for*-infinitivals will be presented in more detail once I begin to examine non-obligatory control in Section 3.4.

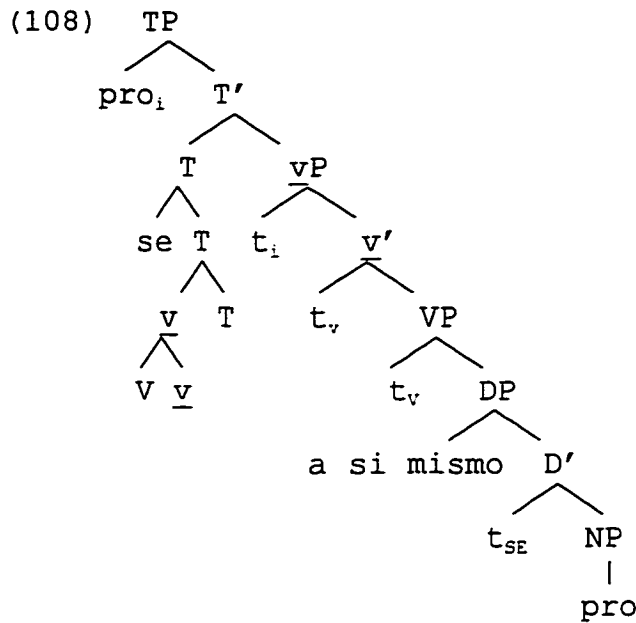
3.3.4. On Object SE and PRO

Finally, consider how the above analysis can be extended to cover instances of anaphoric SE. Although I do not attempt to provide full account of SE here, I will at least make explicit the nature of the issues and put forth some suggestions for a possible line of analysis. Consider the following example, repeated from above:

- (107) Se levanto a si mismo
 SE raised.III to the same
 'He raised himself.'

I assume the structure in (108) for (107) (abstracting away from issues regarding the exact internal structure of the phrasal constituents headed by clitics, position of the

doubles, such as a si mismo in (107), etc.):



If se lacks [person-number] features and, additionally, v has [person-number] features which must be checked, the derivation should crash; obviously, an unwanted result. This appears to be a problem for both my analysis and Uriagereka's. Suppose, however, that the ϕ -features of v are only optionally present, rather than obligatory as I have been assuming, in which case there will be a convergent derivation of (107) as desired. Further, it is reasonable to assume that when accusative is checked in the absence of ϕ -features, it behaves just like null Case with respect to R-marking, achieving the desired effect that se is non-distinct from the subject pronoun in (107), leading to a collapsed Chain.

Thus, I am suggesting that there is a three-way

distinction between nominative Case, which always has associated ϕ -features; null Case, which never has associated ϕ -features; and finally accusative/dative Case, which optionally has ϕ -features. This distinction is supported, to some degree, by morphological evidence: overt object agreement tends to be a highly marked option. This is more natural if the presence of object agreement features is optional (at least within UG).

It may be that distinctions of this sort are open to cross-linguistic parameterization. Simply considering the Romance languages, this is made apparent by the fact that, whereas Italian and Spanish have dative se, suggesting that dative can also be checked in the absence of ϕ -features in these languages, true dative se is mysteriously absent in Galician and Portuguese:

- (109) a. Gianni si lava la mani (It.)
 Gianni washes his hands
 b. Juan se lava la mano (Sp.)
 Juan washes his hands
 c. Xan lavou(*se) as mans (Gal.)
 Xan washes his hands
 d. A rapariga lavou(*se) as mãos (Port.)
 The girl washed her hands

This variation can be accounted for if, unlike Spanish and Italian, dative Case necessarily associates itself with ϕ -features in Galician and Portuguese. While I do not claim to understand the exact nature of the parameter involved, it can

at least be said to be morphological in nature, hence in accord with the idea that morphology is the locus of syntactic variation.

Further evidence for parametric variation is found in English. Recall my argument for the absence of PRO in object position in English was that the non-interpretable ϕ -features of y remain unchecked. In other words, in order to continue to rule out accusative-marked PRO, it must still be assumed that y invariably checks accusative Case together with Agr in English. However, it is interesting to note in this regard that English does have a construction which seems to require the postulation of object PRO/SE.⁴⁰ Consider the following examples, pointed out originally by Alan Munn and discussed by Lasnik (1995b, 1996):

- (110) a. John washed.
 b. John shaved.
 c. John dressed.

The sentences in (110) have interpretations that are identical to those in (111).

- (111) a. John washed himself.
 b. John shaved himself.
 c. John dressed himself.

More importantly, the sentences in (110) can receive *only* such an interpretation. It is unlikely that this is simply due to a contextual or pragmatic bias, since the interpretive

restriction remains in any context, even those in which the following would be perfectly acceptable:

- (112) a. John washed the dog.
 b. The nurse shaved the patient.
 c. The baby's father dressed her.

Lasnik suggests that (110) may involve movement of an object to Spec TP via the Spec $\bar{y}P$ position, "picking up" the subject θ -role along the way. While this analysis is not totally implausible, it does raise a number of difficult questions. Namely, why isn't the type of derivation in question, which involves movement to a θ -position, more widely available (e.g., the ungrammatical **John hit* cannot mean *John hit himself*)? A related question asks the status of the Case feature normally checked by \bar{y} in (111).

In terms of the current thesis, it seems desirable to analyze (110) as involving a PRO object which forms a collapsed Chain headed by the subject. The verbs in (110)-(111) can plausibly be said to assign dative rather than accusative Case. Then, these data can be accounted for under the assumption that dative Case in English need not be checked in conjunction with Agr. This assumption suffices to allow PRO objects, and furthermore, to allow them only in these environments; in other words, (110) is allowed but **John hit PRO*, where the verb checks accusative, is correctly excluded.

Assuming that (for whatever reason) only a small number of verbs check dative Case, the limited nature of collapsed Chains in finite sentences is plausibly derived.⁴¹

The suggested approach to (110), which in effect analyzes these sentences as obligatory control constructions, is further supported by the fact that parallel examples in Romance languages invariably involve SE. This is shown for Spanish in (113).⁴²

- (113) a. Juan se lava
 Juan SE washes
 b. Juan se afeita
 Juan SE shaves
 c. Juan se viste
 Juan SE dresses

If the "d-structure" object moves to subject position via the external θ -position, as Lasnik suggests for the English examples in (110), it is not explained why SE obligatorily appears in Romance. On the other hand, given the analysis I have suggested here, (110) and (114) have identical derivations.⁴³

3.4. Non-Obligatory Control

In the preceding section, I proposed an analysis that treats PRO as a SE-type clitic and that derives obligatory control from the fact that a PRO-clitics must climb to an immediately superordinate clause in order to become R-marked. As a result of clitic climbing, PRO inevitably becomes part of a collapsed Chain headed by the so-called controller, which is simply a fully specified DP in the same checking domain as PRO. However, it was noted above that a certain paradox arises when some Romance languages are analyzed in these terms. I argue below that this problem is only apparent in that PRO can be R-marked internal to the control infinitival in the relevant examples. This both eliminates the paradox and leads to the conclusion that, when PRO is licensed in this fashion, a different means of interpretation is available, since PRO does not become part of a collapsed Chain. I show that this conclusion is supported by the fact a different set of interpretive possibilities arise in such cases. It is this mode of interpreting PRO that I equate with non-obligatory control.

3.4.1. An F Position in Romance

Recall the problem created by control in certain Romance infinitivals. One of the major arguments that I presented in favor of treating obligatory control as clitic climbing was that it allowed for a uniform explanation of the contrast in (42a-b), repeated as (114a-b), and examples involving clitic climbing such as (52a-b), repeated as (115), in languages like Spanish, Italian, Galician, Catalan, and Portuguese, among others.

- (114) a. I don't know [whether PRO to go to the movies]
 b. *I don't know [if PRO to go to the movies]

- (115) a. Non so [se PRO far_{li}]
 Neg know if to-do-them
 b. *Non *li* so [se PRO fare t]
 Neg them know if to-do

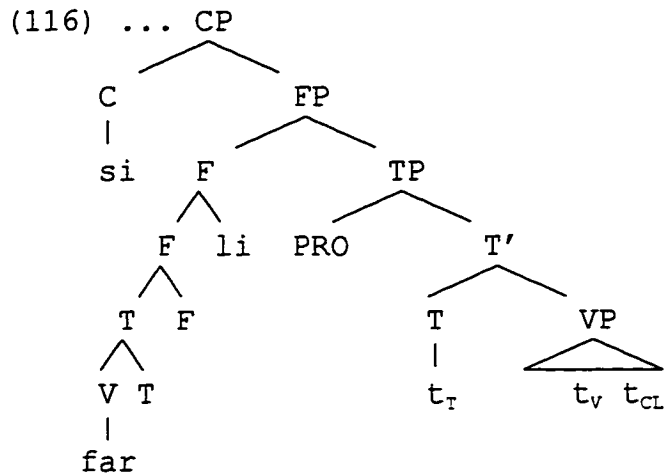
Whereas my analysis is able to capture the symmetry between (114b) and (115b), it fails to explain the asymmetry between (114b) and (115a). In other words, if a lexical C⁰ blocks object clitic climbing in (115b), and PRO undergoes similar movement as well, it is clearly predicted that (115a) has the same status as (114b) and (115b). In fact, the problem is much more pervasive, as it arises not only in these contexts but numerous others as well. For example, as discussed above, when an infinitival control clause is clefted or pseudoclefted, clitic climbing becomes impossible. My analysis of PRO as an

element that undergoes clitic climbing receives additional support due to the fact that controlled PRO is impossible in English in exactly these contexts. However, as noted above, the languages that allow (115a) also permit PRO in clefted or pseudoclefted infinitivals. If nothing more is said, this is a near contradiction. However, these and other cross-linguistic variations involving control actually turn out provide considerable support for the theory of PRO and control proposed in this thesis.

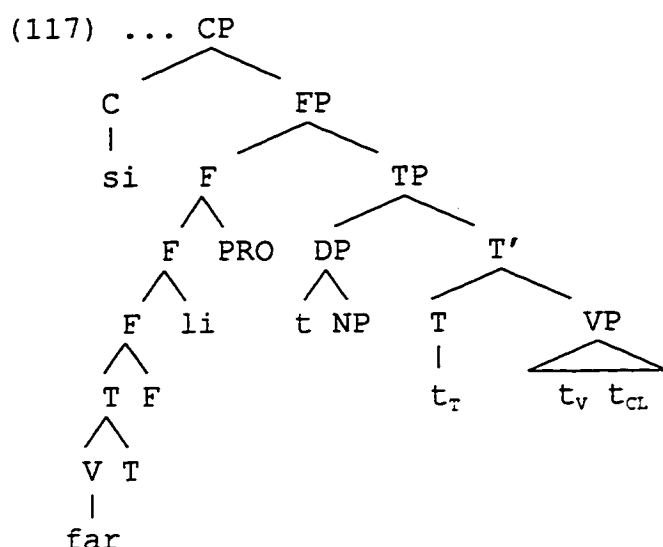
Recall also Kayne's (1991) observation that, in Romance, there appears to be a correlation between the possibility of control in examples like (115a) and positioning of the infinitive before object clitics. Uriagereka (1995a, 1995b, 1995c) argues that the infinitive-clitic order in Romance arises due to movement of the infinitive to a syntactic category *F*, which dominates TP in some languages but not others. He provides numerous arguments for the existence of such a category and is further able to distinguish three different varieties of Romance languages: (i) languages with "strong morphological" *F*, such as Galician and Portuguese, (ii) languages where *F* is syntactically present but lacks morphological richness, such as Spanish, Italian, and Catalan, and (iii) languages where *F* is simply absent (or at least very limited), such as French and Occitan. Furthermore, Uriagereka shows that the order where the infinitive precedes object

clitics arises in only languages that can be independently shown to have widespread utilization of F.

Assuming Uriagereka's arguments to be correct, I assume the following structure, setting aside several details, for the embedded CP in Italian (115a), as well as parallel examples in Spanish, Catalan, Galician, etc.:



Suppose that in these infinitival clauses a PRO-clitic, rather than climb to the superordinate clause, can cliticize to F. The (relevant part of the) derived structure is shown in (117).



It is important to note that PRO cannot undergo Chain fusion in (117) for reasons discussed above: The tail of the Chain headed by the PRO-clitic does not c-command the tail of the Chain headed by the accusative clitic. Of course, if PRO fails to be R-marked, the derivation will crash, contrary to fact. If, on the other hand, PRO can somehow be R-marked by F, examples such as (115a) are correctly predicted to be grammatical.

I argue that the line of analysis suggested above is in fact correct. However, this does not fully resolve the issues raised by (115). The theory that I have proposed in this thesis, where issues of Case and agreement interact to derive control, is appealing since it has consequences for both the distribution of PRO and the interpretive fact that PRO typically gives rise to anaphoric readings. This result is achieved since licensing (R-marking) of PRO has, up to now,

invariably involved formation of a collapsed Chain headed by an argument of the control predicate. In (117), on the other hand, PRO heads its own Chain, hence we must ask how it is assigned an interpretation. A related issue, of course, is the question of what is meant by the claim that F is able to R-mark PRO.

Uriagereka (1988, 1995a, and especially 1995b) argues persuasively that the functional category F syntactically encodes the pragmatic notion point of view (perhaps in addition to other information-theoretic notions). An embedded F (normally) expresses the point of view of the next highest subject, whereas a matrix F always (except in literary-narrative contexts) expresses the point of view of the speaker or, more generally, *first person*. It is not unreasonable, in these terms, to assume that the grammatical feature [person] is in some sense directly associated with point of view. Assuming that the inability of null Case to R-mark PRO (or any other DP) is related to the fact that it lacks [person-number], it is not entirely surprising that F manages to fulfill this role.

I assume that finite clauses (perhaps invariably) are headed by "strong" F and that this is what makes them personal. I propose that non-finite clauses, on the other hand, are either impersonal, quasi-personal, or personal.⁴⁴ Obligatory control (i.e. control involving collapsed Chains)

invariably involves 'impersonal' infinitivals, which I take to lack the category F entirely. I refer to non-finite clauses that allow licensing of PRO by F, as in (115a), as quasi-personal. As a matter of terminology, an F-infinitival is 'personal' if it allows licensing of *both* PRO and lexical DP, as is the case with *for*-infinitivals in English and inflected infinitives in Portuguese and Galician. The latter two types of infinitival clauses, quasi-personal and personal, together constitute what I refer to as non-obligatory control.

There is evidence that examples such as (115a) do not involve collapsed Chains, but rather that PRO is assigned an interpretation by F. Consider the following Italian examples:

- (118) a. Non so [se PRO incontrarci qui]
 NEG know.I.sg if to-meet-ourselves here
 b. Non copisco [perche PRO incontrarci qui]
 NEG understand.I.sg why to-meet-ourselves here

In (118), PRO is able to bind a plural anaphor, despite the fact that the matrix "controller" is singular. It is difficult to envision how such an interpretation could be achieved by a collapsed Chain or any other process that results in "strict-identity" anaphora. Compare (191) to the contrast in (119) involving *self*-type reflexives.

- (119) a. *I believe myself to like each other.
 b. We believe ourselves to like each other.

Examples similar to (118) are found in Spanish. The adverbial quantifiers algunos de nosotros 'some of us' and juntos 'together', which are only compatible with plural DPs, can modify PRO even when the controller is singular:

- (120) a. No sé si ir algunos de nosotros al cine
 Neg know.I if to-go some of us to-the movies
 'I don't know whether some of us should go to the movies'
 b. Ne sé si ir al cine juntos
 Neg know.I.sg if to-go to-the movies together
 'I don't know whether we should go to the movies together'

Once again, a collapsed Chain account of these facts seems entirely hopeless.

The obvious alternative is that, in these types of examples, the semantic import of F gives rise to a same-point-of-view interpretation, entailing identity in 'person' with the previously established point of view, but not necessarily 'number'.

Similar interpretive possibilities are witnessed in English in the subset of control complements that can optionally appear with 'for', as can be seen in (121).⁴⁵

- (121) a. I prefer [PRO to meet (each other) at 12:00]
 b. *I met (each other) at 12:00
 c. We met (each other) at 12:00
 d. ??I prefer for us to meet (each other) at 12:00

Note, however, that a point-of-view-induced reading is typically not available in wh-infinitivals in English, in

contrast to the situation witnessed in Italian and Spanish above. In particular, as the examples below show, infinitivals headed by the wh-phrase whether display the properties of obligatory control:⁴⁶

- (122) a. ?*I wonder whether to meet (each other) at 12:00
 b. ?*It is unclear whether to go/meet

I conclude that, in English, PRO must invariably climb to the higher clause in such contexts, hence my account of the contrast in (114) can be maintained.

This conclusion is further supported by the contrast in (123).

- (123) a. It is the linguists that don't know whether to go
 to the meeting
 b. It is the linguists that don't want to go to the
 meeting

The relevant reading in (123) is one where the linguists denotes a sub-part of a larger group, say, all of the members of the Academy of Sciences. (123b) can either mean that the linguists don't want linguists to go to the meeting but are unconcerned about the rest of the Academy, or that they don't want any members of the Academy to go to the meeting. No such ambiguity arises in (123a), which can only mean that the linguists don't know whether they, the linguists, should go to the meeting. As expected, Spanish allows both possible readings in contexts similar to (123a).

Consider the following example from Torrego 1996:

- (124) No sabemos los lingüistas si ir algunos a la
 Neg know.I.pl the linguists if to-go some to the
 conferencia
 conference
 'The linguists of us don't know if some of us
 should go to the conference.'

Several things need to be pointed out regarding (124). First, note that the definite DP los lingüistas 'the linguists' does not agree with the finite verb. Rather, the verb agrees with a first-person-plural null-subject pronoun. Further, the only possible interpretation of (124) is one where the group denoted by los lingüistas is a sub-group of that denoted by the first person plural pronoun ('we'). Hence, Torrego argues that the phrase los lingüistas is a floating quantifier that modifies the pronominal subject. In other words, the logical (or, thematic) subject of saber 'know' can roughly be translated as 'the linguists of us'.⁴⁷

Now, consider the interpretation of PRO in (124). As the English translation indicates, the embedded quantifier algunos 'some' modifies a first-person-plural PRO, rather than third person plural. In other words, it is the matrix agreement, rather than the logical or thematic subject, that "controls" PRO. The obligatoriness of this reading is made transparent by the contrast between (125a) and (125b) below.

- (125) a. No sabemos los lingüistas si ir algunos de nosotros
 Neg know.I.pl the linguists if to-go some of us
 a la conferencia
 to the conference
- b. *No sabemos los lingüistas si ir algunos de ellos
 Neg know.I.pl the linguists if to-go some of them
 a la conferencia
 to the conference
- c. No saben los lingüistas si ir algunos de ellos
 Neg know.3.pl the linguists if to-go some of them
 a la conferencia
 to the conference

(125a) shows that the quantifier in (124) can be replaced by algunos de nosotros 'some of us'. However, in order for the quantifier modifying PRO to be algunos de ellos 'some of them', the matrix agreement must be third plural, as in (125c), and cannot be first plural, as in the ungrammatical (125b). Not only do these examples suggest that infinitivals headed by si in Spanish have F, hence PRO can be interpreted without movement to the higher clause, but also that "control" by F involves assigning PRO an interpretation such that it is identical in person to the matrix agreement.⁴⁶

Similar conclusions have been reached by Chomsky (1995), who points out a contrast between Italian, where the argument in an expletive-argument construction can control into an matrix adverbial, as in (126a), and French, where such control is apparently impossible, as shown in (126b).

- (126) a. Sono entrati tre uomini senza identificarsi
 are entered three men without indentifying-selves
 'There entered three men without indentifying
 themselves.'
- b. *Il est entré trois hommes sans s'annoncer
 there is entered three men without identifying
 themselves

Chomsky argues that the relevant difference between (126a) and (126b) is that it is the DP argument that agrees with the tensed verb in (126a), whereas in (126b) agreement is with the expletive. Chomsky suggests that the contrast can be accounted for if control is determined by ϕ -features.⁴⁹ This is very much in the spirit of the analysis of non-obligatory control proposed here.⁵⁰

At this point, it is necessary to clarify my position on the relationship between presence of F, infinitive-clitic order, and the possibility of non-obligatory control. As mentioned above, French never allows object clitics to follow the infinitive. However, I do not assume that an invariant clitic-infinitive order entails the *absence* of F. Hence, it is not necessary to conclude that French never exhibits non-obligatory control. Rather, it suffices that F is much more limited, in both distribution and function, in French infinitives than in Spanish-Italian-type languages. Thus, it may be that certain French infinitives contain F, which is able to license PRO but is not "rich" enough to attract the verb. Such appears to be the case in Sardinian, which often

shows signs of infinitivals headed by F (e.g., it allows inflected infinitives in certain contexts, as well as nominative-marked infinitival subjects), but is invariantly infinitive-clitic and does not allow control across a lexical C⁰, as shown in (78b) above (Jones 1993).

On the other hand, it seems reasonable to assume that the order infinitive-clitic entails the presence of F. If this is correct, an apparent problem for my analysis of control in Spanish-Italian-type languages is raised by examples such as in (127).

- (127) a. *Quiero ir al cine juntos
 want.I to-go to the movies together
 'I want to go to the movies together.'
 b. *Voglio incontrarci qui
 want.I to-meet-ourselves here
 'I want to meet ourselves here.'

That is to say, in Spanish, Italian, and other languages with rich F, object clitics invariably follow the infinitive. But, as the examples in (127) clearly show, non-obligatory control is not always possible. However, examples such as (127) arguably involve *obligatory* restructuring. Assuming restructuring involves movement of the embedded T to the matrix T via the embedded F position (along the lines of Kayne 1989), even if PRO is adjoined to F, it eventually finds itself in the same checking domain as the matrix subject. If so, a situation of Chain fusion results, and the

interpretation of PRO in (127) is as expected.

Striking confirmation of the analysis suggested above can be obtained by examining contexts where the option of restructuring is unavailable.⁵¹ In particular, as discussed in section 3.2.2., clitic climbing is impossible when the infinitival complement of the restructuring verb has been clefted or pseudoclefted, suggesting that restructuring is also barred. If there can be no restructuring in such configurations, it is predicted that the interpretive possibilities of non-obligatory control will emerge. This prediction is borne out, as illustrated by the Spanish pseudocleft example in (128).

- (128) Lo que quiero es ir al cine juntos
 it what want.I is to-go to the movies together
 'What I want is to go to the movies together.'

Thus, in (128), the adverbial quantifier juntos 'together' can modify PRO despite the fact that the "controller" is the singular first person pronominal ('I'), showing that "strict" anaphoric control here is not obligatory. Hence, I conclude that it is not unreasonable to argue that infinitive-clitic order invariably signals the presence of F, and that other factors may intervene to yield the appearance of obligatory control.

3.4.2. *For*-infinitivals and Inflected Infinitives

In this section, I consider in greater detail examples involving lexical DPs in *for*-infinitivals in English, in addition to similar constructions involving inflected infinitives in Portuguese and its dialects. Whereas a null Case-marked DP is not R-marked solely by virtue of its having Case, suppose that, in certain instances, it can move to the Spec of F at LF and become R-marked by Agr. More precisely, I argue the distinction between quasi-personal infinitivals and personal infinitivals has to do with the optional presence of Agr in F.

In languages such as Portuguese and Galician, F often correlates with [person-number] features overtly realized on the infinitive (Quicoli 1972; Raposo 1987a, 1989; Uriagereka 1988, 1995a, 1995b). Consider the following Galician examples:

- (129) a. El ha ser difícil aprovar a proposta
 it will be difficult to-approve the proposal
 'It will be difficult to approve the proposal.'
 b. El ha ser difícil aprovaren a proposta
 it will be difficult to-approve.3.pl the proposal
 c. El ha ser difícil eles aprovaren a proposta
 it will be difficult they to-approve.3.pl proposal

(129a) is a typical instance of non-obligatory control. (129b) is distinguished by the presence of third-person-plural agreement on the infinitive. Assuming that the [person-number] features are contained by F, and further that they non-

interpretable, the null subject in (129b) must be the fully specified category *pro*, rather than *PRO*, since I have argued that the latter does not check [person-number]. This is confirmed by the possibility of a lexical DP in this context, as in (129c).

On my analysis, *pro* or *eles* in (129b-c) moves to the specifier of *F*, where I assume that they are R-marked:

(130) ...ser difícil [_{FP} *pro/eles*_i *F*_{[[person-number]]} [_{TP} *t*_i *T* [...]]]

In (130), *pro/eles* checks the null Case feature (and EPP) of *T*, then raises to Spec *FP*, where [person-number] is checked. The information-theoretic nature of *F* is manifest in these examples as well, since (preverbal) lexical subjects in these constructions must receive a focus interpretation.

Whereas in Portuguese/Galician Agr in *F* is realized as standard [person-number] features, I assume that, in English, Agr-bearing *F* is signaled by the morpheme *for*/*ø*_{for}:

- (131) a. It will be difficult *PRO* to approve the plan
 b. It will be difficult *for* them to approve the plan
 c. The committee wants *ø*_{for} them to approve the plan
 d. The committee wants *for* them to approve the plan

My proposal is that the lexical DP (there is no *pro* option in English) in (131b-d) undergoes LF movement to Spec *FP*, headed by *for/ø*_{for}, and is consequently R-marked:⁵²

- (132) a. . . .difficult [_{FP} them_i for [_{TP} t_i T [_{VP} ...]]]
 b. . . .want [_{FP} them_i for/ø_{for} [_{TP} t_i T [_{VP} ...]]]

I assume that the lexical DPs in (131) have null Case and that the default realization of null Case in English is either accusative or dative (it is difficult to tell since English does not distinguish these two types of Case phonologically), whereas it is nominative in Portuguese and Galician. An issue, brought to my attention by Juan Uriagereka (personal communication), arises with respect to examples such as (133).

- (133) I want for him_i to like him_{i/j}

The question is whether or not anything forces the FF-bags of the embedded subject and the object in (133) to be *grammatically* distinct, hence interpreted as disjoint in reference in accord with the Transparency Convention. If not, there is no way to account for the witnessed obviation effects. A similar question arises for ECM constructions, such as (134), which presents a significant problem for the theory of Case and obviation in Uriagereka 1995c.

- (134) He_i believes him_{i/j} to like him_{i/j/k}

Juan Uriagereka (personal communication) suggests that obviation in (134) can be accounted for if the subject of the ECM infinitival is not marked with accusative or nominative, but rather a distinct Case such as dative. This appears to be

true empirically, at least in languages where accusative and dative can be distinguished phonologically. Furthermore, the trace of the embedded subject, created by raising to a Case position in the matrix clause, must indeed count for the purposes of the Transparency Convention.

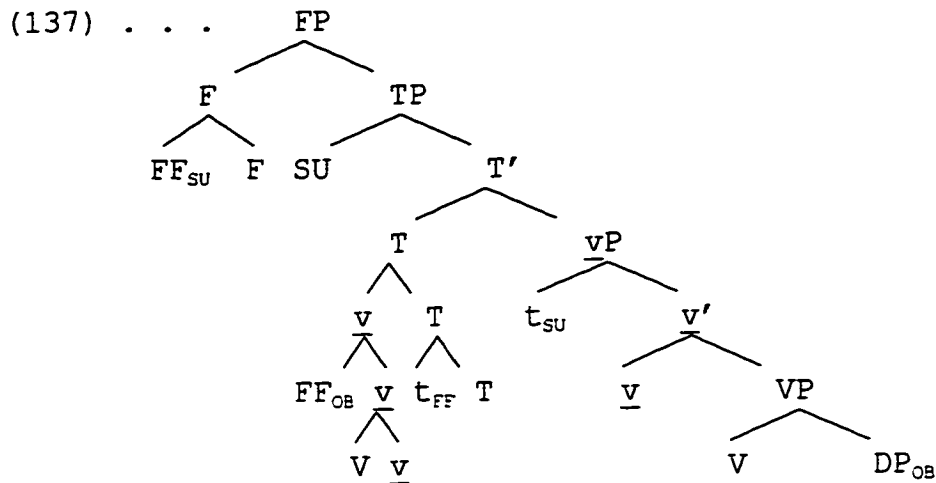
Although I assume Uriagereka's suggestion to be on the right track, further complications arise when multiply embedded ECM constructions are considered:

- (135) He₁ doesn't yet consider him₂ to have proved him₃ to believe him₄ to like him₅

In (135), each of the pronouns, starting with him₂ must be disjoint in reference from the preceding pronoun. This is not expected if the second, third, and fourth pronouns all are marked with dative Case. In order to get the right result, it must be assumed that ECM verbs can check either accusative or dative and that they do so in a way that maximizes grammatical distinctions.⁵³ In other words, I assume that only the following Case assignments are possible in an example like (135):⁵⁴

- (136) He-NOM doesn't yet consider him-DAT to have proved him-ACC to believe him-DAT to like him-ACC

Consider now the LF representation of (133) (I only provide the structure for the embedded clause):



In (137), the object FF-bag and the trace of the subject FF-bag are in the same checking domain (i.e., they are both contained in $T^{0\text{max}}$). Null Case checked by the subject does not suffice to R-mark the FF-bag. However, FF_{SU} has raised to Spec FP where it is R-marked by Agr. I assume that R-marking is a property of the Chain $(\text{FF}_{\text{SU}}, t_{\text{FF}})$, hence t_{FF} is also R-marked. However, in order for this to invoke the Transparency Convention, as desired, the Case features involved in R-marking the two elements must be distinct. There are at least two possible answers. One possibility is that null Case on the subject DP is “visible” (i.e., it is able to R-mark FF) by virtue of entering a checking relation with Agr. Alternatively, it may be that Agr in F allows a default realization of null Case, which is otherwise impossible. If the default realization of null Case is dative, this serves to R-mark the subject and to distinguish it from an accusative object.

There is a further set of contrasts involving *for*-infinitivals that do not follow from anything that I have proposed so far. Consider the following examples, discussed in Chapter 2:

- (138) a. I want PRO to win the race
 b. *I want for me to win the race
 c. *I want for myself to win the race

One possibility, discussed in Chapter 2, is that a generalized version of the Avoid Pronoun Principle of Chomsky 1981 is at work in (138) (see also Bouchard 1984). However, given the information-theoretic nature of *F*, a more interesting possibility is that for signals a disjoint subject, along the lines of similar markers in so-called switch reference languages. This analysis of (138) was, to my knowledge, first proposed by Bresnan (1982) and has been recently revived by Watanabe (1996). Regardless, of whether switch reference is the correct approach, it is worth noting that there are strikingly similar paradigms involving inflected infinitivals in Portuguese. In brief, the subject of an inflected infinitival cannot be coreferent with a matrix subject, suggesting a similar treatment of the Agr/ø alternation in terms of switch reference.

3.5. Conclusions

In conclusion, I have argued that an explanatory theory of control treats PRO as a clitic, similar if not identical to SE-type clitics in Romance languages. In this sense, obligatory control can be viewed as involving obligatory climbing of non-R-marked PRO to the superordinate clause, where it forms a collapsed Chain with its controller. On the other hand, non-obligatory control simply involves R-marking of PRO by F, which further assigns to PRO a point-of-view-oriented interpretation. Also, the break down in the complementary distribution of PRO and lexical DP witnessed in English *for*-infinitivals and Portuguese and Galician inflected infinitivals can be explained by assuming that F can optionally be specified for [person-number] features in these contexts, which suffices to R-mark a lexical DP with null Case.

Notes to Chapter 3

1. I make clear the exact nature of the functional head F in the section of non-obligatory control later in this chapter.

2. Here, I only consider the null hypothesis, which is that the *to*-VP complement of verbs like try is clausal, as in the much more obvious cases in (i).

- (i) a. I believe [John to be here]
- b. I want [(for) John to be here]

Other analyses have been proposed, however; for example, Bresnan 1982; Lasnik and Fiengo 1974. Of course, this is not to say that there are no differences in the clausal structure of (1) and (ia-b). Unlike (1), (ia) has no Tense, and I argue below that (ib) has additional structure associated with for. Rather, the assumption is that all three structures are the same in that they involve an embedded subject which is distinct from the matrix subject.

3. One might also object that, if all that is at stake is semantics, at least one the examples in (i) is predicted to be grammatical.

- (i) a. *Nadal tried himself to score a goal.
- b. *Nadal tried him to score a goal.

It may be the case that (i) are ruled out by something like the Avoid Pronoun Principle (Chomsky 1981), generalized to prefer null, rather than lexical, bound variables wherever possible. Such a principle could conceivably also be responsible for the facts for (iic-d).

- (ii) a. Nadal wants PRO to score a goal
- b. Nadal wants (for) Kiko to score a goal.
- c. *Nadal_i wants (for) himself_i to score a goal.
- d. *Nadal_i wants (for) him_i to score a goal.

As discussed in Chapter 2, infinitival complements of want-type verbs allow both PRO and lexical subjects, as in (iia-b). However, in order for the embedded subject to be coreferent with the matrix subject, PRO *must* be used, as shown by the (relative) ungrammaticality of (iic-d). However, note that (iic) improves significantly if the anaphor is focussed, as in Nadal's ego is so big that he only wants *himself*, not others, to score goals. This suggests that something different is at

stake in (iic-d), since there is no equivalent improvement in (i) under such circumstances. To account for (i), it could also be stipulated that only PRO has null Case, as in Chomsky and Lasnik 1993, but this leaves the facts with *for*-infinitivals unexplained, as discussed in Chapter 2. The stipulation in question also rules out (1b), rendering the meaning postulate of try vacuous for (1b), in which case it would only be needed to "explain" the interpretation of (1a).

Also, as (iia-b) show, even if the semantic properties of try are responsible for both the interpretation of PRO in (1a) and the impossibility of (1b), this is not general enough to account for the interpretation of PRO: Although (iib) is good, PRO in (iia) must still be controlled by the matrix subject (however, as I argue below, the nature of control is different in (1a) and (iia)).

4. It should be pointed out that there is apparently some disagreement on the exact status of the Modern Greek examples. For instance, Terzi (1992) suggests that the facts are more complex, involving various degrees of acceptability, depending on issues such as whether the disjoint complement subject is overt or null, etc. Furthermore, she argues that extraction is possible out of the infinitival complement of 'try' only when the subjects are coreferential. While I find her syntactic arguments persuasive, and I am willing to concede that the exact judgements vary from speaker to speaker, I do not find her arguments that 'try' has a different *meaning* when the subjects are disjoint to be compelling.

Further, Željko Bošković (personal communication) observes that, in Serbo-Croatian, 'try' differs from 'want' in that the subject of its clausal (finite) complement must be coreferential. While I do not have an immediate explanation for why this should be the case, the point remains that some languages *do* allow disjoint reference with verbs that are at least very similar in meaning to 'try'. Thus, an account of these facts in terms of meaning postulates appears to be untenable, as well as stipulatory.

5. It is often observed that (i) is grammatical.

(i) It was decided to leave

However, given my taxonomy of control, decide is not an obligatory control predicate since it does not take bare TP complement:

(ii) It was decided for John to leave (right away)

Why decide allows the demoted subject to be a controller,

whereas promise does not presumably has to do with the semantics of the respective predicates in relation to matters of point of view. Further, as (iii) shows, the fact decide allows its demoted subject to be coreferential with the pronominal subject of its complement is independent of controlled PRO.

(iii) It was decided (by the committee_i) that they_i would vote against the proposal to raise tuition.

6. I argue that control also involves locality, rather than determination of the controller by lexical or thematic properties, but that this locality crucially differs from the notion involved in anaphor binding.

7. I assume the following definition of *closeness*: Where α and β both c-command δ , α is closer to δ than β if β asymmetrically c-commands α .

8. The text statement is somewhat misleading, since Rosenbaum actually analyzes all infinitivals as having for underlyingly. What I refer to here, however, is the fact that he classifies promise as a member of a subclass of predicates that can take an infinitival complements where for actually can appear overtly (Rosenbaum 1967, p. 121): bear, demand, desire, dislike, expect, hate, intend, like, want, love, prefer, want, request, require, etc.

9. Note that, given the theory pursued here, notions such as 'subject control' and 'object control' are purely descriptive and have no formal substance. Thus, there is only 'obligatory control', in which case the controller is determined solely by the MDP, and non-obligatory control, in which the "controller" is determined jointly by pragmatics and the syntax of *point-of-view*, as I will suggest in more detail below.

In this regard, it is worth noting that, both by my own observations as well as those of others, it appears that many younger speakers of English (e.g., current college freshmen), both in England and the United States, reject typical instances of non-finite complementation with promise altogether. This is presumably because these speakers have (re)analyzed promise as an obligatory control predicate (i.e., it selects only TP rather than FP), resulting in a situation such that the object is the only possible controller, which is simply not in accord with the pragmatics/semantics most commonly associated with sentences of this type.

10. If the structure I have suggested for object control with ask extends to all other cases of obligatory control by an

object, then the much-discussed Bach's Generalization, which states that the object controller must be present in such control structures, is derived. Additionally, I argue below that the MDP can also be made to follow by assuming that such structures are general for object control.

That object control involves a different sort of complement structure is further suggested by paradigms such as the following:

- (i) a. Jorginho told Aldair that Zico now lives in Japan
- b. *Jorginho told Aldair Zico to now live in Japan
- c. Jorginho told Aldair PRO to go live in Japan
- d. *Jorginho told Aldair PRO to now live in Japan

(ia) is straightforward and shows that the verb tell can appear in the frame [__ DP CP], where CP is clearly propositional (as shown by the fact that it can be modified by the appositive: ..., *which is true*). The ungrammaticality of (ib) can be made to follow from Ormazabal's (1995) theory of complement types, modified by my suggestion in Chapter 2 that the zero affix itself requires Case or, alternatively, by the claim that affixation of the zero Comp to V requires adjacency between these two elements. It is the grammatical (ic) that is surprising. Could it be that tell allows its second complement to be either a propositional clause or a control clause? The following facts suggest this not to be the case:

- (ii) a. Jorginho told Aldair a fact/a story/a lie/the truth.
- b. *Jorginho told Aldair an order/a demand/a suggestion.

These facts, as well as the intuition that tell in (ic) implies, loosely speaking, *causation* of the sort found in imperatives (cf. the ungrammaticality of (iid)), can be accounted for by the small clause analysis.

11. It may turn out that more complex structures are needed for Romance special clitics, as argued in Uriagereka 1995c. Nothing I say here changes if there is more internal structure, as long as the clitic element that undergoes movement is in fact a head.

12. A possible exception, at least in English, is the wh-phrase why, as suggested by the marginality of (i).

- (i) ??/*I'm not sure why PRO to go there (of all places)

However, at least for some speakers, there is a sharp contrast between (i) and (ii).

(ii) *I not sure how come PRO to go there (of all places)

Chris Collins (personal communication) suggests that this contrast can be assimilated to the contrast between control with whether versus if, assuming that some part (perhaps come) of how come is located in C. Although this analysis is appealing, it leaves the marginality of (i) (which appears to be quite severe for some speakers) unexplained.

13. Of course, for the text account to be tenable, it must be possible for a clitic to climb past a *non-lexical* X^0 , as in (44a). One possibility which would allow for this is that once the null C^0 checks its wh-feature, it becomes "radically empty" (in the sense of Rizzi 1990). PRO can then move through this position or, alternatively, it fails to count as an "intervening" head for the purposes of Relativized Minimality/Shortest Move.

A more promising possibility is that [+wh] zero complementizers are themselves affixes of the sort discussed extensively in Chapter 2 (see also Pesetsky 1991; Ormazabal 1995). If so, the only element that intervenes between PRO and the target in (44a) is the C^0 trace, which I assume to be invisible to computations (Noam Chomsky, fall 1995 class lectures).

Also, Željko Bošković observes that the text account is stated more naturally in terms of Move rather than Attract. This is because, in order to derive the blocking effect of a lexical C^0 under Attract, it must be the case that whatever feature is attracted by the target is shared by the clitic and the complementizer--a rather unnatural assumption. Note that clitic movement/placement is itself more amenable to Move than Attract, since it is highly unlikely that any feature of the target is checked by the clitic as a result of cliticization. On the other hand, clitics plausibly have a feature [STRONG] which is satisfied only by checking against the categorial feature of certain heads. Assuming Chomsky's arguments for Attract to be convincing, I suggest that both Attract and Move exist in the grammar. If this is the case, it is natural that the Minimal Link Condition (i.e., Shortest Move) be interpreted from the point of view of the moved element under Move and that of the target under Attract. In other words, we can say that a head H attracts the closest FF-bag in order to check a strong feature in H, whereas a feature-bag FF moves to the closest head H in order to check a strong feature in FF.

14. This exact proposal is made in Martin 1992b and Martin 1993b. More recently, Kayne (1994) also suggests that the contrast in (42) may be due to movement of PRO.

15. See Kayne 1991 for numerous arguments that se corresponds to if in English; namely, a head in C, rather than whether. Furthermore, it appears that there is no Romance equivalent to whether, hence minimal pairs of the exact sort in (42) cannot be given. Kayne suggests that the absence of an equivalent to whether in Romance is related to the fact that these languages also lack either, assuming, as argued by Larson (1985), that whether is simply the wh counterpart to either.

16. As will become clear, the problem is much more general: In languages such as Italian, PRO is possible as the subject of an infinitive in numerous contexts where climbing of object clitics is prohibited.

17. Here I consider only contexts where clitic climbing is possible *in principle*. As is well known, the class of verbs that can "trigger" climbing is itself limited (and somewhat idiosyncratic). This fact may seem to go against my claim that control, a much more general and widespread phenomenon, involves climbing of PRO clitics. This point can be made more emphatically by noting that French, a language where I argue PRO actually raises to the higher clause in a wider range of cases than Italian and Spanish, contrasts with Italian and Spanish in that it does not allow climbing of object clitics in any context. However, this problem is only apparent. I assume, following Kayne (1989), that climbing of object clitics involves pied-piping of T (and perhaps even V) and that the lexical restrictions on this process are stated in terms of whether or not the matrix verb allows [V-T]-to-T restructuring (see also Uriagereka 1988). Crucially, climbing of PRO clitics originates from a position higher than T (and the non-finite verb), hence does not involve pied-piping (except perhaps of embedded C on which see note number 13 of this chapter). On the impossibility of object clitic climbing in French, see note number ? in this chapter.

18. Kayne also argues that the following contrast follows from this assumption:

- (i) a. Jean ne les voit pas
 Jean Neg them see not
 'Jean does not see them'
- b. *Jean les ne voit pas

The issue of clitic ordering in Romance (Perlmutter 1971) is quite complex. As Kayne notes, it is not likely that constraints on head movement can account for all of the observed restrictions and cross-linguistic variations (but see Uriagereka 1988 for an attempt to account for some of the

relevant facts). Hence, if the contrast in (i) does not follow from the HMC, there is no great loss in terms of explanation.

19. Kayne (1991, 1994) argues that clitic invariably adjoin to the left. However, Uriagereka (1988, 1995b) shows that this claim is falsified empirically. Uriagereka further proposes to account for several important distinctions between clitic placement in Spanish and French by assuming that clitics are right-adjoined to their host in Spanish, whereas they are left-adjoined in French. The difference, he claims, depends on whether clitics undergo syntactic adjunction, which invariably obeys the head-parameter, or morphological adjunction, which is always to the left. Thus, it is not unreasonable to think that a similar analysis extends to clitic not versus no/non/ne/não.

20. This stipulation seems particularly puzzling in the case of non-finite T, which Kayne assumes does not "agree" with PRO--a problem that is resolved by my conclusions of Chapter 2.

21. Mulder (1992) makes a nearly identical argument that the impossibility of clitic climbing in object control structures is due to the presence of an "extra" head of some sort.

22. As Željko Bošković (personal communication) observes, the fact that some *non-lexical* heads, such as X, do block clitic climbing suggests that the non-blocking property of non-lexical C⁰ is due to its status as a trace at the relevant stage of the derivation, as I suggested above.

23. The grammatical examples involving non-obligatory control suggest that a Stowell-type null Comp account is not tenable. In general, non-finite control clauses do not display the same range of limitations as finite clauses headed by null C. For very convincing arguments to this effect, see Bošković 1996b and Ormazabal 1995.

24. These examples also illustrate an important difference between Italian and English, since, as we have just seen, obligatory control infinitivals in English *cannot* be clefted. Hence, this appears to be another instance of the problem noted at the end of the previous section. I consider the nature of this cross-linguistic variation later in the chapter.

25. If Rizzi's judgements reported above are correct, and Italian does differ from Spanish and English in this respect,

some additional assumptions may be necessary.

26. Not surprisingly, (52b) is also out in French, but for independent reasons: French simply does not permit climbing of object clitics at all. See Kayne 1991 for an analysis of this difference. From the perspective of this thesis, I assume that French *does* allow clitic climbing of PRO-clitics (i.e., there is obligatory control in French). This is entirely plausible, given Kayne's (1991) conjecture that it is the barrierhood of VP that blocks climbing in French. Another, more likely, possibility is that, as Uriagereka (1988, 1995a) argues, French clitics adjoin to the Verb in Agr (perhaps, in my terms, Z), whereas in the languages that allow object clitic climbing, clitics normally attach to a higher functional projection. Then, it could be the relative height of PRO that accounts for its ability to undergo climbing even in languages such as French.

27. Notable exceptions are Galician and Portuguese, which allow either the order clitic-infinitive or infinitive-clitic in most cases. Whether or not this constitutes an exception to Kayne's generalization depends on the exact analysis of each of the possible orderings in infinitives in these languages, as well the fact that verb-clitic is possible in finite sentences as well, as compared to the rest of Romance. On these matters, see Barbosa 1993, Martins 1994, and especially Uriagereka 1988, 1995a.

28. There is in fact much independent evidence for the proposed difference in the scope of verb raising in Italian versus French infinitives. As Belletti (1990) shows (also Pollock 1989), the position of the verb in Italian is at least as high in non-finite clauses as in finite clauses. In particular, Belletti notes that non-finite and finite verbs must locate to the left of negative polarity adverbials such as mai 'ever' and più 'anymore', which she argues convincingly to occupy Spec NegP:

- (i) a. Gianni ha deciso di non tornare più/mai.
 Gianni has decided Neg to-return anymore/ever
 'Gianni has decided not to return anymore/ever.'
- b. *Gianni ha deciso di non più/mai tornare.

In French, however, verbs do not raise past negative adverbials in non-finite clauses (but they do non-finite clauses):

- (ii) a. Jean dit ne pas manger.
 Jean says Neg not to-eat

- 'Jean says not (he) to eat.'
 b. *Jean dit ne manger pas.

29. Kayne's reasons for locating the clitic in different positions in French and Italian need not concern us here.

30. Kayne discusses a possible revision of Chomsky's (1986a) notion of Minimality Barrier that might incorporate this fact. However, under Kayne's analysis, it is irrelevant whether or not se in fact governs PRO. All that matters, as we will see, is that there be some governor of PRO within the Complete Functional Complex of which PRO is the subject. The raised infinitive serves this purpose, whether or not PRO is also governed by se.

31. As the definition in (83) suggests, Chomsky's formulation in (1986b) demands that for any given α there is a *unique* governing category. See Lasnik 1989 for discussion.

32. Note that the Checking Convention does not seem to meet Chomsky's (1995) condition of *inclusiveness*. According to Chomsky, "the "perfect language" should meet the condition of inclusiveness: any structure formed by the computation...is constituted of elements already present in the lexical items selected..." Interestingly, Chomsky's own proposal to mark each lexical item selected from the Numeration as distinct also constitutes a departure from inclusiveness, as he notes.

33. The reason for not making this an *if and only if* statement has to do with Uriagereka's account of possible clitic combinations in Romance, an issue that I set aside here.

34. As Uriagereka implies, this perhaps makes more sense if reference involves speaker-confined context variables, as in Higginbotham 1988. However, this assumption is not crucial to either Uriagereka's analysis or mine.

35. A possibility that is sometimes suggested is to claim that there are no nominative forms of English reflexive anaphors. Without further elaboration, however, such an analysis seems purely stipulatory.

36. Apparently, SE/PRO have [number-gender] features of some sort, as witnessed by the fact that they trigger adjectival and participle agreement. However, adjectives, participles, and other "agreeing" non-verbal predicates, only exhibit agreement for the features [number] and [gender], but crucially never [person]. As noted by Martin (1996) and Raposo

and Uriagereka (to appear), the point made in the text holds as long as PRO/SE lack specification for [person]. Still, it may be the case that DPs in general have two set of ϕ -features, a set of interpretable (quasi-semantic) [number-gender] features, as well as a set of purely formal (and perhaps even non-interpretable) [person-number] features. To decide on these issues here would take us to far afield.

37. The inability of null Case to R-mark an argument under Case matching may ultimately be related to the very nature of non-finite control T; namely, the fact that it has Case but lacks agreement.

38. I set aside cases of quirky Case-marking, since this introduces complications which are tangential to the current discussion.

39. Similar facts are witnessed in Russian (Comrie 1974; Neidle 1982; Franks and Hornstein 1992; Laurençot 1996), but the generalization is not quite as straightforward. In subject control, with a nominative subject, the predicate agreeing with PRO must be the nominative form and cannot be dative:

- (i) Vanja xocet priyti odin/*odnomu
 Vanja-NOM wants to-come alone-NOM/DAT

This is the same as Icelandic, but in Icelandic, nominative is arguably the default realization, whereas in Russian it appears to be dative. This is suggested by contrasts like the following:

- (ii) a. Ljuda priexala pokupat' maslo sama/*samoj
 Ljuda-NOM came to-buy butter herself-NOM/DAT
 b. Ljuda priexala ctoby pokupat' maslo samoj/*sama
 Ljuda-NOM came in-order to-buy butter herself-DAT/NOM

If (iia) is a case of obligatory control, involving movement of PRO and collapsed Chains, it can be generalized that Russian does not allow "default" realization of null Case in such circumstances. (iib) adds the presence of a lexical complementizer, which serves to block movement of PRO to the matrix clause (since the example is grammatical, it must be assumed that PRO is licensed in some other way), and notably null Case is realized as dative, presumably by default. In several other constructions, all arguably involving obligatory control, PRO must also "agree" with dative Case.

Interestingly, Comrie (1974) claims that in object control structures the predicate modifying PRO must be in dative, even when the object controller is marked with

accusative (more recent work by Laurençot (1996), however, shows that this is true only for a subset of Russian speakers):

- (iii) a. Ja velel emu prijti odnomu/*odin
 I-NOM told him-DAT to-come alone-DAT/NOM
 b. My poprosili Ivana pojti odnomu/*odnogo
 We asked Ivan-Acc to-go alone-DAT/ACC

This suggests that (at least some) speakers of Russian do not have *obligatory* object control structures. Evidence which may support this claim comes from the fact, noted in Neidle 1982, that passives of object control verbs are usually quite degraded in Russian. This is reminiscent of promise in English, which I have argued to involve non-obligatory control, as compared to persuade, with which passive sentences are perfectly grammatical. Further, insofar as passives of object control verbs are acceptable, they retain the default dative agreement in the non-finite complement:

- (iv) On byl ugovorën prijti *odin/?odnomu
 He-NOM was persuaded to-come alone-NOM/DAT

40. I thank Juan Uriagereka for reminding of the relevance of the examples below to my proposal, and also for insisting that I address the issue.

41. It is worth noting that other dative contexts appear to allow empty arguments of some sort. Consider the following types of examples, discussed by Epstein (1984):

- (i) a. It is important (to me) [PRO to finish the thesis]
 b. It is not clear (to me) [how to solve the problem]
 c. It is not easy (for me) [PRO to solve the problem]

42. Notably, the same is true even in Galician and Portuguese, which, we have seen, normally do not allow SE to bind a dative position. I do not have an immediate explanation for this surprising symmetry.

43. There is, of course, a serious question that still needs to be answered: Why doesn't English have a lexical SE-type clitic, if it has a null one? I conjecture that this is simply a consequence of the morphology of English. That is to say, English doesn't have any lexical (argument) clitics.

44. This parameter can be exhibited internal to a particular language or cross-linguistically.

45. I discuss the marginality of (121d) below.

46. Unlike the situation with indirect questions, *direct* non-finite wh-complements are much better with this type of control. Compare:

- (i) a. I am not sure where to meet (each other).
- b. It is unclear what to do.

It suffices for the text account that only indirect questions induce obligatory control, although this leaves open the question of why the two complement types should differ. Note that I argue below that non-obligatory control is found in English in exactly the set of infinitivals that can optionally appear with 'for'. It is interesting, in light of this, that many speakers find a clear contrast between (a) and (b) sentences in (ii) and (iii).

- (ii) a. **I have no idea whether for Jenny to do that.
- b. ??I have no idea what for Jenny to do.

- (iii) a. **It is unclear whether for us to do that.
- b. ??It is unclear what for us to do.

47. As Torrego carefully points out, the reading in question is distinct from appositive modification, as in we linguists or we, the linguists. In the Spanish example, it is implied that the group denoted by los lingüistas is a *proper* subset of the group denoted by the first-person-plural null-subject (i.e., the latter must contain some members other than linguists).

48. My proposal for control by F is thus very much in the spirit of Borer's (1989) anaphoric AGR. However, I assume that what is at issue is, in some sense, a pragmatic cue, rather than *binding* in the strict sense. In this sense, F is very similar to the traditional analyses of 'same-subject' markers found in languages with switch reference systems. I return to discuss further parallels between control (by F) and switch reference below. For extensive discussion of these issues, see: Borer 1989; Bresnan 1982; Hale 1991, 1992; and especially Watanabe 1996.

49. It should be noted that, given my suggested pragmatic treatment of non-obligatory control, there is no need, at least based solely on control facts, to assume that the referential (or quantificational) features of DP are necessarily carried along under LF feature movement. However, there is still a substantive issue here. As is well-known, LF

expletive replacement does not create new binding/quantifier relations, whereas other supposed LF processes, such as covert object shift in English ECM constructions, do "create" such relations. For various approaches attempting to deal with this apparent contradiction, see Chomsky 1995, Bošković 1995b, and Lasnik 1996.

50. Note that the English translation of the Italian/French examples is good, suggesting that control works the same way in English adverbials. This is not an undesirable consequence, since it is difficult to see how the alternative of movement of a PRO-clitic out of an adjunct could be made to work. However, I leave the matter unresolved, since all of the crucial examples, such as the translation above, involve control into nominal gerunds. I continue to set aside the issue of PRO in nominal constructions completely, since it introduces problems and concerns that reach far beyond the scope of the current research.

51. I do not have anything particularly revealing to say about what it means for "obligatory" restructuring to be optional. That is to say, the facts that I present lead to the conclusion that restructuring is only obligatory where possible; namely, in the context: $V_1 [\alpha \dots T_{[-Finite]} V_2 \dots]$, where V_1 is a verb that triggers restructuring and movement of $T-V_2$ out of α is in principle possible. In terms of a Minimalist-type approach this suggests that restructuring is preferred in terms of economy, but failure to trigger restructuring does not lead to a derivation crash. This entails that the relevant trigger is not a strong feature. I merely speculate that it may be the case that restructuring yields a representation that is more economical (i.e., transparent) for the purposes of interpretation and, as such, is to be preferred to a non-restructuring representation under some notion of economy of representations at the LF interface.

52. As argued in Chapter 2, the distribution of the zero counterpart to for is determined by general constraints zero affixes.

53. I set aside the non-trivial issue of how the grammar determines this to be true; namely, whenever more than one instance of structural Case is involved in a single checking domain, the grammar makes them distinct, if possible. One would hope that there is a trivial local algorithm that determines this, though I leave the question open.

54. Of course, this should be verifiable in languages that have raising to object constructions and distinguish

accusative and dative phonologically. I have not yet been able to determine whether the prediction is borne out or not.

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