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ON A-MOVEMENT

Adolfo Ausín, Ph.D.

University of Connecticut, 2001

In this dissertation I propose an account of the locality conditions on A-movement that is based on two recent developments within the minimalist program: the Multiple Spell-out hypothesis and the idea that A-movement, as opposed to A-bar movement does not leave a trace. The account I propose does not rely on minimality. Standard evidence for minimality in raising to subject is the supposed impossibility of raising over the experiencer in languages like Spanish. However, I show that raising over the experiencer is possible in Spanish.

I provide further evidence for the proposals I assume. On one hand, I use *wanna*contraction and certain facts about *do*-support as further evidence for the Multiple Spellout proposal. On the other hand I examine some standard arguments for A-movement reconstruction. I show that some standard arguments for A-movement reconstruction based on scope interactions have many interfering factors. I also show that some evidence for A-movement reconstruction based on binding can be easily accounted for under a derivational approach to binding relations.

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ON A-MOVEMENT

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A Dissertation

Submitted in Partial Fulfillment of the

Requirements for the Degree of

Doctor of Philosophy

at the

University of Connecticut

2001

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For my parents

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Chapter 1: Introduction

1.1 Goal of the dissertation

The main goal of this dissertation is to provide further evidence for two recent proposals within the Minimalist program through the study of A-movement related phenomena. These two proposals are first, the derivational approach to syntactic knowledge, in particular for the Multiple Spell-out (MSO) proposal, and second the idea that A-movement does not leave a trace.

Both proposals are very specific hypothesis about how the mind works. In so far that the facts and arguments presented in this dissertation are correct, we will have additional evidence to corroborate two hypothesis regarding the way human mind works. In what follows I will provide background and motivation for these proposals.

1.2 Multiple Spell-out

Under the MSO hypothesis it is proposed that the syntactic component sends information to the semantic and phonetic components at different points in the derivation. This is a clear departure from earlier models within the generative grammar.

It has been standardly assumed within Generative Grammar (from the beginning to the early stages of the Minimalist Program) that the relation between Syntax and other components (Phonology, Semantics) takes place only at one point. The precise point in which this happens is different in different models. Thus in the *Aspects* model (and within the Generative Semantics model), the semantic component was linked to Deep Structure and the Phonological component was linked to Surface Structure as appears illustrated in (1). Since the seventies, it has been standard to assume some version of the T-model illustrated in (2).



Recently several scholars working within the Minimalist Program have challenged the assumption that the relation between Syntax and other components of the grammar takes place only at one point in the derivation. In particular, authors like Chomsky (2000), Chomsky (1999), Uriagereka (1999), Epstein et al. (1998) among others, have proposed that the operation of Spell-out can take place several times during the derivation of a given sentence. The proposal has come to be known as Multiple Spellout (MSO) Hypothesis, and appears illustrated in (3).

(3) Multiple Spell-out Proposal

Chomsky (2000), Chomsky (1999), Uriagereka (1999), Epstein et al. (1998), ...



The proposal is not entirely new. Already in the early seventies there were attempts to make the relation between Syntax and other components more dynamic. For instance, Jackendoff (1972) proposed that "various parts of semantic representation [were] related by the semantic component to various levels of syntactic representation" (p.4). A simplified version of his proposal appears illustrated in (4).



In a similar fashion, Lasnik (1972) argued for the possibility of applying the rule assigning scope to negation after the end of each cycle. Since scope of negation is semantic, Lasnik's suggestion requires that semantic rules apply at different point in the derivation, which is problematic under a T-model and seems to require some version of "Multiple Spell-Out". Around the same time, Bresnan made similar proposals on the phonological side. In Bresnan (1971b), she proposed that the stress pattern that we observe in (5) follows from the assumption that the "Nuclear Stress Rule is ordered after all the syntactic transformations on each transformational cycle" (Bresnan (1971b), p. 259). Her proposal requires that the phonological component be accessed several times during the derivation, in particular, after the end of each cycle.

 a. George has pláns to leave (=George has plans that he intends to leave)
 b. George has plans to léave (=George is planning to leave) Bresnan (1971b)

Bresnan (1971a) presented an analysis of *wanna*-contraction that also seemed to require some version of the MSO proposal. I postpone the discussion of Bresnan's proposal to section 4.1.

The motivation behind Multiple Spell-out is different in the different proposals. The motivation behind Uriagereka's (1999) formulation is an attempt to simplify the Linear Correspondence Axiom of Kayne (1994) (LCA). One of the ideas behind Kayne's LCA is that there is a correspondence between c-command and liner order (of terminal nodes). Uriagereka notes that this is straightforward when we have a structure like the one that appears in (6). Turning c-command relations into linear order would yield the order ABC.



However, in a structure like (7) the relative order of A and B with respect to C and D cannot be established in a direct way because neither A nor B c-commands C or D. In order to solve this difficulty, Uriagereka proposes that specifiers (and adjuncts) are linearized before the rest of the syntactic object is. Thus, in (7) the relative order between A and B is established before the relative order between the complex specifier that contains A and B and the rest of the structure is established.



Thus, the fact that neither A nor B c-commands the rest of the structure is not a problem anymore under Uriagereka's proposal since the linearization of the complex specifier is relatively independent of the linearization of the rest of the structure. Since Uriagereka follows Chomsky (1995b) in assuming that linearization takes place at PF, Uriagereka is forced to conclude (and hence, propose) that specifiers (and adjuncts) are sent to PF (or spelled out) early. Since there is no limit in the number of specifiers and adjuncts that a sentence can have, Uriagereka concludes that Spell-out can apply multiply for any given sentence.

Chomsky's (2000) motivation for his Multiple Spell-out proposal is slightly different. He argues that early Spell-out solves a problem created by checked uninterpretable features. If uninterpretable features are completely eliminated under checking, it is a mystery how can they reach the phonological component. For instance, if

a feature like Case is completely eliminated after it is checked, it is not clear how at PF we can distinguished a Nominative from an Accusative NP since both are going to look alike. "The natural conclusion is that Spell-Out is associated with agreement. Deleted features are literally erased, but only after they are sent to the phonological component along with the rest of the structure of Σ -- possibly at the phase level. Spell-Out therefore applies cyclically in the course of the (narrow syntactic) derivation" (Chomsky (2000:48)). As has been pointed out by \Box eliko Boškovi \Box , this reasoning is only valid if we reject the strong lexicalist approach according to which lexical elements are inserted in the derivation with all the needed features, included the phonological features. According to this proposal, checking of uninterpretable formal features would not cause a problem because the phonological features are not affected by checking operations. This is particularly clear is it is assumed that phonological and formal features are separate. Zeljko Boškovic also points out that Chomsky's argument seems more plausible under frameworks such as the Distributed Morphology (Halle and Marantz (1993)) where the full specification of the features of lexical items (phonological features, among them) does not take place until all the syntactic operations have taken place.

Chomsky's argument does not seem to hold under a completely lexicalist view. If every lexical item were pulled out from the lexicon with all its features specified, checking uninterpretable formal features would have no consequences for the phonological shape of each lexical item. To illustrate this point, consider English personal pronoun *her* as in *John kissed her*. *Her* has three sets of features: semantic features that are relevant for the its interpretation, formal features such as accusative Case, and phonological features that tell us how to pronounce it. At some point in the

derivation, the accusative case feature will be checked and since it is uninterpretable, it will be eliminated. According to Chomsky, since the uninterpretable case feature has been eliminated, it will not be accessible at PF and at the PF component there will not be enough information to decide how to pronounce the item, in particular to decide that it has to be pronounced as *her* and not, say, as *she*. However, this will only be true if the pronoun has not been assigned the phonological matrix that corresponds to *her*. If already in the lexicon, *her* has been assigned the phonological features that make it sound the way it does, Case checking will have no consequences and the PF component will know how to pronounce *her* even if its Case feature has been checked and eliminated.

Epstein et al. (1998), Epstein and Seely (1999) see the Multiple Spell-out as one of the necessary tools in a completely derivational models like the one that they arguing for (Epstein (1999)). If representations are not significant objects, then every piece of information necessary for the (phonetic or semantic) interpretation of a given sentence has to be immediately sent to the interface components.¹

1.3 Lack of A-traces

Within the Minimalist program it has been assumed since Chomsky (1993) that movement leaves a copy. Recently, Lasnik (1999a) has made the claim that whereas Abar movement leaves a trace, A-movement does not. Here I will review some of the arguments.

One of the defining characteristics of most proposals within the generative grammar framework has been that elements move. A question that has been subject to

¹ For more evidence for the MSO approach see Ochi (1999), Stepanov (1999b), Boeckx (2000c).

debate is what is left after movement. In the *Syntactic Structures* and *Aspects* framework, nothing was left after movement. In the seventies, Chomsky (1973) made the proposal that after an element moves, a trace of it is left in the original position, and the trace-theory of movement was born. That movement leaves a trace was also the standard assumption within the *LGB* framework. In the early nineties, within the minimalist program, Chomsky (1993) revives an idea that had been occasionally proposed: movement leaves a copy, not a trace. There are two main arguments for the copy theory of movement. One, its conceptual simplicity. The copy theory of movement allows us to dispense with the notion of traces, in satisfaction with the inclusiveness condition, which itself simplifies the syntactic component by restricting the possible set of syntactic elements. According to Chomsky (1995a:228), "any structure formed by the computation is constituted of elements already present in the lexical items selected for N" (N being a numeration). Since traces are not present in the numeration, their existence would trigger a violation of the inclusiveness condition.

The second argument for the copy theory of movement is related to those cases where a moved item seems to be interpreted in the original position. If a copy is left after movement takes place, these cases follow immediately. Thus, the sentence in (8)a is ruled out because a copy of *which pictures of John* is left in the object position as in (8)b, and a Condition C violation obtains because *he* c-commands *John*.

(8) a. ?*Which pictures of John, does he, like? (From Riemsdijk and Williams (1981))
b. [which pictures of John] does he, like [which pictures of John]

Lasnik (1999a), based on the fact that A-movement does not show reconstruction effects, has proposed that A-movement, as opposed to A-bar movement does not leave a trace. Let's examine Lasnik's arguments against A-movement reconstruction.

The first argument against A-movement reconstruction is based on the interpretation possibilities of sentences like the following:

(9) Everyone seems not to be there yet Q >> Neg, *Neg >> Q

Zubizarreta (1982) (who attributes the observation to N. Chomsky), Chomsky and Lasnik (1993:40), Chomsky (1995b:327), and Lasnik (1999a) observe that sentences like this one can only be interpreted with the universal quantifier having scope over negation. (9) contrasts with (10).

(10) Everyone isn't there yet

It is a fact about English that a universal quantifier in subject position can have scope above or below sentential negation. In other words, the sentence in (10) can be assigned the following two interpretations.

(11) a. $Q \gg \text{Neg} \rightarrow \text{Nobody is there yet}$ b. $\text{Neg} \gg Q \rightarrow \text{Not everybody is there yet (that is, somebody is there)}$

We obtain the same interpretations if we embed the sentence under seem:

(12) It seems that everyone isn't there yet Q >> Neg, Neg >> Q

Under the standard assumption that (9) is derived through movement of *everyone* from the embedded to the matrix subject position, and assuming that movement leaves a copy (represented as $t_{everyone}$), a fuller representation of (9) would be:

(13) everyone seems [t_{everyone} not to be there yet]

Now, if everyone could be interpreted in the position of the copy, it is completely unexpected that the Neg >> Q is not available, since the relative position of negation and quantifiers in the "reconstructed" position in (13) would be very similar to the position in which we find negation and the quantifier in (12), where the Neg >> Q interpretation is available.²

Lasnik (1999a:205) presents the fact that (14)b is no an accurate paraphrase of (14)a as additional evidence against A-movement reconstruction. If no one could be interpreted in the embedded sentence, we would expect (14)b to be a close paraphrase of the interpretation of the reconstructed (14)a, contrary to facts.

- (14)No one is certain to solve the problem a.
 - It is certain that no one will solve the problem b.

The same point can be made with the following examples.

(15) No one is certain to win the race a. It is certain that no one will win the race b.

The sentences in (15)a and (15)b are not equivalent. (15)a and (15)b can be

continued with (16)a and (16)b, respectively. This is unexpected: If no one could be

interpreted in the embedded position we would wrongly predict (15) at have the same

interpretation as (15)b.³

² Hornstein (1999a:65) claims that this argument is empirically flawed. Hornstein claims that quite generally non-reduced negation (not) can never take scope over an adjacent everyone. Thus, he claims that the Neg >> O is not available in the following examples:

John would prefer for everyone not to leave (i) a.

John wanted very much for everyone not to leave b.

Lasnik (1999a) admits that the Neg >> O is less accessible in (i) but still available. And in other constructions like the following with non-contracted negation, Lasnik and his informants find the Neg >> Q interpretation rather readily available. (ii)

School policy requires that everyone not get an A a.

It is important for everyone not to get an A (Lasnik (1999a:195)) b.

³ See also Partee (1971) for an earlier version of this argument and Postal (1974:356ff) for some additional discussion.

a. ... because the physical conditions of all the participants are very similar
 b. ... because the race is going to be cancelled

The two arguments reviewed so far are based on raising to subject constructions. The following next two arguments are based on ECM constructions. I will assume the analysis of ECM construction proposed in different papers in Lasnik (1999b), where Postal's (1974) ideas on raising to object are revived. According to Postal/Lasnik analysis, in ECM constructions the subject of the embedded complement raises to a position in the higher clause. For Postal, this position is the object position, for Lasnik, this position is Spec,AgrOP. Following Lasnik (1999a) I will assume that movement to Spec,AgrOP is optional for full DP but obligatory for pronouns. I will also assume the proposals by Koizumi (1993), Koizumi (1995) and Lasnik (1999b) regarding the split VP hypothesis. Thus the structure of a sentence like (17)a would be (17)b.

- (17) a. They believe Mary to be smart
 - b. [IP they [VP they-believe [AgrOP Mary [VP believe [IP Mary to be smart]]

Lasnik (1999a) (following work by Kayne (1985) and Johnson (1991)) takes make out to be an ECM verb, and proposes that if the subject of the infinitival precedes out (as in (18)a), then overt object shift has taken place. If the subject of the infinitival follows out (as in (18)b), then no object has taken place.

- (18) a. Mary made John out to be a fool
 - b. Mary made out John to be a fool

Then, Lasnik observes that overt object shift in *make out* constructions has interpretation consequences that are not expected if A-movement could reconstruct. Thus, he notes that in a sentence like (19) *every mathematician* cannot be interpreted under the

scope of negation. In other words, only the implausible interpretation in (20)a is possible.

(20)b, which more plausible, is not available.

- (19) The mathematician made every even number out not to be the sum of two primes Q >> Neg., *Neg >> Q
- (20) a. Q >> Neg: Available (but implausible) reading: The mathematician was trying to convince somebody that no even number is the sum of two primes.
 - *Neg >> Q: Plausible (but unavailable reading): The mathematician was trying to convince someone that not every prime number is the sum of two primes (that is, that there is at least one even number that is not the sum of two primes).

Importantly, if object shift has not taken place, as in (21), both interpretations are available.

(21) The mathematician made out every even number not to be the sum of two primes Q >> Neg., Neg >> Q

Thus, if A-movement in general (and object shift in particular) could be undone

we would expect (21) to have the same interpretation possibilities as (19). The fact that

(21) and (19) are not equivalent strongly argues that A-movement does not reconstruct,

Lasnik concludes.⁴

In order to explain the impossibility of having A-movement reconstruction,

Lasnik (1999a) proposes that A-movement does not leave a trace. In his words:

⁴ Lasnik (1999a) presents another argument against A-movement reconstruction from *Chomsky (1995b)*. Lasnik and Chomsky note that if A-movement could reconstruct we would expect that the Condition B violation in (i)a should disappear, since *him* could reconstruct to its trace position as in (i)b. The example in (ii) from Lebeaux (1995) could be used to make the a similar argument.

⁽i) a. *John expected him to seem to me [$_{\alpha}$ t_{him} to be intelligent]

b. John expected _____ to seem to me [$_{\alpha}$ him to be intelligent]

⁽Chomsky (1995b:326-7))

⁽ii) He_i seems to him_i t_{He} to be expected t_{He} to win

However, as pointed out by Wurmbrand and Bobaljik (1999), this argument is not conclusive. If Amovement does not reconstruct, then in order to explain Condition B violation like (iii) we would have to assume that Condition B applies at every point in the derivation.

⁽iii) a. *John/He_i seems to me $t_{John/him}$ to be expected $t_{John/him}$ to like him

b. *He_i was expected t_{He} to seem to him_i t_{He} to like him_i

(22) I would like to suggest that A-movement, unlike A'-movement, does not leave a trace, where a trace is, following Chomsky, a copy of the item that moves, and LF reconstruction effects result from failure to delete a portion of the lower copy. This distinction is conceptually plausible: A'-movement typically creates an operator-variable relation, so at least the 'initial' trace is necessary. For A-movement, on the other hand, the trace is seemingly a theoretical excrescence. There are not two separate interpretative roles for the moved NP and its trace to fulfill. It might therefore be conceptually desirable for A-movement not to leave a trace. (Lasnik (1999a)).

As Lasnik himself notes, not having A-traces is potentially problematic from the perspective of theta-role assignment. One of reasons for postulating traces in the first place was that certain syntactic configuration necessary for semantic interpretation could be accessible even if the original configuration was altered. In other words, the existence of traces make straightforward the task of determining that *John* is being assigned the same theta role in both (23)a and (23)b. This is so because *John* occupies the object position *kissed* in (23)a and the trace of John does in (23)b.

- (23) a. Mary kissed John
 - b. John was kissed (t_{John}) by Mary

If there is no trace of *John* in (23)b, the questions arises of how the semantic component knows that *John* is being assigned the theme theta role in (23)b. Lasnik (1999a) suggests two possible solutions. One way of eliminating this problem is to assume that θ -roles are features that are checked as the derivation proceeds in the same way other features are checked.⁵ Another way of solving this problem would be to assume that θ -assignment can be done "on line," as the derivation proceeds. This would be in accordance with the MSO that we reviewed earlier. Lasnik (1999a:fn.17) suggests

However, if Condition B applies at every point in the derivation, A-reconstruction (or any type of undoing of raising to object in (i) or subject in (ii) will not remedy the Condition B violation.

⁵ The proposal that theta roles are features is defended among others by Lasnik (1995b), Boškovi and Takahashi (1998), Hornstein (1998), and Hornstein (1999b).

that it could be the case that the syntactic object does not need to encode the θ -related information since this information is already shunted off to the relevant interface.

Other possible motivation for A-traces based on scope and binding will be dealt within chapters 5 and $6.^6$

1.4 Outline

This dissertation is organized as follows. In chapter 2 I will propose an analysis of the locality conditions on A-movement under the proposal that A-movement does not leave a trace and that Case checking operations trigger early applications of Spell-out. The proposal I make there exempts A-movement from the Minimality constraint. This proposal provides a straightforward explanation of the possibility of raising over the experiencer in English as in *John seems to Mary to be happy*. However, it seems to make the wrong predictions in those cases where it has been claimed that the experiencer blocks raising to subject. One of these cases in Spanish. However, in chapter 3 I examine the Spanish cases and show that contrary to standard assumptions raising over the experiencer is possible in Spanish. As for the apparent illicit instances of raising over the experiencer I show that there is an alternative explanation.

In chapter 4, I provide additional evidence for the MSO proposal made in chapter 2 showing that under this proposal a very natural approach to the *wanna*-contraction facts is available. I will also show how this approach to MSO might explain certain previously unnoticed facts about *do*-support.

⁶ There are other facts I am not sure how to capture if A-movement does not leave a trace.

Chapters 5 and 6 are dedicated to show that standard arguments for the existence of A-traces are less sound than standardly assumed. In particular, in chapter 5 I show that the arguments that link quantifier lowering to A-movement (and hence, to A-traces) are not conclusive. Chapter 6 is devoted to lay out a theory of binding that does not rely on the existence of traces. The general idea I will pursue is that binding relations can be established as the derivation proceeds.

Finally, in chapter 7 I show how the assumptions made in this dissertation can account for what occasionally has been called NP movement strong cross over.

1.5 General Assumptions

Some of the assumptions that will be made in this dissertation are the following:

• Bare Phrase Structure: following Chomsky (1995a) and others, I assume that the syntactic object is created by successive applications of merge, and that at certain points in the derivation, information is sent to the PF and LF.

• I assume that D-structure does not exist, and furthermore, that S-structure, although can be defined, does not play a role in linguistic theorizing. (See some arguments in Chomsky (1993) and others.

Split VP hypothesis: I assume the VP structure proposed in Koizumi (1993),
 Koizumi (1995), Lasnik (1999b), where the object gets its Case checked in the specifier position of an AgrOP that is the complement of the VP in which the subject is assigned a θ-role.

2.1 Introduction

In this chapter I will show how the locality conditions on A-movement can be explained under the Multiple Spell-out approach to syntactic derivations. This chapter is organized as follows. First, in section 2.2, I will briefly mention some of the accounts that have been proposed to account for the locality conditions on A-movement. In section 2.3 I will look into a certain problem that arises within the MSO proposal, and propose a solution. In section 2.4, I will show that the proposal in section 2.3 can virtually explain all the locality conditions on A-movement, an interesting result, since the proposal in 2.3 was not designed to explain the locality conditions on A-movement.

2.2 Locality conditions on A-movement

It is a fact that A-movement is subject to some locality conditions. Thus, consider movement to subject position in raising constructions, as in (24).

- (24) a. *John seems (that) t_{John} is sick.
 - b. *John seems (that) Mary likes t_{John}.
 - c. *John seems Mary to like t_{John}
 - d. John seems t_{John} to be sick

In (24) we can see that movement of *John* from the embedded sentence to the subject position of the matrix clause is only possible when the embedded clause is an infinitival and *John* occupies the subject position of that infinitival. The facts are quite clear and the judgements are quite sharp. However, it has not been easy to provide an

explanation for this. As usual, as the framework has changed, the explanations for these facts have changed too. In what follows I will briefly mention some of the proposals made to captures these facts.

In Chomsky (1973), the ungrammatical sentences in (24) were ruled out as violations of the Specified Subject Condition ((24)b,d) and of the Tensed Sentence Condition ((24)a,b). In Chomsky (1981), with the development of the Binding Theory, the ungrammatical sentences in (24) were explained as Condition A violations: NP-traces due to their anaphoric nature were considered to be subject to the Condition A of Binding Theory.

(25) Chomsky (1973): Specified Subject Condition / Tensed Sentence Condition. → Binding Theory: NP traces are subject to the Condition A. Chomsky (1981)

An explanation along those lines is not very appealing for two reasons. First it relies on the assumption that NP traces are subject to condition A of binding theory, which is not independently motivated, and does not seems to be able to be stated under the copy theory of movement. If movement leaves copies, it does not seem natural to require that one of the copies of one element is subject to Condition A, but not the other.⁷ The second reason to reject the binding theory approach to the locality conditions on movement is that it requires an important number of theoretical concepts (such a governing category, governor, accessible subject) which are not consider to be available under current assumptions. In other words, it would be better if we could explain the

⁷ More generally, under the copy theory of movement, the characterization of traces as anaphors or referential expressions that was made within the LGB framework depending on whether they were A-traces or A-bar-traces, cannot be held anymore, unless we stipulate that A-movement leaves copies that are subject to Condition A and, A-bar-movement leaves copies that are subject to Condition C. This kind of stipulation seems very unnatural and unmotivated.

locality conditions on A-movement if we do not have to rely on unmotivated assumptions and theoretical constructs.

Also, within the LGB framework of Chomsky (1981), NP-traces, by virtue of being traces are also supposed to meet the ECP. Therefore, the ECP was supposed to somehow constrain A-movement as well. Thus, the version of (24)a with *that* will also be ruled out as an ECP violation, repeated below.

(26) Empty Category Principle: $[\alpha e]$ must be properly governed. (Chomsky (1981))

Again, a proposal that does not rely on concepts like proper government, which does not seem to play an important role in current developments, would be more desirable.

The development of Case theory made available further ways in which illegitimate instances of A-movement could be accounted for. Thus the mechanisms in (27) also rule out the bad sentences in (24) in terms of Case:

- (27) Case considerations:
 - a. Chomsky (1986:137): If $C = (\alpha_1, ..., \alpha_n)$ is a maximal CHAIN, (...) then α_1 occupies its unique Case-marked position.
 - b. Constraint against Case-marked NP-traces. (Bouchard (1984), Sportiche (1983))

Note that all the mechanisms in (27) need the additional stipulation that every Case assigner must assign its case. If Case assignment were not obligatory, the proposals in (27) could not explain the ungrammatical sentences in (24), since it could be the case that the Case assigner in the embedded clause did not assign its Case.

(28) Inverse Case filter: Every Case must be assigned. (Boškovi□ (1997b:4.5))

Within the Minimalist Program, Case considerations materialized in a slightly

different form. Thus, Chomsky's (1993) Greed (see (29)) played an important role in

when and how A-movement takes place. Chomsky's Greed has the effect of banning Amovement from a Case position to another A-position since such a movement does not result in the satisfaction of any morphological properties of the element undergoing movement. Thus in (24)a, movement of *John* from the embedded clause to the matrix clause is not allowed due to the fact that no morphological property of *John* is satisfied because of that movement: The Case of *John* has already been checked in the embedded subject position.

(29) Greed (Chomsky (1993:201)): Move α applies to an element α only if morphological properties of α itself are not otherwise satisfied.

Although the notion of Greed has not officially played an important role in later

developments of the minimalist program, it seems to me that some of the later

developments are just different instantiations of Greed. Here is a list some of them:

- (30) Some descendants of Greed
 - a. Suppose that it is exactly a visible Case feature that makes the feature bundle or constituent available for 'A-movement'. Once Case is checked off, no further movement is possible. (Lasnik (1995a:7))
 - b. Frampton (1996): Suppose that a phrase becomes inactive when its formal features are satisfied, in the sense that only phrases with formal features are subject to attraction.
 - c. Condition on Feature Licensing (informal formulation) (Vuki□ (1998)) The attraction of an interpretable feature must be licensed by the presence of an uninterpretable (like Case) formal feature in the attracted category.
 - d. McGinnis (1998):Case Identification:
 Once an argument has checked Case, it cannot undergo further movement to check EPP. (The Case feature of a DP is responsible for identifying the phrase to be pied-piped in attraction to check the EPP (Chomsky (2000)). Once the Case feature has been checked and deleted, it cannot identify a phrase for pied-piping, so move is blocked.)
 - e. Chomsky (2000) More generally, uninterpretable features render the goal [(the moving element)] <u>active</u>, able to implement an operation. (Chomsky (2000:38))⁸

⁸ Page numbers make reference to an earlier edition distributed by MITWPL.

After deletion of structural Case of DP, the phrase cannot move further to an A-position [...] (though it is still "visible" to a probe, allowing defective intervention effects. (Chomsky (2000:43))

Greed, and some of its descendants can rule out many of the illegitimate derivations, but importantly not examples like (32), which were the crucial type of examples that motivated Rizzi's Relativized Minimality approach. Rizzi's (1990) Relativized Minimality, and some of its descendants, has also been considered to play an important role in ruling out sentences like the one in (32).

- (31) Relativized Minimality Rizzi (1990)/ Shortest Move (Chomsky (1993:181))/ Minimal Link Condition (Chomsky (1995a:401))
- (32) *Bill seems that it was told t_{John} that ...

Rizzi (1990:84), Chomsky (1995b)

Note that in examples like (32) movement of *John* over *it* is licensed by Greed, because at least one of the morphological properties of *John* (namely, the necessity of having its Case checked) is satisfied by virtue of the movement of *John* to matrix subject position. One the other hand, the Relativized Minimality approaches to A-movement do not have anything to say about the impossibility of having A-movement from a Case marked position. The tension between these two approaches (Greed and Relativized Minimality) is clearly visible in Chomsky's words quoted in (30)e. In the next sections I will show how a certain formulation of Multiple Spell-out can provide an account of the locality conditions on A-movement. The most positive aspect of my proposal will be that the ingredients used to explain the locality conditions on A-movement receive independent motivation.

To conclude this overview of the locality conditions on A-movement, it seems that there are two type of facts: on one side certain facts seem to strongly favor some version of Greed: A-movement from a Case marked position is not possible. On the other hand, A-movement over a (Case marked) is not possible (Relativized Minimality effects). What I will try to do in the next sections is to present a unified account of these two type of facts, which importantly, will rely on independently motivated assumptions.

2.3 One problem in the MSO and a solution

We saw in Chapter 1 that under the MSO proposal the syntactic object is delivered to PF and LF at different points in the derivation. Sending the syntactic object to the interfaces at several points in the derivation has a potential problem: at the end of the derivation we are going to end up with several representations. Thus consider what happens on the PF side under fairly naïve assumptions regarding MSO. Consider (33) and assume that Spell-out applies both at the vP and the CP level, along the lines of Chomsky (2000).⁹ At some point in the derivation the embedded CP is going to be formed and will be spelled out, resulting in (34)a. Later, more items will be added to the syntactic object and eventually the matrix CP will be built and spelled out, resulting in (34)b. So, if we assume that an item can be spelled out several times and at several points in the derivation we would obtain at least the two PF representations that appear in (34).

- (33) John thinks Mary left
- (34) a. Mary left
 - b. John thinks Mary left

Under Chomsky's proposal we do not have exactly this problem since for him, the first application of Spell-out, will strip away the phonological features of the embedded CP and further application of Spell-out will not have any effect on the embedded CP.

⁹ Since the final proposal does not rely on CP and vP being phases, I won't go into details as for why Chomsky takes these, and not others, to be the relevant phases.
Thus the PF outcomes that we would obtain after different application of Spell-out in (33) would be the ones that appear in (35), and we would be faced with the problem of how to obtain (33) from the two PF outcomes in (35).

(35) a. Mary left b. John thinks

A possible solution to the problem that we face in (34) with different PF outcomes would be to say that the intermediate outcomes of Spell-out are not relevant. This line of reasoning would be along the lines of what Epstein and Seely (1999) propose. Epstein and Seely propose that the syntactic object is sent out to the interface levels where it is evaluated. According to them, if the Syntactic Object violates some principle in some of the intermediate Spell-outs, this violation is not fatal because it can be fixed at a later point in the derivation. They say: "in contrast to GB we cannot assume that a sentence is ungrammatical if any violation occurs in the derivation of it. (Rather we need salvation, which is prohibited in the GB framework.)" Epstein and Seely (1999:59).¹⁰ Following a similar line of reasoning, one could say the same about the PF outcome in (34)a. That is, one could say that it is not relevant and can be dispensed with without any consequences.

However, if intermediate representations can be disregarded, it is not clear why they exist in the first place. What is the purpose of sending a syntactic object to PF/LF if the result of this evaluation can (maybe has to) be ignored? I assume that syntactic operations take place for some reason and Spell-out is not an exception.

The problem of different PF outcomes does not exactly arise in Uriagereka's (1999) formulations of MSO either. Uriagereka considers two formulations of MSO. In

¹⁰ As Howard Lasnik points out to me, this is not completely correct since some of GB works (for instance Lasnik and Saito (1984)) relied on the deletion of offending traces.

both formulations only specifiers and adjuncts undergo early application of Spell-Out. The two formulations that Uriagereka considers are the conservative and the radical approach.

In the conservative approach, application of Spell-out to a constituent results in some kind of "giant lexical compound, whose syntactic terms are obviously interpretable but are not accessible to movement, ellipsis, and so forth." So under this approach, the operation of Spell-out is not exactly delivering information to the interface components, but the lexicalization of a syntactic constituent.

In the radical formulation, it is assumed that "each spelled-out [constituent] actually does not even merge to the rest of the structure, the final process of inter-phrasal association being done in the performative components."

However, in both formulations there is a departure from the most simple and natural formulation of Spell-out. For this reason I will adopt neither of them.

Chomsky (2000) assumes the most natural formulation of Spell-out: at some point in the derivation the syntactic object is sent off to the PF component. Chomsky conceives MSO as a way of allowing uninterpretable features to reach PF even though they are deleted after checking. "Deleted features are literally erased, but only after they are sent to the phonological component along with the rest of the structure of Σ -- possibly at the phase level" (Chomsky (2000:48)). Regarding the different PF outcomes of MSO, Chomsky has occasionally suggested in class lectures that they should be combined, but as far as I can see he has never explicitly done so, to my knowledge.

So, if we assume that Spell-out sends the syntactic object to the PF component, we need to solve the problem of how to combine the different PF outcomes. The solution

of the problem is obviously linked to the particular assumptions about MSO. If we assume that any given item is not send to the PF component more than once we are going to end up with PF outcomes like the ones that appear in (35). However, if assume that any given item can be spelled out more than once, then the situation that we would end up with would look more like what we have in (34). In what follows I will present a solution to the multiple PF outcomes problem, under the assumption that any given item can be spelled out more, in other words, I will present a solution to the problematic situation that we encounter in (34).

The idea I will pursue is that Spell-out leaves the syntactic object unaffected (thus allowing for the possibility that an element can be spelled out an indefinite number of time, since the phonological features are never stripped away) and that the different outcomes of Spell-out have to be combined (solving the problem created by the presence of several PF out comes). If different PF outcomes have to be combined, it seems reasonable to propose that this combination process is going to be subject to certain conditions. I will investigate the possibility that the combination of different PF outcomes is constrained by the following principle:

(36) Matching principle: For any two overlapping PF outcomes to be combined, one has to be a contiguous subpart of the other.

The principle in (36) gives the right result in an example like (34). The two PF outcomes in (34)a and (34)b can be combined because (34)a is a contiguous subpart of (34)b.

Before I further illustrate how this matching principle works, I would like to make precise certain assumptions about how MSO works. Remember that I am assuming with

Chomsky that MSO is the best solution to the problem of how to make accessible to the interface those features that are checked off (and eliminated) during the syntactic derivation. For Chomsky, the necessity of MSO is related with checking of all uninterpretable features, which include agreement features in the verb and Case features in the noun. Since they are uninterpretable they will be eliminated after checking and hence inaccessible for further operations. I would like to restrict the necessity of MSO to just structural Case features. In other words, I would like to suggest that not every uninterpretable feature triggers Spell-out. Only Case features do. That is, I would like to suggest that there is a difference between uninterpretable Case features and other uninterpretable features such as person and number features on predicates: checking Case features triggers Spell-out but checking other uninterpretable features does not.

This is not a complete stipulation. It can be linked to a difference that we find between Case and other uninterpretable features such as agreement features. Whereas agreement feature are uninterpretable in the predicate and interpretable in the NP, Case features are uninterpretable for both the Case-assigning head and the Case-assigned NP. Thus, if an uninterpretable agreement feature is deleted in the agreeing head, that feature is still recoverable from the agreeing feature in the NP. The deleted uninterpretable agreement feature can be recovered from the structure since it is still present in the NP. Therefore, early application of Spell-out is not needed.¹¹ Remember that I am assuming

(i) Juan vive en una casa azul Juan lives in a house blue

¹¹ A case under consideration would be the agreement relation between a noun and an adjective in languages with richer nominal agreement than English, like Spanish. Thus, in (i), even though *casa* 'house' and *azul* 'blue' agree in both gender and number. The number feature is interpretable in the noun but not in adjective, so after checking the number feature is erased on the adjective but not on the noun. Thus the computational system still has a way of determining the number feature of *azul* because of the fact that the number of *casa* is interpretable and remains after checking.

Chomsky's idea that the motivation for early Spell-out is to guarantee that deleted uninterpretable features are still available to the PF component. However, if a Case feature is deleted, then there is no way that the Case feature can be recovered because it is uninterpretable in both the assigning and the assigned elements: it has been deleted from both. Thus, in order to make the Case feature available to the PF component, the syntactic object needs to be sent to PF "before it is too late."

(37) Proposal: Spell-out is triggered by Case checking operations and at the root.

For every purpose, this proposal is not different from the proposal in Chomsky (1999), since there it is assumed that MSO is triggered at what Chomsky calls strong phases which are CP and transitive vP, which would correspond to nominative and accusative Case checking (under certain assumptions).

Let's see how my proposal works with slightly more complicated examples. The way I will present the derivations is the following: in the left hand column I will have the history of the derivation. Each line will represent the stage in the derivation after one or more items have been inserted or moved. Square brackets in the left-hand column represent Spell-out points triggered by Case assignment. In the right hand column, the different outcomes of the different applications of Spell-out appear.

Consider the following sentence, whose derivation follows it.¹²

(38) John thinks that Peter left

^{&#}x27;Juan live in a blue house'

¹² Quite generally, I will abstract away from head movement, since it could be possible that head movement is not a syntactic phenomenon, as proposed in Boeckx and Stjepanovi \Box (2001).

(39)	leave		
. ,	leave Peter		
	past leave Peter		
	[Peter past leave]	\rightarrow	Peter left
	that Peter past leave		
	think that Peter past leave		
	pres John think that Peter past leave		
	[John pres think that Peter past leave]	\rightarrow	John thinks that Peter left

Since movement of both *John* and *Peter* (from the VP internal position to Spec, IP position) does not leave a trace, the derivation of this sentence is straightforward and unproblematic. The different lexical items are successively added to the structure. When the two Spec, IP positions are reached, nominative Case assignment triggers PF Spell-out. The result of the two operations of Spell-out appears in the right-hand column: they are *Peter left* and *John thinks that Peter left*. As can be easily verified, *Peter left* can be combined with *John thinks that Peter left*, because the former is a contiguous subpart of the latter, in accordance with the Matching Principle.

Now, consider an example that features long distance wh-movement.

(40)	Guess who I thought that Mary kissed		
(41)	kiss		
	[kiss who]	\rightarrow	kiss who
	Mary kiss who		
	past Mary kiss who		
	[Mary past kiss who]	\rightarrow	Mary kissed who
	that Mary past kiss who		
	who that Mary past kiss who		
	[think who that Mary past kiss who]	(→	think who that Mary kissed who) ¹³
pa	ast I think who that Mary past kiss who		
[I p	ast think who that Mary past kiss who]	\rightarrow	I thought who that Mary kissed who
[who	I past think who that Mary past kiss who]	\rightarrow r	who I thought who that Mary kissed who

¹³ The existence of this PF outcome depends on whether embedded finite clauses are assigned case or not.

I assume that wh-movement takes place successive cyclically. After all the PF representations are combined/collapsed, the procedure that determines which copy should be pronounced will chose the highest one (probably along the lines of Nunes (1995)).

2.4 The Matching Principle and the locality conditions on A-movement

In this section, I show how the combination of the Matching Principle in (36), the proposal that Case checking triggers PF-Spell-out, and that A-movement leaves no trace, can derive the locality conditions on A-movement.

2.4.1 A-movement from a Case position

1 0

(10)

ФТ 1

Earlier we saw that many of the proposals regarding the locality conditions on Amovement are designed so A-movement from a case position is not possible (see (30)). In what follows I will show that the proposal that I am making can explain the impossibility of A-movement without any special stipulation. Consider (43), the derivation of (42), a typical instance of movement from a Case position to another Case position.

		*Jonn seems len	(42)
		leave	(43)
		leave John	
		past leave John	
John left (a)	\rightarrow	[John past leave]	
		seem John past leave	
		pres seem John past leave	
John seems left (b)	\rightarrow	[John pres seem past leave]	

Since two structural cases are being assigned in (43), we obtain two PF outcomes: (43)a and (43)b. As can be easily seen, the different outputs of Spell-out cannot be combined in accordance with the Matching Principle, since the sequence *John left* is present in the first PF outcome but not in the final outcome. Because of the failure to

combine the PF outcomes, the sentence is ruled out. Thus the Matching Principle explains why there is no movement from a Case position to another Case position without postulating any additional constraints such as Greed or the proposals in (30).

It could be argued that what is wrong with (42) is that *John* is being assigned two cases, and that its ungrammaticality has nothing to do with A-movement itself, but with the impossibility of assigning two nominative Cases to the same NP. However, there are examples in which that interfering factor is not present. Thus consider the following sentences:

(44)	a.	*Peter challenged the belief [to seem [John, is ill]]
		(cf. Peter challenged the belief that it seems that John is ill or Peter
		challenged the belief that John seems to be ill)
	-	

- b. *Peter challenged the belief [it to seem [John, is ill]]
- c. *Peter challenged the belief [John, to seem [t_i is ill]]

The sentence in (44)a is ill-formed because the sentential complement of *belief* lacks a subject. In other words, there is a violation of the EPP. Insertion of an expletive would not remedy its ungrammaticality because then the expletive would lack Case, as in (44)b. Finally, and crucially for the present discussion, raising of *John* from the embedded subject position (which is case-marked), to the higher subject position, does not remedy the ungrammaticality of the sentence. Note that in (44)c, as opposed to the situation in (42), *John* is not being assigned nominative Case twice. The ungrammaticality of (44)c was one of the strongest arguments for something like Greed, since the only constraint that is being violated is the impossibility of having A-movement from a Case-marked position. The only thing that seems to be going wrong in (44)c is that movement of *John* does not result in satisfaction of any morphological property of *John* itself.

Importantly, the Matching Principle can rule out (44)c. Consider some steps of its

derivation.

(45) [John is ill] \rightarrow John is ill (a) to seem John is ill pres seem John is ill John pres seem is ill the belief John pres seem is ill [challenge the belief John pres seem is ill] \rightarrow challenge the belief John to seem is ill(b) [Peter past challenge the belief John pres seem is ill] \rightarrow Peter challenged the belief John to seem is ill(c)

Importantly, (45)a and (45)b cannot be combined because (45)a is not a contiguous subpart of (45)b, as required by the Matching Principle. This is so because John occupies different positions in (45)a and (45)b.

2.4.2 Superraising

Consider the following sentence, a typical instance of superraising.

(46) *John seems that it was told that IP

Sentences like (46) are the type of examples that have been used to show that Amovement is subject to some Relativized Minimality constraint since Rizzi (1990): John cannot raise to matrix subject position because of the intervening presence of it. (See also Chomsky (1995b:295ff), where the example is taken from.)

Vuki (1998) proposed an analysis of (46) that does not rely on the intervention effects of *it*. Vuki (1998) proposed to rule out this kind of example with his Late Expletive Insertion Principle. According to Vuki, *it*-insertion is a last resort operation that takes place when other alternatives are not possible. Thus, (46) would be ruled out as a violation of Late Expletive Insertion Principle, since in the embedded clause it was inserted when another alternative was possible, namely, the raising of John.

My proposal regarding Spell-out can easily explain the ungrammaticality of (46) without using any type of Relativized Minimality constraint or Vuki□'s Late Expletive Insertion principle. Under my proposal, the derivation of (46) appears in (47).

(47)	that	
	told John that	
	was told John that	
	[it was told John that]	\rightarrow it was told John that (a)
	that it was told John that	
	seem that it was told John that	
	pres seem that it was told John that	
	[John pres seem that it was told that]	\rightarrow John seems that it was told that (b)

If we consider the different PF outcomes in (47), we can see that they cannot be combined in accordance with (36) because *it was told John that* ... is not a contiguous subpart of *John seems that it was told that* Therefore, the derivation is ruled out.

2.4.3 Improper movement

In the previous section I ruled out the derivation of (46) in which John moves directly form its thematic position to the matrix subject position. However, there is an alternative derivation in which John first moves to the intermediate Spec, CP. Crucially, since this movement is an instance of A-bar movement, a copy of John is left in the thematic position. Thus, the improper movement derivation of (46) would be:

(48)	that P		
	told John that IP		
	was told John that IP		
	[it was told John that IP]	\rightarrow	it was told John that IP (a)
se	em John that it was told John that IP		
pres se	em John that it was told John that IP		
[John pr	es seem that it was told John that IP]	→John seer	ns that it was told John that \dots (b)

Importantly, this derivation cannot be ruled out by the Matching principle since (48)a is a contiguous subpart of (48)b. Nevertheless, I think that the derivation in (48) can

be ruled out on independent grounds, if we take seriously Lasnik's proposal that Amovement leaves no trace. If A-movement leaves no trace, we can conclude that Achains are not legitimate elements in the grammar. Therefore, if by any chance the computational system ends up having to deal with something that has the properties of an A-chain, it seems reasonable to suppose that the derivation is going to be ruled out.

A technical way of implementing this idea would be to say that the representation in (48)b violates the inclusiveness condition because there are two *John*'s when in the initial numeration there was only one. Note that the lower *John* cannot be considered a copy of the upper *John* because they don't form a chain. And they cannot form a chain because the only possible chain that they could form would be an A-chain and A-chains by assumption do not exist.

Another possibility would be to simply say that there is a Condition C violation. the lower copy of *John*, a referential expression, is A-bound by the higher copy of *John*. This was essentially the BT solution proposed in May (1979), to rule out this type of derivation.¹⁴

Alternatively, it could be assumed that IPs are not Spell-out points, and that the spell-out point triggered by nominative case assignment is postponed until the CP level (following Chomsky's proposal that CP but not IP is a phase). If so, the derivation of (46) would be the following.

¹⁴ This type of solution would require that in those cases where the improperly raised subject is not an Rexpression, but a pronoun or an anaphor as in the examples in (i)-(ii), the trace left by the pronoun or anaphor is also an R-expression. However, Barss (1986) has shown that traces cannot have binding features based on the grammaticality of examples like (iii). If the trace if *himself* were to be considered to be subject to condition C of binding theory we would expect (iii) to be ungrammatical, contrary to facts:

⁽i) He seems $[_{CP} t$ that $[_{IP}$ it was told t that Mary was sick]]

⁽ii) John believes himself to have been proved $[_{CP} t$ that $[_{IP} it was told t that Mary was sick]]$

⁽iii) Himself_i John_i likes t_i

(49)	that	
	told John that	
	was told John that	
	it was told John that	
	[John that it was told John that]	$(\rightarrow$ John that it was told John that)(a)
	seem John that it was told John that	
pre	s seem John that it was told John that	
[Joh	n pres seem that it was told John that]	\rightarrow John seems that it was told John that(b)

The derivation in (49) would be ruled out by the Matching principle in (36) because (49)a is not a contiguous subpart of (49)b. However, this proposal would be a departure form what I consider the principal motivation for MSO: Spell-out is triggered by case checking operations, and for this reason, I will put it aside.¹⁵

2.4.4 Raising over the experiencer

I have shown how my proposal can rule out some ungrammatical cases of raising to subject. Now I will show how my proposal can provide a good derivation for a grammatical instance of raising to subject. A grammatical example appears in (50) and its derivation appears in (51).

(50)	John seems to have left.		
(51)	left John		
	have left John		
	to have left John		
	John to have left		
	seem John to have left		
	pres seem John to have left		
	[John pres seem to have left]	\rightarrow	John seems to have left

The crucial point in this derivation for my purposes is that since there is no case assignment in the subject position of the embedded clause, Spell-out is not triggered at

¹⁵ Takahashi (1994:109-114) offers another possibility of ruling out the improper movement derivation that seems to be compatible with the assumptions in this dissertation. The crucial feature in Takahashi's proposal is that the improper movement derivation requires more applications of Form Chain. The reader is referred to Takahashi's work for more details.

the level of the embedded infinitival. The only Case assignment process that takes place in the derivation in (51) is for the subject of the matrix clause. So, there is going to be only one PF outcome. The Matching Principle in (36) is satisfied trivially because there aren't several PF outcomes to be combined.

So, I have just shown how raising constructions are accounted for under my proposal. The examples that I have looked at, there is no intervening element between the embedded subject position and the matrix subject position. However, this is not the case in all cases of raising to subject. In some other cases the subject raises over an experiencer complement. In fact, in recent years constructions where the subject raises over the experiencer have been the object of much discussion. See for instance Chomsky (1995b), Kitahara (1997), McGinnis (1998), Boeckx (1999), among others.

The problem is the following. Consider the following sentence.

(52) *They seem to him_i to like John_i

As pointed out by Chomsky (1995b:304) and Pesetsky (1995:105) among others, the ungrammaticality of this sentence is easily accounted for if the experiencer *him* ccommands the contents of the embedded clause. Further evidence that the experiencer ccommands into the embedded clause comes from the following examples from McGinnis (1998:201).

(53) a. Mary seemed to everybody_i to like him_i

b. Mary seemed to no one; to like him; very much

If the experiencer c-commands into the embedded clause, under the standard assumption that A-movement is subject to the Minimal Link Condition, it is expected that

the experiencer should block raising to subject. However this expectation is not fulfilled, since raising over the experiencer is possible:

(54) John seems to me to have left

Chomsky (1995b) notes the problem and leaves it unresolved. Chomsky (1995b:304-305) considers the representation in (55), and claims that the expectation is that the presence of *him* should block movement of *they*.

(55) _____ seem [to him] [they to like John]

Chomsky claims that "The status of the English constructions still remains unexplained." (p. 306), but that other languages behave as expected. One of those languages is supposed to be Spanish. However, in the next chapter it will be shown that the claim that the experiencer blocks raising to subject in Spanish is not accurate.

There have been several attempts to resolve what some people call the experiencer paradox. One class of solutions to this paradox claims that the experiencer only c-commands the embedded infinitival after raising to subject has taken place. For instance, Stepanov (to appear) attributes this state of affairs to his proposal that experiencers are inserted late (acyclically). Similarly, Kitahara (1997) claims that the experiencer only c-commands the embedded infinitival after the pronoun adjoins to the PP that dominates it, at LF (after raising to subject has already taken place).¹⁶

The other class of solutions claims that the experiencer does not block movement because for some reason the experiencer itself cannot undergo raising. For instance, Chomsky (2000) claims that the experiencer is assigned inherent case and that inherently

¹⁶ As Boeckx (1999) points out, under the assumption that binding relations are established as the derivation proceeds, the fact that sentences like *Pictures of himself seem to John to be ugly* are good, seems

case marked DP do not block NP movement. Boeckx (1999), on the other hand, claims that the presence of the preposition prevents the experiencer from qualifying as a possible candidate for raising to subject. (See also McGinnis (1998).)

Under the present approach to the locality conditions on A-movement the experiencer paradox does not arise since A-movement is not claimed to be subject to the Minimal Link condition. Therefore none of the proposals that have been made to explain why raising over the experiencer is possible are needed. The question is how to explain the facts that have been explained by means of the MLC. In the next chapter I consider the Spanish case, and show that contrary to the standard assumptions, the presence of the experiencer does not block raising to subject in Spanish, as expected under the present proposal that MLC does not constraint A-movement.¹⁷

However, under my proposal, raising over the experiencer is problematic in a different way. If we assume that Case-assignment of the experiencer triggers Spell-out of the entire syntactic object, we wouldn't expect raising over the experiencer to be possible. The unwanted derivation for (54) appears in (56).

(56)	left John		
	have left John		
	to have left John		
	John to have left		
	[seem to me John to have left]	\rightarrow	seem to me John to have left (a)
	pres seem to me John to have left		.,
	John pres seem to me to have left	\rightarrow	John seems to me to have left (b)
			•

to indicate that the experiencer binds under the embedded infinitival even before raising to subject takes place.

¹⁷ However, Spanish is not the only language where it has been claimed that the experiencer blocks raising to subject. I postpone for future research an investigation of those languages, with the hope that an alternative explanation could be found, in the same way that it was found for the Spanish cases.

The Matching Principle would ruled out this derivation because (56)a is not a contiguous subpart of (56)b. However, the underlying assumption in a derivation like (56) is that the experiencer is assigned case after it is merged with the rest of the structure. Note however, that this does not need to be true. In fact, it seems more reasonable to assume that the experiencer is assigned case when it is merged with the preposition, before the whole PP is merged with *seem*. In other words, since in (54) the preposition *to* assigns Case to the pronoun *me*, Spell-out is going to be triggered when *to* and *me* are merged. If so, the correct derivation of (54), would be the following:

(57)	[to me]	\rightarrow	to me (a)
	left John		
	have left John		
	to have left John		
	John to have left		
	to me John to have left		
	seem to me John to have left		
	pres seem to me John to have left		
	John pres seem to me to have left	\rightarrow	John seems to me to have left (b)

To me and John to have left are merged in parallel derivations. Case assignment of me by to triggers PF Spell-out. The result of this application of Spell-out is the PF outcome to me. At some point to me enters the bigger syntactic object. However, at that point no Spell-out is triggered because no Case assignment has taken place at that point. When the Strong Infl is inserted, John moves to the matrix position, and nominative Case is checked. Crucially the two PF outcomes in (57) can be combined in accordance with the Matching Principle.¹⁸

¹⁸ Alternatively, it could be proposed that inherent Case assignment does not trigger Spell-out. Note that this would not be a complete stipulation if the reasoning regarding the motivation for multiple spell-out mentioned earlier is on the right track. Since inherent Case is linked to an interpretable property (namely, a θ -role, or a θ -feature in some proposals), even if inherent Case is erased after checking, the syntactic object

2.4.5 Burzio's generalization

Since Burzio (1986) it has been common to link structural Case assignment to the object with θ -role assignment to the subject. A clear instance of this line of reasoning is Chomsky (1995b), Chomsky (2000) where it is proposed that the same functional category that assigns accusative Case to the object assigns a θ -role to the subject. Interestingly, my proposal can explain most of the facts covered by Burzio's generalization. Burzio's generalization appears in (58) and its effects in (59).¹⁹

- (58) a. All and only the verbs that can assign a θ-role to the subject can assign (accusative) Case to an object (Burzio (1986:§3.1))
 - b. $-\theta_s \rightarrow -A$ (Burzio (1986:179))
 - c. $-A \rightarrow -\theta_s$ (Burzio (1986:184))
- (59) a. $[Subject + \theta role] V [Object + Accusative Case] OK$
 - b. [Subject -θ-role] V [Object + Accusative Case] *
 - c. $[Subject + \theta role] V [Object Accusative Case] *$
 - d. $[Subject \theta role] V [Object Accusative Case] OK$

The situations that we want to rule out are (59)b and (59)c. Under my proposal

both configurations are ruled out. (59)b represents a situation in which there are two

structural Cases to be assigned (accusative and nominative) but only one argument. If

movement from the object position to the matrix position takes place, nothing additional

does not need to be sent off to the PF component to prevent the loss of the information regarding the Inherent Case because the erased Case feature is still recoverable from the structure. A simpler way of saying this, would be that inherent Case is interpretable and does not erase after checking. Again, spell-out would not be needed. Further evidence for the possibility suggested in this footnote is the fact that in certain languages, inherently case marked NP's can move to Structurally case marked positions, as illustrated in the following German examples. This is expected if inherent case assignment does not trigger Spell-out.

- (i) a.
- Sie hilft ihm She helps him-DAT
- b. *Er wird geholfen
 - He-NOM is helped
- b. Ihm wird geholfen He-DAT is helped

needs to be said to rule out this derivation since this derivation is ruled out as a special case of the constraint against A-movement from a Case marked position. In other words, (59)b is ruled out in the same way that movement from a Case marked position to another Case marked position is, without any additional stipulation. If movement from the object position to the subject position does not take place, then the strong feature of Infl would not be checked.

Thus, let's assume that ARRIVE is like English *arrive* but but differs from English *arrive* in that it assigns Accusative case to its only, internal argument. This would be a violation of Burzio's generalization that would fall under (59)b. Imagine we pick a numeration that includes: *ARRIVE*, *John* and Infl. The following are the two possible outcomes:

The outcome in (60)a is ruled out as other instances of A-movement from a Case position, since *John* is moving form the Case marked object position of *ARRIVES* to the matrix subject position where it is assigned nominative Case (60)b is ruled out as violation of the EPP since the strong feature of Infl has not been checked.²⁰

¹⁹ Belletti (1988:fn.9) restricts Burzio's generalization to structural Case. In that way, her analysis of existential sentences (where the associate receives partitive Case) is compatible with Burzio's generalization. I will follow Belletti's assumption.

 ²⁰ As pointed out by William Snyder and Howard Lasnik, there is a problem here, though, since it could be possible to insert an expletive to satisfy the requirement that every clause has a subject, as in (i).
 (i) It ARRIVED John

This sentence is ruled out under Burzio's generalization, since no theta role is assigned to the subject position but still accusative Case is assigned to the object. However, (i) is not ruled out under the proposals in this dissertation. I would like to suggest that there is nothing wrong syntactically with (i). The impossibility of (i) is due, I would like to propose, to a gap in the lexical paradigm. Such a lexical item would require that it always appeared with an expletive, which in some intuitive sense, seems unappealing, and would be the only case since even for weather verbs it has been proposed that the expletive is some type a argument to which it is assigned a quasi theta role, as in Chomsky (1981). Burzio's generalization

The situation that we find in (59)c is that there are two arguments but only one case to assign. Under my proposal nothing special needs to be said to rule out this configuration. When the subject is assigned its Case, the whole syntactic object is spelled out, including the object. This would automatically trap the object in its Case-less position. The object won't be able to undergo A-movement because A-movement would not leave a trace and the next PF representations would not match the one created by the Spell-out triggered by the Case assignment of the subject.

It is important to note that in order for my proposal to work it is necessary to adopt a VP structure in which the subject is assigned a θ -role in a position higher than the position where the object is assigned structural Case. One such proposal would be the sentence structure proposed in Koizumi (1993), Koizumi (1995), where the object is assigned Case in the specifier position of an AgrOP that is the complement of the VP in which the subject is assigned a θ -role. See Lasnik (1999b) for more empirical evidence for such a structure.

(61) [AgrSP Subject [VP tSubject [AgrOP Object [VP tObject [V]]]]]

2.4.6 Control sentences

Under the present proposal, the locality conditions on A-movement are related to Case checking and early applications of Spell-out. A question that arises is what happens in control infinitivals. In order to answer this question we need to determine what the case properties of the subject of infinitival clauses are, and whether the embedded infinitival complement needs to be spelled out early or not. If we assume, following the

groups together the unavailability of (i) and other facts. I would like to suggest that the non-existence of (i)

proposal made in Chomsky (1981), that PRO is not assigned Case, then there is no reason for spelling out control infinitivals early. Even if we assume that PRO is assigned null Case (as proposed in Chomsky and Lasnik (1993)) it is not clear that the infinitival complements needs to be spelled out early. Since null Case is always assigned to a phonetically null element, namely PRO, there does not seem to be a reason why it should trigger Spell-out.²¹ However, if control infinitivals are not spelled out early then we seem to allow A-movement out of control infinitivals as in the following example, courtesy of Klaus Abels:

(62) *The time is illegal [PRO to ask _]

Since the only structural case being assigned in this sentence is the nominative Case of the matrix clause, no Matching Principle violation can occur since there is only one PF outcome. That is, there are no two PF outcomes whose combination could violate the Matching Principle. As of now, I don't have an explanation for sentences like this one. Before postponing this issue for further research I would like to point out that the possibility of having A-movement out of infinitivals could leave the door open for an Amovement account of *easy-to-please* constructions, such as the one proposed by Boeckx (2000b). In Boeckx' proposal there is not actual movement out of control infinitival since he does not consider the complement of the adjective to bean IP but just a VP. Thus, Boeckx argues that in order to obtain the following sentence:

(63) Mary is pretty to look at

would be the residue of Burzio's generalization, all other facts being derived from the proposal made in this chapter.

 $^{^{21}}$ In chapter 4 I will show that if we assume that control infinitivals are not spelled out early, a natural account of the *wanna* contraction facts is available.

Mary undergoes A-movement from the object position of *look at* to the matrix subject position. Boeckx argues that such a movement is possible because to look at is a VP, not an IP. Under the present proposal, Boeckx' analysis could still be kept even if the complement of *pretty* in examples like the previous one has more structure than just a VP.

2.4.7 A problematic derivation

William Snyder (p.c.) brought to my attention certain challenging examples for the Matching Principle approach to the locality conditions on movement. Imagine that there is a language which is like English but with the peculiarity that subjects can appear pre-verbally or post-verbally. Let's call this language ENGLISH. Now consider the following derivation of ENGLISH.

(64) [John left] \rightarrow John left seems John left \rightarrow seems John [____ left] \rightarrow seems John left

This derivation features A-movement from a Case marked position: two nominative Cases are being checked: one in the embedded sentence, the other in the matrix sentence. The subject appears pre-verbally in the first PF outcome and postverbally in the second PF-outcome. Crucially, this derivation is not ruled out be the Matching Principle because the first PF outcome is a contiguous subpart of the second PF-outcome. This is most probably an undesirable result because it is not likely that we will find a natural language like ENGLISH.

Nevertheless, I think that an independent reason for the ill-formedness of the previous derivation exists. If in ENGLISH subjects can be preverbal or postverbal, there

might be factors that favor one position or the other, say discourse relevance. However, the illegitimate derivation would require that a given subject qualify to be both preverbal and postverbal, which seems contradictory.

2.5 Conclusion

In this section I have shown how a combination of the MSO proposal and the idea that A-movement does not leave traces can explain the locality conditions on movement. One of the characteristics of my proposal is that A-movement is not subject to the Minimal Link Condition. I have shown that those cases that are normally excluded by the MLC receive a straightforward explanation under the present proposal.²²

Exempting A-movement from the MLC seems empirically a good move for at least two empirical reasons. First, as I have pointed out earlier, the experiencer paradox is not a paradox anymore. Raising over the experiencer is a problem if we assume that Amovement is subject to the MLC. However, if A-movement is not subject to the MLC, raising over the experiencer is not surprising anymore. Second, consider the following contrast:

(65) a. *John seems that it was told that Peter was sick

b. ?What do you wonder how to fix?

In these two sentences the MLC is violated. However, the a sentence is much worse. Under those accounts that claim that A-movement, along with A-bar movement is

²² It is well-known that the locality conditions between *there* and its associate in existential constructions are similar to the locality conditions that constrain A-movement. This receives a straightforward account under the current proposal if *there*-constructions are the result of overt movement of an element that is inserted next to (or is part of) the associate. (See Blight (1998), Ausín (1998), Waller (1997), Sanchez-Lefebvre (1999) and Sabel (2001)). Thus, Waller proposes that the expletive is generated next to the associate and raised to subject position. If so, the locality condition on the *there*-associate relation would be explained under the current proposal, since the relation between an expletive and its associate would be reduced to A-movement, since the expletive would be undergoing A-movement.

constrained by the MLC, in order to explain why (65)a is a lot worse than (65)b is has to be added an additional constraint, which would be violated by (65)a but not by (65)b. Under the proposal in this chapter, the contrast between the two sentences in (65) receives a straightforward explanation since the constraints violated in these sentence are different: the Matching principle ((36)) in (65)a and the MLC in (65)b.²³

An interesting question that arises is why A-movement should not be subject to the MLC. \Box eljko Boškovi \Box (p.c.) suggests an interesting answer. If we assume a representational approach to the MLC (such as Rizzi's original formulation), or the MLC is checked at certain points in the derivation as in Chomsky (2000), then there is an straightforward explanation for why A-movement is not subject to the MLC. If traces do not exists, then A-chains do not exist either. On the other hand, if the MLC is representational, that is, if the MLC makes sure that there are no intervening elements between the different elements of a chain, then the MLC will not apply to the A-chain, because A-chains by assumption do not exist.²⁴

 $^{^{23}}$ As pointed out by Howard Lasnik (p.c.) it could be the case that in both (65)a and (65)b there is a violation of the MLC, but that in (65)a there is an additional violation. If this were the case, then we would have to determine what the additional principle that is being violated is. Under the present proposal it is not necessary to search for that additional principle since (65)a and (65)b are explained in a completely different way.

²⁴ In Rizzi (1986) there is an argument for the representational view on the locality conditions on movement which relies on A-chain. In chapter 7 I will show that a derivational approach to some of the original facts discussed by Rizzi is available.

Chapter 3: Raising over the experiencer in Spanish²⁵

3.1 Introduction

In this chapter I will address the claim that raising to subject in Spanish is blocked by the presence of the experiencer. Standardly it is assumed that in Spanish the presence of the experiencer is incompatible with raising to subject, and a common explanation is that the experiencer blocks raising to subject, since, it is assumed, raising to subject is subject to the MLC. In the previous chapter, I have argued that A-movement is not subject to MLC. Thus it seems necessary to find an alternative explanation for the Spanish cases.²⁶

In this chapter I reanalyze the Spanish data, and show that in some cases raising is in fact possible across an experiencer. In order to account for the ungrammatical cases, where the experiencer appears to block movement, I propose to rule them out by other means. My explanation is based on the existence of two types of the verb *parecer* ('to seem') and on the proposal that Spanish does not have defective tense. By defective tense I mean [-Tense, -Finite], following the typology of infinitival complements developed in Martin (1996) and Boškovi (1997b).

²⁵ This chapter stems from joint work with Marcela Depiante. Parts of this chapter were originally published as Ausín and Depiante (2000). ²⁶ Spanish is part the part of the state of

 $^{^{26}}$ Spanish is not the only language where it is claimed that the presence of the experiencer interferes with raising to subject (see, for instance, McGinnis (1998)). In this dissertation, I will only be concerned with the Spanish case.

3.2 Some baseline data and two analysis by Torrego

Torrego (1996) and Torrego (1998) addresses the problem of raising over the experiencer and claim that contrary to what happens in English (see 2.4.4), Spanish experiencers block raising as shown in (66).

(66)	a.	*Juan me parece amar a María
		Juan to-me seems to love María
		'Juan seems to me to love María'
	b.	Juan parece amar a María
		Juan seems to-love to María
		'Juan seems to love María'
	C.	Me parece que Juan ama a María
		to-me-seems that Juan loves to María
		'It seems to me that Juan loves María'

In this section I will review Torrego's analyses of the raising facts in both English

and Spanish.

Torrego (1996) proposes that there exists a requirement on the dative clitic in these constructions that demands the clitic to be associated with an expletive pronoun in subject position. The structure for the Spanish sentence (66)a is given in (67), with the dative clitic heading an inflectional projection separating V from IP and the experiencer adjoined to the lower clause. See Torrego (1996:108).²⁷

²⁷ With Torrego (1996) among others, we will assume that when the only realization of the experiencer is the clitic, there is actually a null "doubled" DP in argumental position.



According to Torrego (1996), the derivation in Spanish proceeds as follows: the clitic *me* raises to Infl. Given the requirement on the clitic (that it MUST be associated with an expletive pronoun prior to LF), the subject position of the matrix clause will be occupied by an expletive pronoun. Therefore, the subject of the lower infinitival will not be able to move to that position. In other words, for Torrego (1996), due to the presence of the expletive pronoun in subject position, the embedded subject cannot raise. Note that even under this proposal the ungrammatical cases with raising to subject and experiencers are not ruled out as MLC violations.

The ungrammaticality of (66)a then, is due to the fact that the requirement on the dative clitic is not satisfied (since the subject position of the matrix clause is not occupied by an expletive pronoun but by the subject of the infinitival clause). The requirement on the clitic is important and crucial to rule out sentences like (66)a, because in Spanish the experiencer must always appear doubled by a dative clitic, and cannot appear by itself as shown in (68) below.

(68) *(Me) parece a mi que Ana está enojada

To-me seems to me that Ana is upset 'It seems to me that Ana is upset'

If a language does not have the requirement to double an experiencer with a clitic, then raising to subject position will be possible, as in English.²⁸

Torrego (1998) offers a different account of the contrast between English and Spanish. Torrego's (1998) account for the ungrammaticality of (66)a is based on a proposal about the actual structural position of the experiencer, and not on a requirement on the clitic per se. She proposes the structure in (69) for Spanish.



Given that *seem* is an unaccusative verb, no v will be present in the structure (following Chomsky (1995b)). She introduces what she calls p projection that merges with V in the Spanish examples with *parecer*. (In a similar way as v merges with V in transitive examples in English, or Spanish). The p projection contains the clitic which checks the structural case of the lexical dative, in its specifier.

In the structure in (69) the experiencer will block subject to subject raising in Spanish since it is closer to the matrix T than the infinitival subject. The MLC prohibits the matrix T from attracting the subject of the embedded infinitival clause.

Torrego's (1998) account for the grammaticality of the English examples such as (70), is based again on the structural position of the experiencer. She proposes that in English the experiencer merges directly with T'. In that position the experiencer will not block raising because matrix T will not c-command it. Therefore, the subject of the infinitival clause can be attracted without violating the MLC. The structure that Torrego (1998) proposes for raising constructions appears in (71).



There are two problematic aspects with the structure represented in (71). First, it seems to lack independent evidence. Second, it is not clear how the right word order is obtained. I am not claiming that it is not possible to come up with a way of obtaining the right word order from (71), I am claiming that in Torrego (1998) there is no explicit proposal about how to obtain the right word order from (71).

To summarize, Torrego has put forth two explanations for the differences between Spanish and English with respect to the possibility of raising over an experiencer which I summarize in (72).

²⁸ Torrego also notes in her 1996 paper that the presence of the experiencer could create a Relativized Minimality problem for raising to subject, but puts it aside.

- (72) a. Torrego (1996): dative clitics with *parecer* obligatorily demand an expletive pronoun in the subject position of the matrix clause, which blocks raising to subject position.
 - b. Torrego (1998): the experiencer occupies a different position in English and Spanish. In Spanish, the experiencer (together with the clitic) merges with V. In English the experiencer merges directly with T'. This explains why subject to raising is blocked by the experiencer in Spanish but not in English.

3.3 Does the experiencer c-command in Spanish

Implicit in Torrego's discussion is the claim that the experiencer c-commands the

complement of parecer. For English, it has been shown that the experiencer c-commands

into the embedded clause (see 2.4.4). Here I will show that the same is true in Spanish.

Some relevant examples appear in (73) and (74).

- (73) *El director le, parece [dispuesto a hablar con el profesor de Juan,] the principal to-him seems willing to talk with the teacher of Juan 'The principal seems to him willing to talk with Juan's teacher'
- (74) a. El director no le parece [a ningún studiante]_i [dispuesto a hablar con su_i profesor] the principal not to-him seems to no student willing to talk with his teacher 'The principal doesn't seem to anybody willing to talk to his teacher'
 - b. El director le parece [a todo el mundo], [dispuesto a hablar con el profesor de su, hijo] the principal to-him seems to all the world willing to talk with the teacher of his child 'The principal seems to everybody willing to talk to his child's teacher'

The ungrammaticality of (73) is easily explained as a Condition C violation (the sentence is grammatical if the experiencer and *Juan* are not coreferential). This shows that the experiencer in (73) is c-commanding the complement of *parecer* (*dispuesto a hablar con el profesor de Juan* 'willing to talk with Juan's teacher'). The sentences in (74) show that a quantifier in the experiencer position can bind into the complement of *parecer*. The negative quantifier in (74)a and the universal quantifier in (74)b can bind the pronoun *su* within the complement of *parecer*, indicating again that the experiencer c-commands into *parecer*'s complement.

Additional evidence for the idea that the experiencer c-commands into the

complement of parecer comes from wh-superiority effects. As is well-known since

Chomsky (1973), wh-movement is subject to the superiority. As illustrated in (75), a wh-

word (in this case, what) cannot move over a c-commanding wh-word (in this case, who).

Chomsky's original superiority condition appears in (76).

- (75) a. John knows who saw what
 - b. John knows what who saw Chomsky (1973:245)
- (76) Chomsky (1973:246): Superiority condition: No rule can involve X, Y in the structure: ... X ... [α ... Z ... -WYZ...] ... where the rule applies ambiguously to Z and Y and Z is superior to Y (The category A is superior to the category B in the phrase maker if every major category dominating A dominates B as well but not conversely.)

The examples in (77) (from Boškovi (1997a)) and (78) shows that Spanish also

shows Superiority effects. The stage of the derivation of (78) before wh-movement

appears in (79).

(77)	?*Qué, dijo quién que Juan compra t _i ?
	what said who that Juan bought
	'What did who say that Juan bought?'
	(cf. Qué dijo Javier que Juan compra?) Boškovi□ (1997a:17)
(78)	a. A quién le dijiste que habías leído qué libro?
	to who to-him told.you that had.you read what book
	'Who did you tell that you had read what book?'
	b. *Qué libro le dijiste a quién que habías leído?
	what book to-him told.you to who that had.you read
	'What book did you tell who that you had read?'
	c. Qué libro le dijiste a Pedro que habías leído?
	what book to-him told.you to Pedro that had.you read
	'Who did you tell Pedro that you had read?'
(79)	le dijiste a (quién/Pedro) que habías leído qué libro
```	to-him told.you to who/Pedro that had.you read what book

In (79), if the Indirect Object (IO) is a quién 'to who', the only good derivation is

the one in which a quién moves to Spec, CP (see the contrast between (78)a and (78)b).

Note that it is not the case that movement of qué libros is completely impossible. If in

(79), the IO is a non wh-word (say, Pedro), movement of qué libro to Spec, CP is allowed

as shown by the grammaticality of (78)c. So, it can be concluded that the

ungrammaticality of (78)b is due to a superiority violation. Note that if the first wh-word

precedes but does not c-command (is not superior, in Chomsky's terms) them movement

of the lower wh-phrase is allowed, as illustrated in (80) (although, admittedly, the

sentence is not perfect).

(80) ?Qué libro le dijiste al hermano de quién que habías leído?
 what book to-him told.you to the brother of who that had.you read
 'What book did you tell whose brother that you had read?

Now that I have shown that Spanish shows superiority effects that superiority

effects are directly related to c-command, I can go back to parecer and ask whether the

experiencer triggers superiority effects. It turns out that it does, as shown by the

following examples:

(81)	a.	A quién le parezco capaz de leer qué libro?			
		to who to-him seem. I able to read what book			
		'To whom do I seem able to read what book?'			
	b.	*Qué libro le parezco a quién capaz de leer?			
		what book to-him seem.I to who able to read			
		'What book do I seem to who able to read?'			
	C.	Qué libro le parezco a Juan capaz de leer?			
		what book to-him seem. I to Juan able to read			
		'What book do I seem to Juan able to read?'			
	d.	?Qué libro le parezco al hermano de quién capaz de leer?			
		what book to-him seem. I to-the brother of who able to read			
		'What book do I seem to whose brother able to read?'			

The contrast that I find between (81)a and (81)b mimics the one found in (78)a

and (78)b, and can be attributed to a superiority violation. Note that there is nothing

wrong with the extraction of qué libro out of the complement of parecer as shown by the

ungrammaticality of (81)c. Furthermore, the fact that (81)d is better than (81)b corroborates that the ungrammaticality of (81)b is due to a superiority violation. In (81)d, since *quién* is not c-commanding *qué libros*, *quién* is free to raise to the matrix subject position, without violating the superiority condition.

To sum up the preceding paragraphs, several considerations from binding theory, bound pronoun interpretation and wh-movement indicate that in constructions with *parecer* the experiencer c-commands the complement of *parecer*.

### 3.4 Some cases of raising over the experiencer

As mentioned earlier, according to Torrego, the examples in (66) show that the presence of the experiencer is incompatible with subject raising.

(66)	a.	*Juan me parece	amar	a	María
		Juan to-me-seems	to-love	to	María
		'Juan seems to me	to love	M	laría'

- b. Juan parece amar a María Juan seems to-love to María 'Juan seems to love María'
- Me parece que Juan ama a María to-me-seems that Juan loves to María 'It seems to me that Juan loves María'

However, as Torrego (1996) herself notes there are certain combinations of "NP

parecer+experiencer AP/NP" are grammatical, as shown in (82).

 (82) Este chico me parece inteligente This boy to-me-seems intelligent
 'This boys seems to me intelligent'

However, for Torrego (1996), the grammaticality of (82) does not show that

raising over the experiencer is possible, since she assumes that in cases like (82), we are

not dealing with a raising construction. According to Torrego (1996) in (82)a there is no

raising at all and the lack of raising is what explains the grammaticality of (82). The structure that she assigns to (82) is approximately the one that appears in (83).

(83) Este chico me [parece <1> [inteligente<1>]]

Following Higginbotham's method of theta-identification, Torrego claims that "the thematic positions in [*parece*] and [*inteligente*] are identified as shown [in (83)], giving rise to a single thematic grid for the predicate 'seem intelligent." (Torrego (1996:111)).²⁹

There are some reasons to doubt Torrego's analysis: First, it requires *parecer* to assign some kind of theta-role to the subject, and it is not obvious how this can happen since the only theta-role that *parecer* assigns, is assigned to the complement of *parecer*.

And second, Torrego's proposal leaves little room for the fact that the subject in constructions like (82) show some of the properties of being a derived subject. There is some evidence that at some point in the derivation the subject is c-commanded by the experiencer. Some of this evidence follows:

- (84) a. María se parece inteligente María hereself.seems intelligent
   'María seems to herself (to be) intelligent' (Torrego (1995:231))
  - b. *El amigo de Juan, le, pareció inteligente The friend of J. to-him seemed intelligent
  - c. El amigo de su_i madre le_i pareció inteligente [a todo el mundo]_i The friend of his mother to-him seemed intelligent to everybody

(i) a. María parece descalza

b. *María me parece descalza

²⁹ Torrego claims that this theta identification strategy is not available in sentences like (i) because Stage Level Predicates (like 'barefoot') have an event argument (Kratzer (1989)) and the existence of this event argument blocks complex predicate formation. She goes on to claim that "[b]oth the subject and the experiencer will be complements of the complex predicate."

^{&#}x27;María seems barefoot'

d. El amigo de su_i madre no le_i pareció inteligente a nadie_i The friend of his mother not to-him seemed intelligent to nobody

All of these examples seem to indicate that the subject at some point in the derivation is c-commanded by the experiencer, and thus seem to indicate that even instances of the type *parecer* + *Adjective*, raising over the experiencer has taken place. (See chapter 7 for an account of these facts, under the assumption that we are dealing with raising constructions.) Based on examples like this I will propose that in Spanish raising over the experiencer is possible, in violation of the MLC, adding one more piece of evidence that A-movement is not subject to the MLC. The structure that I will propose for an example like (82) is the following:³⁰

(85) [Este chico]_i me parece [ $_{sc}$  t_i inteligente]

Torrego (1996:105) presents two potential arguments against a raising analysis of parecer + Adjective constructions. First she notes that this type of constructions can be embedded under causative constructions, as in the following example:

(86) Las canas hacen parecer viejo (Torrego (1996:ex.17))
 Grey hair makes (people) seem old

This argument is not bullet proofed because as Torrego herself notes in her footnote 13 Spanish *parecer* is homophonous with *look like*, and it could be the case that in the previous examples we are dealing with 'look-like'-*parecer*.

The second argument that she presents is related the scope ambiguities. She claims that in (87)a but not in (87)b the quantificational subject can be interpreted under the scope of *parecer*.

^{&#}x27;María seems to me barefoot'

³⁰ Cuervo (2000) also rejects the raising analysis of *parecer* + *adjective* constructions. As in the case of Torrego's analysis, under Cuervo's analysis, the facts that appear in (84) are completely unexpected.

- (87) a. Poca gente parece leer mucho Few people seems to read alot
  - b. Poca gente parece feliz Few people seems happy

Following May's work (see Chapter 5 of this dissertation for further discussion of May's proposals), Torrego takes the lack of narrow scope reading of *poca gente* as an indication of lack of raising. I am not sure how representative the previous examples are, since other examples do not behave as expected by Torrego's description of the facts, it seems to me. Thus, for me it is very difficult to find a difference in the interpretation possibilities of the following two sentences:

- (88) a. Dos estudiantes parecen estar interesados en la Guerra Civil Española Two students seem to be interested in the war civil Spanish
   'Two students seem to be interested in the Spanish Civil War'
  - b. Dos estudiantes parecen interesados en la Guerra Civil Española Two students seem interested in the war civil Spanish 'Two students seem interested in the Spanish Civil War'

It seems to me that in both of these examples it is possible to interpret the

indefinite subject under the scope of *parecer*. Thus, both sentences equally are compatible with a situation in which there are no two particular student of which we are making a particular claim (namely, that they seem (to be) interested in the Spanish Civil War).

# 3.5 Deriving the experiencer blocking effects

However, if the subject can raise over the experiencer then we need to provide an independent account of those cases in which the presence of the experiencer is incompatible with raising to subject. First, I will address the type of examples mentioned

in footnote 29, and then I will address the standard examples that are used to argue for the idea that the experiencer blocks raising to subject in Spanish.

3.5.1 *NP + experiencer + parece + non infinitival complement

Torrego (1996) notes the contrast in (89).

- (89) a. María parece descalza
  'María seems barefoot'
  b. *María me parece descalza
  - 'María seems to me barefoot'

A possible account would be based on a MLC violation. (89)b would be ruled out because the subject has moved over the experiencer from the subject position of the embedded clause. However, we have seen that there are reasons to doubt that approach. In particular, if the experiencer blocks movement, then it is not clear how we can account for (82), repeated here

 (90) Este chico me parece inteligente (=(82)) This boy to-me-seems intelligent
 'This boys seems to me intelligent'

I would like to suggest a different account of the contrast that we find in (89)b and

(82), using a proposal made in Raposo and Uriagereka (1995).

Raposo and Uriagereka (1995) note that in Spanish different types of predicates

select different types of Small Clauses. In particular, perception verbs take only Stage

Level SC whereas opinion verbs take only Individual Level SC. This appears illustrated

in (92).

- (91) Raposo and Uriagereka (1995):
  - a. Perception verbs (notar ('to note')) only take Stage Level Small Clauses.
  - b. Opinion verbs (*considerar* ('to consider')) only take Individual Level Small Clauses.
- (92) a. Noté a María cansada/ *inteligente
noted.I to María tired / intelligent 'I perceived María tired / intelligent' Considero a María *cansada / inteligente

 b. Considero a María *cansada / inteligente consider. I to María tired / intelligent
 'I consider María tired / intelligent'

If this is the right generalization, the contrast between (82)a and (89)b could be explained by saying that *parecer* is ambiguous between a perception verb and an opinion verb, and that the presence of the experiencer forces the opinion interpretation. If so, (89)b would be ruled out because the presence of the experiencer requires *parecer* to be interpreted as an opinion verb and this is incompatible with the presence of a Stage Level SC such as the one headed by *descalza*.

Essentially I am adopting the proposals in Fernández-Leborans (1999:2443ff). Fernández-Leborans (1999) proposes that there two types of *parecer*. She claims that *parecer* can be used as a perception verb (*parecer-P*) or an opinion or cognition verb (*parecer-O*). Whereas *parecer-P* is compatible with both stage and individual predicates, *parecer-O* selects individual level predicates. Furthermore, she notes, that *parecer-O* requires the presence of the experiencer. As evidence for this, she offers the following contrasts.

(93)	a.	Ana me parece tímida
		'Ana seems (to me) to be shy'
	b.	¿Dices que Pedro te parece una buena persona?
		'Did you say that Pedro seems to you (to be) a good person?'
	C.	Luis nos parece serio and trabajador
		'Luis seems to us to be trust worthy and a good worker'
(94)	a.	*?Ana me parece enferma
		'Ana seems to me (to be) sick'
	b.	*María me parece enfadada
		'María seems to me (to be) upset'
	C.	*Antonio nos parece contento
		'Antonio seems to us (to be) happy'
		Fernández-Leborans (1999:2444)

These sentences show that when the experiencer is present (which requires

parecer-O), the predicate cannot be an individual level predicate (which requires

parecer-P).

3.5.2 *NP + experiencer + parece + infinitival complement

If raising over the experiencer is possible in general, then we have no explanation

for the initial facts that motivated the proposal that the experiencer in Spanish block

raising to subject. The examples appeared in (66) and are repeated below.

(95)	a.	*Juan me parece amar a María ((66))	*Juan me parece amar a María	((66))
		Juan to-me seems to love María	Juan to-me seems to love María	
		'Juan seems to me to love María'	'Juan seems to me to love María'	
	b.	Juan parece amar a María	Juan parece amar a María	
		Juan seems to-love to María	Juan seems to-love to María	
		'Juan seems to love María'	'Juan seems to love María'	
	C.	Me parece que Juan ama a María	Me parece que Juan ama a María	
		to-me-seems that Juan loves to María		
		'It seems to me that Juan loves María'	'It seems to me that Juan loves Marí	,

In order to explain this paradigm I will propose that raising out of non-finite sentences is not possible in Spanish. This solves immediately the ungrammaticality of (66)a (as opposed to (66)c). However, now the mystery is (66)b. If raising out of infinitivals is not possible in Spanish (66)b cannot be assigned the following structure, since it would require raising out of an embedded non-finite clause.

 (96) [Juan]_i parece [TP t_i amar a María] Juan seems to love María
 'Juan seems to me to love María'

However, there is an alternative structure for (66)b: it is possible that in (66)b *parecer* is acting like a modal that selects a VP. In other words, I will propose that the

structure of (66)b is the following:

 (97) Juan parece [vp t amar a María] Juan seems to love María
 'Juan seems to love María'

In other words, I would like to propose that parecer besides being a main verb

(parecer-O, parecer-P) can also be a modal verb, and it is because of this that (66)b can

be assigned a structure.

As noted in Fernández-Leborans (1999), neither modals nor parecer allow

pseudo-clefts. Other verbs do.

(98)	a.	*Lo que {puede, debe, parece} Juan, es saber la noticia
		'What Juan {can, must, seem to}, is to know the news'
		~ / / / / / / / / / /

b. Lo que {pretende, desea} Juan, es saber la noticia 'What Juan {wants, desires}, is to know the news'

As Fernández-Leborans (1999) notes, the complement of modals verbs cannot be

questioned as the following sentences illustrate:

(99) *Qué puede/debe Juan?³¹ what can/must Juan

Interestingly, as Fernández-Leborans (1999) show, when the complement of

parecer is questioned, the questioned element is understood to be an adjective or an NP,

never an infinitival.³²

(100) Que parece Juan?
 'What does Juan seem?'
 Muy culto / Un estudiante / *Estar casado
 Very cultivated / A student / To be tired

 (i) *Qué parece Juan? De Madrid what seems Juan? From Madrid (cf. Juan parece de Madrid Juan seems from Madrid)

 ³¹ Que debe Juan is fine under the irrelevant interpretation How much does John owe?
 ³² For some reason, PP cannot be the understood questioned element:

I will take all these facts to indicate that at least *parecer* has the possibility of being analyzed as modal, thus adding more plausibility to the assumption that *parecer* in infinitival constructions is a modal.³³

Now, two questions need to be answered. First, why the modal *parecer* is incompatible with the presence of an experiencer. Second, why raising out of embedded non-finite clauses is impossible in Spanish (as opposed to English). The answer to the first question seems straightforward: since modals in Spanish do not assign experiencer theta roles, there is no reason to expect under the present analysis that *parecer* should assign an experiencer theta role. The answer to the second question is more sophisticated. Before trying to produce an answer, let's rephrase it. Consider the following sentence:

(101) Me parece que Juan ama a María 'It seems to me that Juan love María'

*Pareció que Juan estaba enfermo a.

(i)

b.

- 'It seemed that Juan was sick'
- Nos pareció que Juan estaba enfermo b.
- 'It seemed to us that Juan was sick'
- *Está pareciendo que Juan cocina muy bien (ii) a.
  - 'It is seeming that Juan cooks very well'
  - Nos está pareciendo que Juan cocina muy bien b.
  - 'It is seeming to us that Juan cooks very well'

³³ In Ausín and Depiante (2000), we used the contrasts (i)-(iii), which illustrates that the presence of the experiencer makes available inflectional possibilities that are impossible if experiencer is not present (Torrego (1996)), to argue that *parecer* without the experiencer should be analyzed as a modal.

⁽iii) *Ha parecido que Juan los había encontrado a.

^{&#}x27;It has seemed that Juan had found them'

Me ha parecido que Juan los había encontrado

^{&#}x27;It has seemed to me that Juan had found them'

However, as Fernández-Leborans (1999:2445) points out, we find similar contrasts in cases where the complement of *parecer* is an adjective. (iv)

a. Juan {parece/parecía} muy simpático

^{*}Pedro {pareció/ha parecido} muy simpático b.

Pedro me {parece/parecia/pareció/ha parecido} muy simpático C.

This seems to indicate that it is the presence of the experiencer what makes more inflectional possibilities available, independently of the status of parecer. For reasons I will turn to immediately in the text, if the experiencer is present, the modal analysis of parecer will not be possible.

This sentence shows two important features of *parecer*: it can appear with an experiencer, and it can have a sentential complement. In other words, *parecer-O* (the only one that allows the experiencer) can take sentential complements. The question that I am trying to answer is why it is not possible for *parecer-O* to have an infinitival complement, out of which raising to subject is possible. Why is it not possible to assign (66)a. the structure in (102).

 (102) *[Juan]_i me parece [TP t_i amar a Maria] Juan to-me seems to love María
 'Juan seems to me to love María'

In order to rule out (102), let's consider first the analysis that the English counterpart of (66)a receives.

(103) a. Juan seems to me to love María
b. [Juan]_i seems to me [_{TP} t_i T_{def} to love María]

According to recent analyses (Martin (1996), Boškovi□ (1997b)), (103)a is

assigned the structure in (103)b. The important aspect of (103)b is that the embedded

infinitival is headed by defective T (which is characterized as [-Finite, -Tense]). This

defective T contrasts with the non-finite T that is found in Control sentences, which is

analyzed as [-Finite, +Tense] and assigns null Case. As standardly assumed, finite T

assigns nominative Case. The three possibilities are summarized in (104).

- (104) Typology of T (Martin (1996), Boškovi□ (1997b)):
  - [+ Finite]: Assigns nominative Case.
  - b. [- Finite, + Tense]: Assigns Null Case.
  - c. [- Finite, Tense]: Assigns no Case.

a.

Thus A-movement from Spec, IP is only possible if IP is headed by  $T_{def}$ . If IP is headed by finite T or [-Finite, +Tense] A-movement from Spec, IP is ruled out by the constraint against A-movement from a Case position.³⁴

In order to rule out the representation in (102), I propose that Spanish lacks Defective T. Under this proposal, (66)a cannot be assigned the representation in (102) because it would require the presence of  $T_{def}$ . If IP is headed by non- $T_{def}$  then the representation in (102) is ruled out by the constraint against A-movement from a Case position. In other words, I claim that (102) is impossible because Spanish lacks the only T that does not assign Case, namely  $T_{def}$ .

#### (105) Spanish lacks Defective T [- Finite, -Tense]

If Spanish lacks  $T_{def}$ , the raising analysis of (66)a (the only possible one, since the modal analysis is not possible because of the presence of the experiencer) represented in (102) is ruled out. And so is the structure (96) for (66)b. However, as already indicated, (66)b is ruled in because a modal analysis of *parecer* is available.

However I still need to rule out the Control analysis of (66)a. In other words, I have to rule out the representation in (106).

(106) *Juan me parece [CP [IP PRO amar a María]] Juan to.me seems to love María

Example (106) is ruled out as a violation of the theta criterion. The NP Juan does not receive a theta-role. In other words, (106) would be ruled out in the same way that (107) is ruled out.

(107) *John is illegal [CP [IP PRO to park there]]

³⁴ If an NP with lexical content is assigned Null Case another violation occurs since Null Case can only be assigned to PRO, as shown by the ungrammaticality of (i):

Note that the analysis just presented leaves open the possibility that a *PRO* subject in the embedded infinitival could be controlled by the experiencer, since the experiencer is being assigned an independent  $\theta$ -role, as in the cases of 'Experiencer control,' Torrego (1996)§4 (see also Fernández-Leborans (1999:2450)). Some illustrative examples follow:

 (108) a. Le parece haber resuleto todas las dificultades to.her-seems have solved all the difficulties 'It seems to her_i that she_i has solve all the difficulties' Torrego (1996:113)
 b. Me pareció oir su voz to.me seems listen to her voice 'It seems to me that I heard her voice' Fernández-Leborans (1999:2450)

# 3.6 Extending the proposal

3.6.1 Lack of ECM constructions in Spanish

T_{def} plays a crucial role not only in raising to Subject constructions but also in

Raising to Object constructions, or ECM constructions. This can be seen in the examples

that appear in (109). This is particularly clear under the proposals that assume that there

is overt object shift in English. (See some of the papers in Lasnik (1999b)).

- (109) a. I believe Mary to know French
  - b. I believe_i [Agrop Mary_j [VP t_i [IP t_j T_{def} [VP t_j [V to know French]]]]]
  - c. Mary was believed to know French
  - d. Mary_j was believed [ $_{IP}$  t_j T_{def}[ $_{VP}$  t_j [ $_{V}$  to know French]]]

Raising of Mary out of the embedded infinitival to Spec, AgrOP is possible

because the embedded Spec, IP is not a case marked position. If I claim that Spanish lacks

 $T_{def}$ , it is predicted that Spanish lacks ECM constructions that involve infinitival

complements. The prediction is fulfilled, as shown in (110)a and (110)b. (110)c shows

(i) *Chris tried Pat to do the job

that the verb *creer* 'believe' can take an infinitival complement and (110)d shows that it is possible to have an ECM subject with an adjectival Small Clause.³⁵

- (110) a. *Creo a María saber Francés believe.I to María to-know French 'I believe María to know French'
  - b. *María fue creída saber Francés María was believed to know French 'María was believed to know French'
  - c. María cree saber Francés
     María believes to-know French
     'María believes that she knows French'
  - d. Creo a María capaz de todo believe. I to María able of everything 'I believe María (to be) able of doing anything'

Torrego (1998) claims that there are some instances of ECM infinitival construction in

Spanish. She claims that they are possible when the object is questioned as in the

following example (The "?" is due to Torrego):

(111) ?Qué problema crees / juzgas [t ser irresoluble]?
 what problem believe/ acknowledge/ assume to be irresoluble
 What problem do you believe / acknowledge / assume to be irresoluble?

However, it is not clear that examples like this one really show that ECM

constructions are possible in questions. If that was the case, it is not explained why the

example is not perfect. It could be the case that the marginal acceptability of examples

like this is related to its similarity the ECM small clause counterparts like the following,

which are perfect, as the following example illustrates:³⁶

(112) Qué problema crees / juzgas irresoluble? what problem believe/ acknowledge irresoluble What problem do you believe / acknowledge to be irresoluble?

³⁵ As for the ungrammaticality of the English *John believes to know French* and the grammaticality of the French and Spanish counterparts, see Boškovi (1997b).

3.6.2 Psych verbs

Another piece of evidence that I would like to bring up in support of my proposal is related to psych verbs. A typical instance of psych verbs is *gustar* 'like.' As shown in the example in (113), the experiencer *le* ... *a Juan* does not block movement of the Theme to subject position. I am assuming a Belletti and Rizzi (1988) analysis of psych verbs, according to which the surface subject in (113) is generated in a position below the experiencer.³⁷

(113) Las manzanas le gustan a Juan the apples to-him-like to Juan 'Juan likes apples'

The example (114) shows the same point. The difference is that in (114) the

Theme is not an NP but a (prepositional) SC. The subject of the SC raises to Spec, IP,

leaving the rest of the SC behind.

(114)	a.	Juan me gusta con traje
		Juan to-me like with suit
		'I like John in a suit'
		• . •

b. Juan_i me gusta [ $_{SC}$  t_i con traje]

Torrego (1998) argues that raising over the experiencer is possible with psych

verbs, but not with parecer because, according to her, experiencers have different

structural status depending on whether they are experiencers of raising verbs or

- (i) a. Su_i madre le gusta a todo el mundo_i His mother to-him likes to every body 'Everybody likes his mother'
  - b. Su, madre no le gusta a nadie, His mother no to-him likes to nobody 'Nobody likes his mother'

³⁶ A similar explanation was already proposed in See Rizzi (1980). This type of explanation, however, would not straightforwardly apply to an additional example that Torrego discusses, which features the verb *asumir* 'assume', since the version with Small Clause ECM is completely out.

³⁷ Evidence that the surface subject is at some point c-commanded by the experiencer comes from examples like the following:

experiencers of psych verbs. An advantage of the proposal presented in this chapter is that experiencers receive a unified treatment, in accordance with the UTAH (Baker (1988)), which roughly requires that the same thematic role be assinged to the same structural position.

3.6.3 Some cross linguistic considerations from Slavic

The analysis that I have proposed in this chapter to explain the absence of raising out infinitivals in Spanish (namely, that Spanish lacks  $T_{Def}$  can be considered a notational variant of a proposal made in Lasnik (1998) for Slavic languages. Lasnik (1998) notes that ECM constructions in Serbo-Croatian (and other Slavic languages) are possible with Small Clauses ((115)a) but not with infinitival complements ((115)b):

(115)	a.	*Smatram [Ivana biti pametan/pametnim]
		consider.1sg Ivan.Acc to.be smart.nom/inst
		'I consider Ivan to be smart'
	b.	Smatram [Ivana pametan]
		consider.1sg Ivan.Acc smart.inst
		'I consider Ivan smart'

Lasnik's account of these facts is that T in SC (and Slavic in general) is always [+Tense]. Thus, even if T is non-finite, it is [+Tense] and therefore it assigns Null case, and the only possible subject is PRO. Lasnik's provides independent evidence that Tense is different in English and SC. He suggests that the fact that in Slavic, but not in English, present tense is compatible with eventive predicates can be related to the fact that Tense in Slavic is less defective than in English. This appears illustrated in the following examples from Lasnik (1998:204):

(116) a. Ivan best it poulice (v dannyj moment) [Russian] Ivan runs down street in present moment 'Ivan is running down the street (at this moment)'

# b. Ivan bessei niz ulicu Ivan runs (escapes) down street

[Serbo-Croatian]

In other words, the defectiveness of T in English can be attested both in finite and non-finite versions of T. For finite T, the consequence of being –Tense is that it cannot bind the eventive argument in eventive predicates. For non-finite T, the consequence is that it might not assing Null case.

The proposal in this chapter could be easily worded in Lasnik's terms. Thus, instead of saying that Spanish lacks  $T_{Def}$ , we would say that Spanish always has strong T. Then, the prediction would be that in Spanish present finite Tense should be able to bind the eventive argument, as in the Slavic examples in (116). This seems to be confirmed by the following examples:³⁸

(117)	a.	Te escribo para perdirte un favor
		I write to ask.you a favor
		'I am writing to you to ask you a favor'
	b.	Te traigo un regalo
		I bring you a present
		'I am bringing you a present' 'I brought you a present'

## 3.7 Conclusion

(i)

b.

In this chapter I have shown that the facts that are normally used to support the idea that in Spanish the presence of the experiencer blocks raising to subject can be analyzed in a different way. In particular, I proposed that raising out of sentential infinitivals is not possible in Spanish because Spanish lacks  $T_{def}$ . Cases where *parecer* 

- 'Juan is running on the street at this very ovement'
- ?María sale del edificio en este preciso instante

María leave from the building in this precise moment

³⁸ Parallel examples to the Slavic ones that Lasnik considers are slightly off in normal circumstances:

[?]Juan corre por la calle en este mismo momento Juan runs on the street at this very moment

appears with an infinitival complement have been reanalyzed as instances of modal *parecer*. In fact, I hope to have show that in Spanish it is also possible to have raising over the experiencer as in English, providing further evidence that A-movement is not subject to the MLC.

'María is leaving the building at this very moment'

. ...

# **Chapter 4: More evidence for Multiple Spell-out**

### 4.1 Wanna-contraction

## 4.1.1 Introduction

In this section I will provide additional evidence for the MSO proposal, showing that under the MSO approach a simple account of the *wanna*-contraction facts can be designed. The facts that has captured the interest of many linguists is that *want* and *to* cannot be contracted when a trace intervenes, as illustrated in the following examples:

(118)	a.	Who do you wanna visit?	( $\leftarrow$ Who do you want to visit?)
	b.	*Who do you wanna visit you?	( $\leftarrow$ Who do you want to visit you?)
			From Bresnan (1971a), attributed to L. Horn

Somehow anachronistically, I will provide evidence for the MSO making the claim that an 30 year old proposal about WC is correct. I will show that under the MSO account it is possible to revive Bresnan's (1971a) analysis. Bresnan (1971a) proposed that the best way of characterizing WC was to assume that the rules that generate *wanna* from *want to* also apply at the end of each cycle. She offers the derivations in (119) and (120) for (118)a and (118)b, respectively.

(119)[s [,] Q [s you want [	s for	you to visit who]]]
you want	Ø	to visit who
you wanna		visit who
who you wanna do		visit Ø.
who do you wanna y	visit	

Identical Subject Deletion To contraction Question formation Other rules

(120)[s' Q [s you want [s for who to visit you]]]

<u></u>		
who you want do	to visit you	Question formation Other rules
who do you want to visit	•	

The rule of *to* contraction that Bresnan proposed appears in (121). This rule applies in (119) at the end of the second cycle. Bresnan claims that the rule in (121) cannot apply in (120), because by the time the structural description of the rule is met, it is too late. In other words, application of the *to* contraction rule in (120) at S-bar cycle (the only point where the structural description of the rule is met) would violate the principle of the cycle which Bresnan states as in (122).

- (121) [s NP V to V ...]  $\rightarrow$  [NP [V+to] V ...] (Bresnan (1971a:), p. 1)
- (122) There is probably a general condition on the transformational cycle forbidding a cyclic transformation from applying on S_i to effect a structural change entirely within S_j if S_i dominates S_j. (Bresnan (1971a), fn. 5)

The important feature of Bresnan's analysis is that WC, a morphophonological process, takes place after the end of each syntactic cycle. This is only possible if at the end of each cycle the syntactic object is delivered to the phonological component.

Bresnan's account was overshadowed by a series of analyses of WC that were based on the assumption that the illegitimate instances of WC are due to the presence of some intermediate element that blocks the application of WC. The precise characterization of the elements that block WC has been the subject of much discussion. Some scholars proposed that WC is blocked by a Case assigning head (Snyder and Rothstein (1992), Boškovi (1997b)). Others scholars have proposed that certain types of XP block WC (Lightfoot (1976), Chomsky and Lasnik (1977, 1978), Jaeggli (1980), Aoun and Lightfoot (1984)). Finally, some researchers claim that WC is blocked by any type of XP. (Fukui and Speas (1986), Boeckx (2000a)). I will briefly review some of these proposals.

Boškovi $\Box$  (1997b) argues that infinitival complements of *want* with lexical subjects (as in *I want John to leave*) are headed by a null case checking C and proposes that this C blocks contraction, as appears illustrated in (123). As for the cases in which the subject is PRO, Boškovi $\Box$  argues that the infinitival complement is a bare IP without a C. Thus, in cases like (124) WC is not blocked because no C is present.

(123) Who do you want [CP C t_{who} to visit you]  $\rightarrow$  *wanna (124) Who do you want [IP PRO to visit t_{who}]  $\rightarrow \sqrt{}$ wanna

In the approaches where the intervening element is an XP, the question arises what type of XP blocks contraction. In (125), there is a list of possible elements that can appear in the subject position of the embedded infinitival. It is also specified whether they block WC or not.

(125)	Type of XP	Blocks Contraction?
а.	Lexical NP	$\rightarrow$ Yes (*I wanna Mary leave)
b.	wh-trace	$\rightarrow$ Yes (*Who do you wanna leave the room?)
с.	NP-trace	$\rightarrow$ No (John is sposta t leave on Monday
		(Boškovi□ (1997b:35))
d.	PRO	$\rightarrow$ No (I wanna leave the room)

A quite successful approach within the GB framework was to assume that only Case-marked elements block contraction. This was Jaeggli's (1980) solution.

Finally, some researchers have proposed that any type of element blocks contraction. As for why PRO does not block contraction, there have been at least two proposals. Fukui and Speas (1986:150-1) proposed that PRO does not block WC because it remains in Spec, VP, as in (126).

(126) They want [I to [vp PRO leave]]  $\rightarrow$  They wanna PRO leave

More recently, Boeckx (2000a), adopting Hornstein's (1999b) theory of obligatory control and Lasnik's (1999a) proposal that A-movement leaves no trace, provides an elegant account of WC. Boeckx notes that the fact that neither PRO nor NP-traces block contraction is expected if I assume Hornstein's and Lasnik's proposals. Under Hornstein's analysis, obligatory control structures are reduced to raising constructions. Thus, the two sentences in (127) and (128) are derived in the same way. In both cases, at an earlier stage in the derivation, *John* appears in the embedded infinitival as in (127)b and (128)b. After raising, I obtain (127)c and (128)c, and under Lasnik's proposal that A-movement does not leave a trace, I obtain (127)d and (128)d:

- (127) a. John expects to win
  - b. expects [IP John to win]
  - c. John expects [IP t_{John} to win]
  - d. John expects  $[IP \emptyset$  to win]
- (128) a. John seems to be happy
  - b. seems [IP John to be happy]
  - c. John seems [IP t_{John} to be happy]
  - d. John seems  $[IP \emptyset$  to be happy]

The derivations for (118)a and (118)b would be as in (129) and (130). Contraction is not blocked in (129), because nothing intervenes between *want* and *to* at the end of the derivation. The presence of *who* blocks contraction in (130).

- (129) a. you to visit who
  - b. want you to visit who
  - c. you want _____ to visit who
  - d. who you want _____ to visit who
  - All the proposals based on the presence of an intervening element are subject to

the same criticism: It is not clear why WC, a morpho-phonological process should be

- (130)a. who to visit you
  - b. want who to visit you
  - c. you want who to visit you
  - d. who you want who to visit you

sensitive to the presence of elements that are null from a phonological point of view. For instance, it is not clear why in (130)d the copy/trace of *who* should block WC. Since it is phonologically irrelevant (it will not be pronounced in that position) it shouldn't block a morpho-phonological process. Alternatively, one could ask why WC cannot take place after copies/traces are eliminated from the representation.

A similar point can be made using examples like (131) and (132). In these examples, the intervening element is the copy of a null operator in (131), and two constituent boundaries in (132). In both cases we are dealing with phonologically null elements. The approaches based on the presence of an intervening element would have to claim that in these cases phonologically null elements block WC. This is not inconceivable.³⁹ Nevertheless, I will pursue an approach that does not rely on the presence of intervening elements, thus making the phonological content of the intervening element irrelevant, along the lines of Bresnan's original approach.⁴⁰

- (131) a. *The student that I wanna take the test is John
  - b. The student  $Op_i$  that I want  $t_i$  to take the test is John
- (132) a. *I don't wanna flagellate oneself in public to become standard practice in this monastery
  - b. I don't want [[to flagellate oneself in public] to become standard practice in this monastery] Postal and Pullum (1982:124)

³⁹ But see Boškovi (1997b) for arguments against traces blocking contraction.

⁴⁰ Postal and Pullum (1982) proposed an account that did not rely on the existence of traces or any intervening element, which is briefly summarized in (i):

⁽i) A contracted trigger V can have a contracted form with infinitival to only if:

a. to is the main verb of the initial direct object complement of the matrix clause whose main verb is V; b. the final subject of the complement is identical to the final subject of the matrix.

Although I agree with Postal and Pullum (1982) that there are no counterexamples to the descriptive generalization in (i), what I will try to do in the next section is to derive that generalization from independently motivated assumptions, following the insights of Bresnan's original analysis.

#### 4.1.2 Some assumptions

### 4.1.2.1 Infinitival complements of want

Following already mentioned proposals by Boškovi $\Box$  (1997b) and reference therein, I assume that there is a crucial difference between the infinitival complements in (133). In (133)a no Case is being checked on the subject position of the infinitival complement. In (133)b the infinitival complement is headed by a Case checking head, probably a null counterpart of *for*, that checks the Case of the embedded subject. In other words, the full representation of the examples in (133) would be as in (134). An important consequence of this analysis is that the infinitival complement is going to be spelled out early in (134)b (since there is a Case checking head) but not in (134)a, since no Case checking is taking place.⁴¹

- (133) a. They want to leave
- b. They want Mary to leave
- (134) a. They want  $[t_{They} \text{ to leave}]$ 
  - b. They want [*for*-Mary to leave]
- 4.1.2.2 On the nature of to

Since WC is an optional process, I propose that there are two types of to: one that triggers WC and one that doesn't. I propose that the to that undergoes contraction is specified in the lexicon as an affix ('to_{+Aff}'). The to that does not undergo contraction is specified as an independent word ('to'). In other words, I will assume that the initial

⁴¹ For expository purposes, I assume the raising analysis of control (Hornstein (1999b)). Nevertheless, it seems to me that the proposal in this chapter could also be restated under the Null Case approach to PRO, provided that it is assumed that checking Null Case does not trigger early application of Spell-out. This seems reasonable, since Null Case never has any phonetic realization.

elements (or the elements in the numeration) are different for (135)a and (135)b. In (135)a *to* would be an independent element whereas in (135)b *to* would be an affix.⁴²

(135) a. They want to leave  $\leftarrow$  {They, pres, want, to, leave} b. They wanna leave  $\leftarrow$  {They, pres, want, to_{+Aff}, leave}

### 4.1.3 How the proposal works

Consider first an illegitimate instance of WC like (118)b, repeated here. The (partial) derivational history of (118)b appears in (136). For expository purposes, I am representing the null C that heads the embedded infinitival and checks Case on the embedded subject as strikethrough *for*. Since we are trying to obtain WC, the infinitival *to* has to be affixal: "to_{+Aff}". Here and in later examples, I include different stages of the derivation in the left column. Square brackets mark Spell-out points (Case checking points and at the root). In the right column, the different outcomes of Spell-out appear.

(118	(118)b *Who do you wanna visit you?				
(136	5) [visit you]	$\rightarrow$ visit you			
	who to _{+Aff} visit you				
a.	[(for) who to _{+Aff} visit you]	$\rightarrow$ who to _{+Aff} visit you			
	want (for) who to+Aff visit you				
	[you want (for) who to+Aff visit you]	$\rightarrow$ you want who to _{+Aff} visit you			
	[who you want (for) who to+Aff visit you]	$\rightarrow$ who you want who to _{+Aff} visit you			

The crucial point in the derivation in (136) appears in the third line. At that point the embedded complementizer is inserted and the Case of the embedded subject is checked, which triggers early application of spell-out sending the whole syntactic object, to included, to the PF component. Since we are trying to obtain WC, *to* has to the affixal

⁴² The situation would be similar to what we find with *not* vs. n't, or the difference between pronominal and full clitics in Romance languages.

variant. Therefore, the outcome of spelling out the embedded infinitival includes an affixal version of *to* but no appropriate host. The representation then is ruled out as a violation of the morphological requirements of the affix. In other words, the PF outcome in (136)a violates (a modified version) of the Stranded Affix Filter (Lasnik (1981)), that requires that "a morphologically realized affix must be a dependent of a morphologically realized category at PF."⁴³

A distinctive feature of my analysis is that it does not matter what element (phonologically null or not) appears in the subject position of the embedded clause. Consider (137), a partial derivation for (131)a.

(131)	a *The student that I wanna take the test i	s Joh	n
(137)	[take the test]	$\rightarrow$	take the test
	Op take the test		
a.	[(for) Op to+Aff take the test]	$\rightarrow$	to+Aff take the test
	want (for) Op to+Aff take the test		
	I want (for) Op to+Aff take the test		
	pres I want (for) Op to+Aff take the test		
[I	pres want (for) Op to+Aff take the test]	$\rightarrow$	I want to+Aff take the test

As before, the crucial point is the insertion of the embedded complementizer (the null counterpart of *for*). Since it is a Case checking point, an early application of spell-out takes place. Again, spelling out the embedded clause is going to affect *to* but not *want*, resulting in a violation of the SAF.

It is important to note that under my account we don't have to stipulate that WC takes place before traces are eliminated from the structure. Deletion of the traces would not rescue the SAF violation in (136)a or (137)a. In other words, even if  $to_{Aff}$  attaches to

⁴³ The original formulation of the Stranded Affix Filter cannot be stated within the Minimalist program since it makes crucial reference to Surface Structure.

want at the end of the derivations of (136) and (137), that would not salvage the SAF violation that took place earlier in the derivation. I assume that the SAF applies at every PF representation that is generated by multiple applications of spell-out.

Consider now a good instance of WC like (118)a, repeated here. The relevant parts of its derivation appear in (138).

(118)a W	ho do you wanna visit?	
(138)	[visit who]	$\rightarrow$ visit who
	want to+Aff you visit who	
	[you want to+Aff visit who]	$\rightarrow$ you wanna visit who
	[who you want to+Aff visit who]	$\rightarrow$ who do you wanna visit who

The crucial characteristic of (118)a is that the position of the embedded subject in the infinitival clause is not a Case checking position. Thus no Spell-out is triggered at that point. The first time *want* and *to* are spelled out is when the subject *you* is has its nominative Case checked. At this point, WC applies.

In (138), raising to subject does not leave a trace. However, the proposal in this chapter does not rely on this. If a trace/copy were present, it would be enough to say that WC is not sensitive to the presence of phonologically null elements. In this respect, the proposal in this chapter follows Bresnan's, since for her, it was not crucial what type of element appears between *want* and *to*. Both Bresnan's and the present approach to WC share the idea that the best way of explaining the WC facts is in terms of earlier stages of the derivation (cycles for Bresnan, PF outcomes for me). In both proposals, illicit instances of WC like the one in (118)b are ruled out because the WC rule applies too late. For Bresnan, it applies too late to follow the principle of the cycle. Under the proposal of

⁽i) Stranded Affix Filter: A morphologically realized affix must be a syntactic dependent of a morphologically realized category, at surface structure. (Lasnik (1981))

this chapter, it applies too late to salvage a derivation that has already been ruled out as a violation of the SAF.

If the present proposal (or Bresnan's) is right, then we have an argument for the derivational approach to syntax, because the grammatical status of a sentence depends on the properties of an early stage of the derivation.

## 4.1.4 Postal and Pullum type of examples

As already mentioned, Postal and Pullum (1982) (hereafter, P&P) noted many examples that were problematic for the approaches based on the assumption that WC is blocked by intervening elements.⁴⁴ In this section I show that the type of examples that P&P discuss can be accounted for within the MSO framework that I am adopting.

Consider (139), which shows that Heavy NP shift of the subject of the infinitival does not feed WC. This is expected if, as argued in this chapter, the infinitival complements of *want* with lexical subjects are introduced by a null counterpart of *for* that checks Case and triggers early application of spell-out. If so, the infinitival complement in (139) is spelled out early, and therefore, a violation of the SAF obtains if an affixal *to* is present. In other words, (139) is ungrammatical because at an early stage of the derivation the infinitival complement is going to be sent to PF. That stage appears in (140). Since (140) contains an affix but no appropriate host, the sentence is ruled out as a SAF violation.

(139)*I wanna present themselves in my office [all those students whose grade for Grammar 103 was lower than A+] (P&P:131)

⁴⁴ Some of the examples from P&P are slightly degraded for some speakers. For the purposes of this paper, I assume that the judgements that P&P report are essentially correct.

(Compare to: I want to present themselves in my office all those students whose grade for Grammar 103 was lower than A+)

(140) [CP for-[all those students (...)] to_{+Aff} present themselves in my office]

The examples in (141)-(145) from P&P show that WC is not possible when the *to* undergoing contraction appears in a non-complement position. *To* appears within a subject (specifier) in (141), an extraposed sentence (adjunct) in (142), a purpose clause (adjunct) (143), a parenthetical (adjunct) in (144), and a first conjunct (specifier) in (145).

- (141) a. *I don't wanna flagellate oneself in public to become standard practice in this monastery
  - b. I don't want [to flagellate oneself in public] to become standard practice in this monastery (P&P:124)
- (142) a. It seems like to want [to regret that one does not have]
  - b. *It seems like to wanna regret that one does not have
  - (c. [To regret that one does not have] seems like to want) (P&P:125)

(P&P:126)

- (143) a. One must want (in order) to become an effective overconsumer
- b. *One must wanna become an effective overconsumer (P&P:126) (144) a. I want, to be precise, a yellow four door De Ville convertible
- b. *I wanna, be precise, a yellow four door De Ville convertible (P&P:131)
- (145) a. *I wanna dance and to sing
  - b.  $I_i$  want [IP ti to_{+Aff} dance] and [IP ti to sing]⁴⁵

The unavailability of WC in (141)-(145) follows if we assume with Uriagereka (1999), that adjuncts and complex specifiers are spelled out early. Consider (141). In order to obtain WC, affixal *to* needs to be chosen. Since *[to flagellate oneself in public]* is a (complex) specifier, it will be spelled out before it is merged with the rest of the structure.

⁴⁵ There is an alternative structural description of (145)a based on gapping as in (i). If (i) is a possible structure for (145)a, then the account suggested in the text would not be available, since to would be spelled out at the same time as *want*, and no SAF violation would occur.

⁽i) I [want to_{+Aff} dance] and [want to sing]

A different way of ruling out (145)a (under either the structural analysis of (146)b or (i)) would be to say that the same type of *to* must be present in both conjuncts. Further confirmation for this proposal is left for future research.

At that point of spell-out, there will be a violation of the SAF because there will be no appropriate host for the affixal to.⁴⁶

Finally, consider the ungrammaticality of (146)a.

(146) a. *I don't need or wanna hear about it (from P&P p.126)

b. I don't [ $_{VP}$  need { $_{IP}t_I$  to hear about it}] or [ $_{VP}$  want [ $_{IP}t_I$  to hear about it]]

If we assume that the structural analysis of (146)a is (146)b, then the impossibility

of WC would follow from the present proposal that there are two types of to: an affixal

and a full form. The to in the first conjunct in (146)b would be a full to (since it does not

trigger contraction), whereas the to in the second conjunct would be an affix, since it

triggers contraction. If so, the explanation for the ungrammaticality of (146)a is

straightforward: there is a violation of the principle of recoverability of deletion, since the

to that is being deleted is different from the to in the second conjunct.^{47,48}

⁴⁶ The example in (i), also from P&P, is more problematic. In (i) to does not appear within an specifier, so early application of spell-out would not result in an SAF violation. According to the present proposal, the first spell-out cycle that affects to appears in (ii). At that point, there seems to be an appropriate host for to, namely, *want*.

⁽i) a. I don't want anyone [who continues to want] to stop wanting

b. *I don't want anyone [who continues to wan]na stop wanting (P&P:125)

⁽ii) [CP for [IP anyone [who continues to want] to+Aff stop wanting]]

The ungrammaticality of (i) can easily be accounted for if we follow Richards (2000) and assume that WC is possible only when both *want* and *to* belong to the same spell-out cycle. Adapting Richards's proposal to the assumptions made in Ausín (2000b) and adopted in this paper, it could be said that WC is possible only when *want* and *to* are spelled-out at the same time for the first time. Thus, WC would not be possible in (i) because *want* and *to* are not spelled-out in the same phase(s): *who continues to want* is spelled out independently of *to*. Note that if Richards' approach is on the right track it is not clear that we need to maintain the existence of two different types of *to*. The impossibility of having WC in certain cases (which I attributed to a violation of the SAF) would then be attributed to the fact that *want* and *to* are not spelled out in the same cycle (or phase).

 $[\]Box$  eljko Boškovi $\Box$  (p.c.) suggests an alternative way of ruling out (i) and some of the examples in (141)-(145). He suggests that in these examples WC might be blocked by the presence of an intonational-phrase boundary intervening between *want* and *to*. Further exploration of this idea is left for further research.

⁴⁷ It is not clear to me how Richards' proposal mentioned in the previous footnote could handle the ungrammaticality of (146)a, since it seems that *want* and *to* are spelled out in the same cycle.

⁴⁸ If an Across-the-board right dislocation analysis were to be assigned to (146)a, the impossibility of WC would also be expected, since the extraposed infinitival complement would be an adjunct and therefore would be spelled out early, under Uriagereka's proposal. Again, early application of spell-out would trigger an SAF violation.

#### 4.1.5 Conclusion

In this chapter I have provided evidence for the multiple Spell-out proposal by showing that under that proposal a very natural account of wanna-contraction is possible. The account is a revival of Bresnan's proposal from 30 years ago. If the facts and arguments presented in this chapter are correct, it would be the case that a recent proposal receives further evidence from an old analysis.

#### 4.2 Do-support

It seems to me that certain previously unnoticed facts regarding English Verbal Morphology can also be accounted under the MSO proposal. Lasnik (1995c), Bobaljik (1994), Bobaljik (1995), Halle and Marantz (1993) and others have recently revived the *Syntactic Structures* (Chomsky (1957)) analysis of *do*-support. According to this analysis, *do*-support takes place when PF merger of the affix cannot take place because adjacency is disrupted. Thus, in a sentence like (147)a the [past] can merge with the verb resulting in *left*. In (147)b, on the other hand, the tense affix cannot merge with the verb because of the presence of the intervening *not*. Thus, *do*-support takes place to "support" the affix.

(147) a. John [past] leave  $\rightarrow$  John left b. John [past] not leave  $\rightarrow$  John did not leave

However, this analysis seems to have some problems with the following examples.

- (148) a. Knowing what Mary does  $\{v_{P} know t\}$  will upset John
  - b. Will knowing what Mary <u>does upset John?</u>
  - c. *Will knowing what Mary upsets John

- (149) a. The person who speaks more languages than John does <del>[vp.speak]</del> left the party early
  - b. Did the person who speaks more languages than John <u>does leave</u> the party early
  - c. *Did the person who speaks more languages than John <u>leaves</u> the party early

In these examples the matrix subject end with a VP ellipsis gap. In order to support the Tense affix, *do*-support takes place. However, in (148)b and (149)b the Tense affix is PF adjacent to a potential verbal host. In particular, the present morpheme in (148)b and (149)b is PF adjacent to *upset* and *leave*. Thus, we would expect to have affix hoping (/PF merger) in (148)b and (149)b, obtaining (148)c and (149)c respectively, contrary to fact.

This problem could be solved if we assume that the VP ellipsis gap somehow blocks *do*-support, but then we would be facing a situation in which a phonologically null element is blocking has some relevance in what seems to be a PF process. A better candidate to block affix hopping would be the intonational phrase boundaries that appear between the verbal affix and the verb. At any rate, it seems to me that the problem does not arise under a MSO approach like the one I am adopting in this dissertation, since it seems reasonable to assume that *do*-support must take place cyclically. Thus, if *do*support in (148) and (149) takes place at the time the embedded sentences are formed (and crucially before they are merged with the rest of the matrix sentence) we rule out the possibility of affix hopping in (148) and (149) because *do*-support has already taken care of the tense morpheme. In other words, the problem does not arise if we assume that *do*support takes place when the sentences *what Mary does* and *who speak more languages than John does* are formed.

The admittedly sketchy solution from the previous paragraph has a problem, though: If *do*-support is going to be resolved at the point where we only have [what I affix know  $t_{what}$ ], the question arises of how the system knows that the VP [know what] can be deleted, since at that point there is no antecedent that licenses the ellipsis. I don't have a solution to that problem. I will postpone a solution to this problem and a full fledged account of these facts for future research.

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# **Chapter 5: Scope**

#### 5.1 Introduction

In Chapter 1 (section 1.3) we saw a series of arguments that show that Amovement does not reconstruct. In this chapter I will consider certain facts that have been used to argue for A-movement reconstruction effects. In Chapter 1 I introduced Lasnik's (1999a) idea that A-movement does not leave a trace and in Chapter 2 I proposed an account of the A-movement locality effects based on that idea. Lasnik's proposal was made on the observation that A-movement does not reconstruct. However, some scholars have challenged this claim using scope related considerations. I will consider some of those arguments that have been proposed to argue for A-movement reconstruction, and show that at least for the cases under consideration there is always some interfering factor. The discussion is not exhaustive; some of the arguments for A-movement reconstruction will not be addressed (such as Diesing's mapping hypothesis (Diesing (1992)), to name just one). However, I hope to show that some of the most repeated arguments for A-movement reconstruction are not as conclusive as it is standardly assumed. Most of the arguments for A-movement reconstruction that involve binding will be dealt with in the next chapter, where an on-line approach to binding relations will be explored.

## 5.2 Classical scope ambiguity

Let's start with the classical example of scope ambiguity. May (1977) considers sentences like (150) and notes that "[(150)] may be taken as asserting either (i) that there is a politician, e.g., Rockefeller, who is likely to address John's constituency, or (ii) that it is likely that there is some politician (or other) who will address John's constituency"(May (1977:103)).

(150) Some politician is likely to address John's constituency

Since May (1977), it has been standard to assume that the two interpretations of (150) are captured by two different LF representations, in which the relative position of the indefinite *some politician* and *likely* is switched, as in the following simplified structures:

a. some politician is likely to address John's constituency
b. is likely [some politician to address John's constituency]

The precise way in which these two representations are obtained is subject to some debate. There are two main proposals: (i) activation of the trace/copy left by raising to subject, or (ii) Quantifier lowering to a position close to where the trace is. For now, the differences between these two approaches are not relevant. The important aspect of this tradition is that in order to account for this ambiguity we need to have traces created by A-movement. These traces would be the elements interpreted at LF (under the reconstruction approach) or the beacon which signals where the rule of Quantifier lowering should place the quantifier.

Fox (1999:160) discusses similar examples. Fox's examples appear in (152) below. Fox notes that (152) can be assigned two different interpretations. These two

representations of (152) appear in (154).

- (152) Someone from NY is very likely to win the lottery
- (153) a. There must be a person from NY who is very likely to win the lottery (e.g. one person who bought enough tickets to make winning a likely outcome)
  - b. There [must] be enough ticket buyers from New York to make it likely that the city would yield a winner
- (154) a. Someone from NY is very likely someone from NY to win the lottery
  - b. Someone from NY is very likely someone from NY to win the lottery

Boeckx (2001) offers what seems to me an even clearer example, since instead of *likely*, *guaranteed* is used, thus making the truth conditions of the sentences easier to tease apart. Boeckx's example is the following:

(155) Someone from New York is guaranteed to win the lottery

Boeckx notes: "Assuming, counterfactually, that the New York lottery is open only to New York residents and that the rules are that numbers are drawn until there is a winner, then it will be true [(156)b] but false [(156)a]."

(156) a. There is someone from New York who is guaranteed to win the lotteryb. It is guaranteed that someone from New York will win the lottery

One of the problems with the characterization given to this type of ambiguity is that it is not completely clear whether we are dealing with real scope ambiguity or some lexical ambiguity of the indefinite pronoun. In particular it is not very clear that the ambiguity of those sentences could not be reduced to lexical ambiguity of the indefinite. This is particularly clear in May's characterization of the ambiguity. According to May, in the wide scope reading the indefinite refers to a specific person, for instance, Rockefeller. Whereas in the narrow scope reading this is not true. Having this in mind, consider the following example: (157) Someone from New York won the lottery (Howard Lasnik (p.c.))

It seems to me that the sentence in (157) can be assigned the two different

paraphrases that appear in (158). The paraphrase in (158)a would correspond to the

scenario A in (159) and the paraphrase in (158)b would correspond to the Scenario B in

(160).

- (158) a. There is someone from NY who won the lottery
  - b. Someone (or other) from New York won the lottery
- (159) Scenario A:
  - a. NY lottery is open only to NY residents.
  - b. All the tickets were sold
  - c. The Lottery has already taken place.
  - d. (Important!) Somebody bought all the tickets
- (160) Scenario B:
  - a. NY lottery is open only to NY residents.
  - b. All the tickets were sold
  - c. The Lottery has already taken place.
  - d. (Important!) Tickets were bought by different people

If it is true that the sentence in (157) has the two different interpretations that

appear in (158), then the argument for scope ambiguity in the sentences in (150), (152)

and (155) disappears since we would find the same type of ambiguity in a sentence like

(157) where no sentential (intensional) operator is present.

However, there is some reason to reject the idea that (157) has the same type of

ambiguity as (150), (152) and (155). Consider again the interpretations of (155), which

appear in (156). We know that the sentence has two different interpretations because it is

possible to come up with a context in which one of the interpretations is false but the

other is true. However, this is not possible in the case of (157). It is not possible to find a

scenario in which one of the interpretations is true and the other is false. In every

situation in which (158)a is true, (158)b is also true, and vice versa. In particular, if someone (or other) from New York has won the lottery, then now there is someone who has won the lottery. This contrasts with the situation that we find in (155). If some NY resident or other is guaranteed to win the lottery, it does not follow that now there is some NY resident who is guaranteed to win the lottery. This is so because the person who will win the lottery cannot be determined at the present time.

What differentiates (150), (152) and (155) from (157) is the presence in (150),

(152) and (155) of an intensional operator that allows us to assign a property to a person, not based on the present state of affairs, but on forthcoming state of affairs.

May (1985:97) (see also May (1977)) illustrates the same type of ambiguity using slightly different type of examples. May claims that examples like (161)a can be uttered without presupposing the existence of hippogriffs. According to May, under this interpretation (161)a has the same interpretation as the one that (161)b does (or to be more precise, the interpretation that is more salient in (161)b).

(161) a. A hippogriff is likely to be apprehendedb. It is likely that a hippogriff will be apprehended

Fox (2000) has also considered similar examples. Fox notes that the example in

(162) has the two interpretations that appear below it.

- (162) An American runner seems to Bill to have won a gold medal (∃ > seems) (seems > ∃)
  a. (∃ > seems): The sentence is true "only if Bill has some American runner in mind, and only if it seems to Bill that that particular American runner won a gold medal" (Fox (2000:46)).
  - b. (seems > ∃): "[T]he sentence merely requires that Bill have the belief that some American runner or other won a gold medal. Bill might not have any particular American runner in mind. The sentence would be true, for example, in a situation in which Bill sits in the Olympic cafeteria, hears the American national anthem, and concludes that an American runner won the medal" (Fox (2000:46-47)).

It is very important to note that the two interpretations are truth conditionally different since it is possible to have a situation in which (162)b is true but (162)a is false. That situation would be one in which someone is playing the American anthem not because an American runner has won the race but because of some other reason. In this situation, (162)a is clearly false, but (162)b could be true if Bill, based on the fact that the American anthem is being played, concludes that some American runner must have won the race.

Again, Boeckx (2001) notes an even clearer instance of this type of ambiguity. He presents the non-contradictory status of (163) as evidence that raised subjects can be interpreted under the scope of the intensional operator.

(163) Even though there are no unicorns, yet a unicorn seems to be approaching

Under the tradition started by May, the ambiguity found in all the above sentence stems from the fact that the indefinite subject has undergone A-movement from a position below a sentential (intensional) operator (*likely, guaranteed*). The two interpretations are linked to the two positions where the indefinite can be interpreted: either above or below the sentential (intensional) operator. That is, the indefinite can be interpreted either in its surface position or in the position that it occupied before raising to subject. It is subject to some debate how raising to subject is undone. For some people (May (1977), May (1985), Chomsky (1995b) among others) it is the result of a special operation (Quantifier Lowering) for some other people (most notably, Hornstein (1995), Hornstein (1999a), but see also Lebeaux (1998), Lebeaux (1995), Pica and Snyder

(1995), Kitahara (1996) for similar ideas) it is another case of reconstruction: the element being interpreted is the trace (or copy) left by A-movement.

If the A-movement reconstruction approach is correct, then the proposal that Amovement does not leave a trace is obviously incorrect, since A-traces are necessary to capture these facts. But even under the Quantifier Lowering (henceforth, QL) approach, the proposal that A-movement does not leave a trace runs into problems. In the following paragraphs, I will show why.

May (1985) explicitly argues that the ambiguity of (161)a is linked to Amovement (raising to subject). One of his arguments is based on the contrast that exists between the sentences in (161) and (164). Since (164)a is a control structure (not a raising to subject one), under the proposal that QL undoes A-movement it is expected that QL cannot place the quantifier below *anxious*. Thus we allegedly have an explanation for the fact that (164)a does not show the same ambiguity as (161)a.

(164) a. A hippogriff is anxious to be apprehended
b. *It is anxious that a hippogriff will be apprehended

Let's lay out May's argument a bit more precisely. According to May, the narrow scope interpretations of (161)a and (164)a correspond to the following structures:

(165) a.e' is likely (a hippogriff (e'' to be apprehended))(161)ab.e' is anxious (a hippogriff (PRO to be apprehended))(164)a

In these structure, e'' is the trace left by raising to subject, and e' is the trace left by QL. May argues that the crucial difference is the status of e'. Simplifying a bit, May argues that since e' is not bound, it can only be an expletive. This causes no problem in (165)a. We know that an expletive is possible in that position because of sentences like (161)b. However, things are different in (165)b since we know that the subject of *anxious*  cannot be an expletive as indicated by the ungrammaticality of (164)b. Thus, both (165)b and (164)b are ruled out as a  $\theta$ -criterion violation since an expletive appears in a thematic position.⁴⁹

However, May's argument is incompatible with the idea that A-movement does not leave a trace. Remember that if A-movement does not leave a trace,  $\theta$ -roles must be some kind of features that are assigned as the derivation proceeds (1.3). In order to show this, consider the structure of (161)a under the proposal that A-movement does not leave a trace:

(166)  $[_{IP} A hippogriff is likely [_{IP} _ to be apprehended]]$ 

In (166), there is no trace in the subject (either external or internal) position of the embedded IP, but no  $\theta$ -criterion violation is obtained because of the assumption that  $\theta$ -roles are features assigned as the derivation proceeds. But if this is so, then (165)a cannot be ruled out as a  $\theta$ -criterion violation, since the  $\theta$ -role of the subject has been assigned at an earlier point of the derivation. The fact that there is no NP in the subject position of the matrix clause in (165)a is not more problematic than the lack of an NP in the subject position of the embedded sentence in (166). Thus, under the proposal that A-movement does not leave a trace, the QL approach to explain the ambiguities in raising contexts is also problematic.

If May is correct, his argument shows two things. First it shows that the ambiguity under consideration depends on the existence of A-movement. Second, it shows that in order to get the narrow interpretation we need to "undo" A-movement. It rules out the

⁴⁹ That *anxious* is an intensional operator is shown by the fact that a sentence like *John is anxious to apprehend a hippogriff* can be true even if it is the case that hippogriffs do not exist.

possibility that the indefinite in subject position can be interpreted under the intensional operator in-situ. If this were possible then we would expect *a hippogriff* to be interpreted under the scope of *anxious* in (164)a (without any lowering). For the present discussion, May's argument is important because it arguably shows that A-traces are necessary.

In the next two sections, I will show that May's argument is not conclusive.

# 5.3 Critique of relevance of A-movement: raising vs. control

In this section I will cast doubts on May's argument showing that the crucial empirical evidence for May's argument, namely, the lack of the low reading in (164)a is not conclusive. I won't reject the judgement that (164)a lacks the low scope reading, the reading in which the indefinite is interpreted under the scope of the intensional operator.⁵⁰ However, I will show that the missing reading is pragmatically impossible, thus undermining any syntactic argument for QL/A-movement reconstruction (May's included) based on the lack of that reading.

Let's examine again May's argument. According to May (1985:97), the narrow scope reading is possible in raising contexts but not in control contexts.

(167)	a.	A hippogriff is likely to be apprehended ( $\checkmark$ WS, $\checkmark$ NS)
	b.	A hippogriff is likely [t to be apprehended]
	С.	It is likely that a hippogriff will be apprehended
(168)	a.	A hippogriff is anxious to be apprehended ( $\checkmark$ WS, *NS)
. ,	b.	A hippogriff is anxious [PRO to be apprehended]

c. *It is anxious that a hippogriff will be apprehended

(i)

⁵⁰ Although see for instance Postal (1974:223) for a claim that sentences like the following are not ambiguous and only the wide scope interpretation of the quantifier is possible:

a. Someone is believed to have insulted Arthur

b. Few students were proved (by the FBI) to be spies

c. None of the formulas were shown to be theorems
May's argument is the following: the lowering approach to NS reading <u>explains</u> that in (164)a there is no NS reading. If lowering takes place, we would obtain a  $\theta$ -criterion violation (as in (164)b). Note, however, that May does not tells us what the narrow scope reading could be. He says: "The sentence [in (164)a] is unambiguous. Its truth entails the existence of hippogriffs. It has no construal in which this is not so" (p.98). But he does not say what that construal would be.

Let's try to figure out what the missing construal could be. In order to do that consider slightly different examples.

(169) An alien seems to John to be sitting in the garden ( $\checkmark$ WS,  $\checkmark$ NS)

The sentence in (169) is ambiguous. Under the NS interpretation, in order for (169) to be true, it has to be the case that in every world compatible with John's beliefs, there is an alien sitting in the garden. Thus, in order for us to determine whether (169) is true or not we need to access John's belief's, in some way. Consider now an control sentence. A similar situation is found in the following sentence:

(170) John wants to see an alien ( $\checkmark$ WS,  $\checkmark$ NS)

The sentence in (170) is still ambiguous. Under the NS interpretation, in order for (170) to be true it has to be the case that in every world compatible with John's desires, John sees an alien. Thus, in order for us to determine whether (170) is true or not under the narrow scope interpretation of the indefinite, we need to access John's desires. Now, consider the following sentence:

(171) An alien wants to see John (✓WS, *NS)

The sentence in (171) is not ambiguous. As noted by May, the indefinite cannot be assigned a narrow scope interpretation. May' takes the lack of the narrow scope interpretation as an proof that the narrow scope interpretation is obtained through QL, which "undoes" A-movement. So the crucial step in May's argumentation is that (171) lacks the narrow scope reading. Let's consider what that NS reading would be. Let's assume that the NS reading is possible, thus allowing the interpretation in which *an alien* does not refer to an individual in the real world, hence allowing the interpretation in which we are not committed to the existence of aliens. But, if we want to find out whether (171) is true or not, we need to look into somebody's desire worlds. This "somebody" has to be an alien. However, by hypothesis, no alien is available for us in the real world, to check that alien's desire worlds.

Thus, although it is true that sentences like (171) lack the narrow scope reading, it does not seem to be correct to use that as an argument for QL (or A-movement reconstruction) because the missing reading is conceptually impossible, since it has two contradictory requirements: on one side it is required that the indefinite does not refer to anybody in the real world (or the world where the sentence is being evaluated),⁵¹ and on the other hand, it is required that the indefinite refers to an entity whose desire world we have to examine.⁵²

⁵¹ If the indefinite refers to anybody in the world where the sentence is being evaluated, then we would not have the narrow scope interpretation but the wide scope interpretation.

⁵² Similar remarks could be made about examples like the following:

⁽i) a. John wants to catch an alien

b. An alien wants to catch John

⁽ii) a. John ordered Mary to feed an alien

b. John ordered an alien to be quite

In the b. sentences, the indefinite cannot be assigned an opaque reading, cannot be interpreted under the scope of the intensional operator. Under May's theory this is expected since undoing A-movement would not place the indefinite in the embedded clause (the real intentional context as illustrated in the a. sentences, where the indefinite can be assigned an opaque reading). However, as in the text, this cannot be takes as evidence for May's approach since the missing readings in the b. sentences give rise to impossible situations.

So, we have an extralinguistic reason to think that the sentence in (171) is anomalous. The situation that could make it true is completely impossible. Thus, we cannot conclude that there is something wrong from a syntactic (or semantic) point of view. In particular, the absence of the narrow scope reading of the indefinite in (171) cannot be taken as proof that the narrow scope reading in (169) is the outcome of undoing A-movement.

# 5.4 Freezing/Trapping effects (I)

Several scholars (May (1985), Lebeaux (1998), Lebeaux (1995), Fox (1999), Fox (2000), Wurmbrand and Bobaljik (1999)⁵³) have argued that QL is a syntactic operation on the basis of certain alleged relations between QL and binding. In this section and the following, I will show that there are interfering factors.

At the beginning of this chapter, we saw that sentences like (150) are ambiguous. One way of capturing that ambiguity is through a rule that place the indefinite quantifier under the scope of the intensional operator. Now the question that we have to answer is whether this rule applies within the syntactic component. May (1985) claims that it does.

May (1985) puts forward another argument for the idea that the two readings in sentences like (150) are the consequence of the two different positions in which the quantifier can be interpreted, and that the position in which the quantifier is interpreted has syntactic consequences. In other words, May tries to show that QL is a syntactic operation because it has syntactic consequences. May claims that the sentence in (172)

⁵³ See also Diesing (1992:25)

can be interpreted as a denial of a belief or as an assertion of a belief, namely that there are no agents that are spies (May (1985:98)).

# (172) No agent is believed by Philby to be a spy for the other side

- a. Denial of a belief
- b. Assertion of a belief, namely that there are no agents who are spies (May (1985:98))

Furthermore, May claims that this is not the case in sentences like (173). "[W]hen the matrix subject is understood with narrow scope, the pronoun cannot be taken as a bound variable, as in [(174)], which paraphrases it" (May (1985:105)).

(173) No agent, was believed by his, superior to be a spy for the other side

(174) *It was believed by his, superior that no agent, was a spy for the other side

In May's characterization, it seems that the presence of the bound pronoun prevents the quantifier from undergoing Quantifier Lowering. This is expected if QL is a syntactic operation that has consequences for binding (in this case, pronoun binding), since the lowering process would place the quantifier in a position where it cannot bind the pronoun.

As Lasnik (1999a) points out, this argument is not very compelling. First, it is not clear that the lower reading of the negative quantifier is possible, independently of the presence of the bound pronoun. As we saw earlier, we know that negative quantifiers do not have low scope reading (see section 1.3, in particular, the discussion around examples (15)). However, since we have seen that indefinites do show ambiguity, Lasnik suggests reconstructing May's argument, slightly modifying May's original example. The modification consists of substituting the negative quantifier with an indefinite as in (175)a.

(175) a. Some professor, is believed by  $his_i$  students to be a tyrant

b. *It is believed by his, students that some professor, is a tyrant (Lasnik (1999a:206))

As Lasnik notes, the sentence in (175)a cannot be paraphrased as (175)b, much in the line of May's observation regarding (173) and (174). However, Lasnik (1999a:206) continues, "[i]t is not clear what we can conclude from the fact that a sentence cannot be paraphrased by an ungrammatical sentence."

The critique of May's argument can be made stronger, by showing that the intended meaning of (175)a corresponds to an incoherent thought. Remember that under the intended interpretation, *some professor* is assigned narrow scope. This means that in the actual world there is no professor who seems to his students to be a tyrant. With this in mind, let's focus on the matrix predicate: *believed by his students*. Independently of the content of the rest of the sentence, in order for the matrix predicate to be true, we need to find a certain individual who has certain beliefs. But no individual qualifies. The individuals in the present world must hold a certain belief (in order for the sentence to be true) and be students of a certain professor. However, by the assumption that *some professor* is assigned narrow scope, the professor cannot be determined. Hence, *his students* does not refer to anybody in the real world. Consequently, it cannot be determined whether a belief is being held by the relevant individuals and (175)a cannot be assigned a truth value.

The structure of this argument is the following:

(176) a. Assumption: *some professor* is being assigned narrow scope

- b. Therefore, *some professor* does not refer to anybody in the real world
- c. Since his is bound by some professor, the reference of his students depends on the reference of some professor.

- d. From b and c, *his students* does not refer to anybody in the real world
- e. From the lexical meaning of *believe*: in order for us to be able to assign a truth value to (175)a, the individuals referred by *his students* must hold a certain belief.
- f. From d and e, (175)a cannot be assigned a truth value

Even clearer results are obtained with anaphor binding. Consider the following sentence:

(177) Some professor seems to himself to be a tyrant

In this sentence *some professor* cannot be assigned narrow scope. In other words, in order for this sentence to be true there must be some professor in the real world that seems to himself to be a tyrant. A May-type account is obvious: *some professor* cannot undergo QL because that would trigger a Condition A violation. If *some professor* lowers to the embedded infinitival clause, it won't be able to bind the anaphor in the matrix clause. However, it should be obvious too that the meaning that the sentence would have under the narrow scope reading of the indefinite is pragmatically incoherent: on one side there is no individual in the actual world that is referred by *some professor* (by assumption) and on the other there must be an individual in the actual world so we can find out whether he has a certain thought about himself being a tyrant.

An alternative way of wording my critique can be done under a proposal made in Higginbotham (1983). Higginbotham makes a proposal that has the effect that "the interpretation of an item cannot be given in terms of that item itself" (p.404). Higginbotham argues that one of the empirical advantages of a proposal like that one is that it provides an explanation of 'circular cases' like the following: (178) *[His, wife], saw [her, husband], Higginbotham (1983:404) The anomaly of sentences like this one is due to the fact that the interpretation of

his wife depends on the interpretation of his (which is expected) AND the interpretation

of his depends on the interpretation of his wife. This is so, because his is coindexed with

her husband, and the interpretation of her husband, depends on the interpretation her,

which in turn is coindexed with his wife.

Let's assume the following dependency relations:⁵⁴

(179) The interpretation of A depends on the interpretation of B  $(D^*: A, B)$  if:

- a. A is a pronoun, B is an R-expression and A and B are co-indexed, or
- b. B is contained in A, or
- c. There is an element X such that the interpretation of A depends on X and the interpretation of X depends on B.

Furthermore, let's assume with Higginbotham that the "interpretation of an item

cannot be given in terms of that item itself'(p.404):

(180) Not: D* (X,X)

Let's see how this proposal applies to the example in (178).

- (181) a. D* (his wife, his) by (179)b
  - b. D* (his, her husband) by (179)a
  - c.  $D^*$  (her husband, her) by by (179)b
  - d.  $D^*$  (her, his wife) by (179)a
  - e.  $D^*$  (his wife, his wife) by successive applications of (179)c

It seems to me that the impossibility of having narrow scope in (175)a could be

explained along the lines of Higginbotham's proposal, provided that we assume that

indefinites under intensional operators are considered to be dependent on the deep subject

of the intensional predicate, which seems reasonable. If intensional predicates like believe

⁵⁴ Higginbotham's proposal is the following:

⁽i) X is dependent on Y iff (i) Y is contained in an antecedent of X or (ii) for some Z, X is dependent on Z, and Z is dependent on Y

The proposal in the texts minimally differs from Higginbotham, I believe, in that the condition (i) is split in two different conditions.

or *want* introduce belief and desire worlds different from the actual world, it seems reasonable to view the relation between the person who is responsible of those belief and desire worlds and the entities in those worlds as a dependence relation. If so, in a sentence like (175)a we would have the symmetric relation that Higginbotham takes to be impossible, because *his student* would be dependent on *some professor* by virtue of binding, and *some professor* would be dependent on *his student* by virtue of being in a belief world of that student.⁵⁵

# 5.5 Freezing/Trapping effects (II)

Several authors have made a slightly more sophisticated argument for Quantifier Lowering as an operation that undoes A-movement. See Aoun (1982), Hornstein (1995), Lebeaux (1995), Fox (1999), Fox (2000) and, in particular, Wurmbrand and Bobaljik (1999). This argument is based on quantifier-quantifier scope interactions. The form of the argument is the following. Since QL and binding are related it has to be the case that QL is a syntactic operation. The base line data for this argument is the following.

(182) a. Someone seemed to Bill to be reviewing every report  $(\forall \geq \exists, \exists \geq \forall)$ 

b. Someone, seemed to his, boss to be reviewing every report  $(\forall \forall \exists, \exists \forall)$ 

c. Someone, seemed to himself, to be reviewing every report  $(*\forall \geq \exists, \exists \geq \forall)$ Aoun (1982) from Hornstein (1995:160)

⁵⁵ The famous Bach-Peters sentences seem to pose a problem for Higginbotham's proposal.
(i) The pilot that shot at it hit the mig that chased him (Bach (1970))

In a sentence like (i), the reference of the NP in subject position seems to depend on the reference of the NP in object position and vice versa, in apparent violation of Higginbotham's proposal. However, it seems to me that the availability of this type of sentences is quite restricted. First, note that in sentences like (i) the pronominal reference in the first NP is not very informative: there does not seems to be any crucial difference between (i) and (ii). Second, small variations of (i), such as (iii) and (iv), do not seem to allow circular readings. (See also Lasnik (1976) for additional discussion of Bach-Peters sentences.)

⁽ii) The pilot that made some shots hit the mig that chased him

⁽iii) The pilot that shot at it admired the mig that chased him

⁽iv) The mig that chased him was hit by the pilot who shot at it

The sentence in (182)a is ambiguous. The interpretation in which someone takes scope over every report is not interesting, since someone c-commands every report at Sstructure. The more interesting interpretation is the one that reverses the S-structure order of the quantifiers, with every report taking scope over someone. That interpretation would correspond to a situation in which Bill thinks that different people are reviewing the repo

rts, and it is not the case that every report is being reviewed by the same person. In order to obtain this interpretation, the inverse scope interpretation, *someone* needs to be in the c-command domain of *every report*. As Wurmbrand and Bobaljik (1999) among others point out, there are two possibilities: either *every report* QRs all the way up to the matrix sentence, or *someone* lowers to a position where it can be c-commanded by *every report* (possibly after *every report* itself has undergone some type of QR).

OPTION 1: every report QRs to matrix IP position
(183) every report [someone seemed to Bill to be reviewing t]
QR _____/

The standard argument for Option 2 is based on the impossibility of having wide

scope of the universal quantifiers in sentences like (182)b and (182)c. Let's assume that

Option 1 is possible. Then QR could apply in (182)c as follows.

(185) every report [someone, seemed to himself, to be reviewing t] QR _____/ Nothing is wrong in this representation, therefore the inverse scope reading should be possible. However this is contrary to facts. On the other hand, consider the inverse scope representation of (182)c under option 2.

(186) ______seemed to himself; [someone; to be reviewing every report] ______/ QL/ A-Reconstruction

Importantly, (186) represents a Condition A violation at LF, since the anaphor is not bound. Thus, the QL/A-reconstruction approach predicts the impossibility of wide scope of the universal quantifier.

Lebeaux (1995) presents an additional argument that option 1 cannot be correct. His argument is the following. He notes that in a sentence like (187)a the inverse scope reading is available. If long QR of *every senator* to matrix IP were to be responsible of such a reading, we would expect that *every senator* could have scope over *two woman* in (187)b, contrary to facts.

(187) a. Two women seem to be expected to dance with every senator

b. Mary seems to two women to be expected to dance with every senator⁵⁶

There seems to be some reason to doubt Lebeaux's argument. Lebeaux's argument takes for granted that the experiencer can participate in inverse scope relations. However, this does not seem to be completely true. Martin and Uriagereka (n.d.) note that a sentence like (188) has "absolute wide scope of *a girl* or an overwhelming preference for such a reading."

(188) A girl seems to every boy to be nice

(i) John seems to a (#different) teacher [t to be likely to solve every one of these problems]

 $(E < \forall *, \forall < E)$ 

⁵⁶ Fox (1999:159) presents a similar example:

I have tested sentences similar to (188) with results similar to the one reported by Martin and Uriagereka. I have obtained even clearer results with passive ECM constructions like the following. Thus, according to my informants, the sentence in (189) has the interpretation in (190)a but not the interpretation in (190)b.

(189) Two students are believed by every professor to be likely to defend in August

- (190) a. There are two students such that every professor believes that those two students are likely to defend in August.
  - b. Every professor believes that there are two students who are likely to defend in August, but the professors (possibly) disagree about who those two students are.

What the examples in (188) and (189) seem to be telling us is that for some reason

experiencers and by-phrases cannot participate in inverse scope relations. But if this is so,

then Lebeaux's argument loses much of its convincing power. In fact, under the A-

movement reconstruction approach to scope interactions, it is completely unexpected that

(189) lacks the inverse scope reading.⁵⁷

The final step of the argument for the QL approach to the facts in (182) is to

provide an explanation for the ill-formalness of (185). There are two proposals: either

(185) is ruled out under the assumption that QR is clause bound and that the IP boundary

of the infinitival complement of seem blocks QR (see for instance, Wurmbrand and

Bobaljik (1999)), or QR just does not exist (Hornstein (1995), Pica and Snyder (1995)).

The following are similar examples:⁵⁸

⁵⁷ Martin and Uriagereka's explanation is based on the assumption that the quantifier cannot bind outside the PP that contains it. I will not assume this explanation because of the evidence that the experiencer ccommands outside its PP (2.4.4).

⁵⁸ In some cases it seems to be possible to have the inverse scope reading even if the indefinite is involved in some binding relationship, as in the following examples:

⁽i) a. At least one student, seemed to himself,/his, roommate to have failed every exam Wurmbrand and Bobaljik (1999)

b. Some TA_i seems to his_i department head to be able to do every task (H. Lasnik (p.c.))

- (191) a. Two women seem to be expected to dance with every senator  $(\forall >2, 2>\forall)$ 
  - b. Two women_i seem to each other_i to be expected to dance with every S ( $*\forall>2, 2>\forall$ ) Lebeaux (1995:64-5)
- (192) a. At least one soldier seems to Napoleon to be likely to die in every battle  $(\forall > \exists, \exists > \forall)$ 
  - b. At least one soldier, seems to his, commander to be likely to die in every battle  $(\forall \forall \exists, \exists \forall \forall)$
  - c. At least one soldier, seems to himself, to be likely to die in every battle  $(*\forall > \exists, \exists > \forall)$

In order for this argument for QL/A-movement reconstruction to be valid, it has to

be shown that there are no interfering factors. In particular it has to be shown that in an

abstract structure like the following, the wide scope of the universal quantifier is possible.

(193) Some NP_i ... [ pronoun_i ... every NP]

Wurmbrand and Bobaljik (1999) explicitly claim that in this type of structure it is

possible to have wide scope of the universal quantifier and the pronoun bound by the

existential. Their claim is based on the following examples.

(194) a. A (different) critic_i showed his_i lover every Rembrandt
b. A (different) student_i complained to his_i advisor about every syntax problem

Wurmbrand and Bobaljik (1999) claim that in (194) it is possible to have both the

pronoun bound by the existential quantifier and every NP adjoined to IP by QR, because

there are no clause boundaries.

(195) Every Rembrandt [a (different) critic_i showed his_i lover t] QR _____/

I ran the same test that Wurmbrand and Bobaljik did, but with different results.

For every speaker I have consulted the wide scope reading of the universal quantifier is

less accessible in the b and c sentences than in the a sentences, in the following examples.

(196) a. Somebody got my nephews every Lego in the catalogue  $(\forall \geq E, E \leq \forall)$ Somebody, got his, nephews every Lego in the catalogue (*∀>∃, ∃>∀) b. Somebody, got himself, every Lego in the catalogue (*∀>∃, ∃>∀) C. (197) Some student complained to John about every syntax problem (∀<E, E<∀) a. Some student, complained to his, advisor about every syntax problem  $(*\forall > \exists, \exists > \forall)$ b. C. [Two students]; complained to [each other]; about every syntax problem ( $\forall \forall \exists, \exists \forall \forall)$ 

Wurmbrand and Bobaljik (1999)

(198)	a.	Some boy talked to every girl about John	(∀>∃, ∃>∀)
	b.	Some boy, talked to every girl about himself,	(*∀>∃, ∃>∀)
	C.	Some boy, talked to every girl about his, girlfriend	(*∀>∃, ∃>∀)
(199)	a.	Some professor gave every female student a book about	teaching $(\forall > \exists, \exists > \forall)$
	b.	Some professor, gave every female student a book about	t himself, (* $\forall$ >∃, ∃> $\forall$ )
	~	Some professor, gave every female student a book about hi	montor (*WSJ JSW)

c. Some professor, gave every female student a book about his, mentor  $(*\forall > \exists, \exists > \forall)$ 

The descriptive generalization that seems to emerge is the following.⁵⁹

- (200) Some N_i ... [ every N {anaphor_i / bound pronoun_i}] (the relative order of every N and the bound element is not relevant)
  - a. ∃>∀
  - b.  $\forall \geq \exists \rightarrow \text{Not available (or at least less preferred than } \exists \geq \forall)$

However, if this is the correct empirical generalization, the empirical evidence that is used to support the trapping/freezing effects ((182), (191), (192)) falls under the descriptive generalization in (200). In other words, the fact that a sentence like (182)b, repeated below, cannot be assigned an inverse scope reading cannot be used as evidence that the existential quantifier must undo A-movement in order for the sentence to be interpreted in that way. This is so because the unavailability of the inverse scope reading in (182)b falls under the descriptive generalization in (200).

(182)b Someone, seemed to his, boss to be reviewing every report ( $\forall \forall \exists, \exists \forall \forall)$ 

To summarize the argument so far, we considered freezing effects because this is one of the arguments for the syntactic nature of QL (and for the existence of A-traces, under the assumption that QL is linked to A-movement reconstruction). A particular instance of freezing effects is related to quantifier-quantifier interactions and binding. The fact that the inverse scope was not possible in cases where the higher quantifier is involved in some binding relation is taken as a proof that the inverse scope relation is obtained through some type of QL: if QL applies, a binding violation is obtained. However, we have seen some evidence that cast doubts on this argument. The QL strategy does not seem to give the desired results for certain sentences where similar freezing effects are obtained.

In what follows I will review two attempts to explain facts similar to those that appear in (196)-(199) which crucially rely on a generalized application of A-movement reconstruction. These two approaches are Hornstein (1995) and Pica and Snyder (1995). In these works examples like the following are considered:

- (201) a. A girl_i gave everyone her_i picture  $(\forall \forall \exists, \exists \forall \forall)$  Hornstein (1995:180)
  - b. Someone, gave everyone his, business card ( $\forall \forall \exists, \exists \forall \forall)$  Pica and Snyder (1995:354)
  - c. Someone, gave every good book to his, friend( $\forall > \exists, \exists > \forall$ ) Pica and Snyder (1995:354)

The accounts in Hornstein (1995) and Pica and Snyder (1995) differ slightly from each other. However, they share the main idea. It is assumed that the postverbal complements in (201) (which for Hornstein, but not for Pica and Snyder, form a small clause) move out of the VP. Hornstein proposes that the two objects in a double object construction form a small clause, which raises to a position out of VP. Pica and Snyder propose that both DP and PP arguments are interpreted (preferably) in a VP external position. In both works it is further proposed that the inverse scope reading is obtained through interpreting the quantifier in subject position, after some sort of A-movement reconstruction. Thus, the simplified LF of (201)a under the inverse scope interpretation would be:

(202) [everyone her, picture [vp a girl, gave]]

In this structure, it is expected that *a girl* cannot bind the pronoun *her* because of the lack of c-command. If this were correct, the lack of inverse scope in examples like

⁵⁹ See Fox (2000:64fn52) for a similar descriptive generalization.

(196)-(199) not only could not be used against the argument that QL exists but they fall under Hornstein's and Pica and Snyder's accounts, which is crucially based on the possibility of A-movement reconstruction.

In what follows I will lay out some reasons to doubt that the correct account of (196)-(199) and similar examples is based on obligatory A-movement reconstruction for the inverse scope reading.

First consider again examples like the following.

- (203) a. Two women seem to be expected to dance with every senator
  - b. Two senators seem to be expected to be caught in every sting operation
  - c. Two computer operators seem to be expected to crash every system Lebeaux (1998)

According to Lebeaux, it is possible to have the inverse scope reading in these examples (every >> 2). According to the A-movement reconstruction approach to scope ambiguities, in order to get the inverse scope reading the quantifier must be interpreted in the lowest VP (in the position where it was inserted, its thematic position). However, we know from previous sections that this type of reconstruction would yield incorrect results. In particular, in a sentence like (204) we would expect *an alien* to be interpreted under the scope of *believed* and therefore the sentence would be compatible with the situation in which the speaker does not believe in aliens (aliens do not exist in the speaker's belief worlds), contrary to facts.

(204) An alien seems to me to be believed to be abducting people

Second, Hornstein's and Pica and Snyder's proposals rely on a very specific proposal regarding clause structure. In particular, they assume that the subject is generated in a position below the position where the object is assigned Case. In this dissertation I have been assuming with Koizumi (1993), Koizumi (1995), Lasnik (1995b) and seq., the split VP hypothesis according to which the object is assigned Case below the position where the subject is merged for the first time. Thus, if it turns out that the arguments for the split VP hypothesis are stronger than the arguments for the non-split VP proposal, then we would have another argument against A-movement reconstruction account of scope interactions.

Both argument against the A-movement reconstruction approach seen so far are somewhat conceptual since they depend on certain assumptions regarding other aspects of the theory. The following arguments have a more empirical character.^{60, 61}

The stronger argument against explaining the contrast in (196)-(199), (201) in terms of A-movement reconstruction comes from the fact that we find similar contrasts in cases where A-movement reconstruction has no chance of explaining the contrast. The evidence is based on cases of long QR. It is easy to find discussions in the literature regarding the possibility of having QR across clause boundaries (see for instance, Williams (1986), May (1988)). What I will do next is consider some of the examples in which QR seems possible, and then find out whether we still find binding-triggered freezing effect. Consider the following examples.

(205) a. Some girl found out from Mary what every boy brought to the party (modeled after Moltmann and Szabolscsi (1994))⁶²

⁶⁰ An argument based on the possibility of inverse scope reading in (i) could be made against the Amovement reconstruction approach. If in order to obtain the inverse scope reading, the indefinite subject needs to undo A-movement and be interpreted in a position lower than the rest of the arguments in the sentence, then we would expect a Condition C violation in (i) under the inverse scope reading.

⁽i) A friend of John,'s brought him, every book he, needed See also Pica and Snyder (1995), Bruening (2001) regarding inverse scope reading affecting the second

object in a double object construction.

⁶¹ For more arguments against the A-movement approach to scope interactions, see Fox (2000:46fn35) and references therein.

⁶² Moltmann and Szabolscsi's (1994:381) original example is the following:

- b. Someone expects Sue to marry every boy (Fox (2000:65))
- c. Somebody thinks that Mary solved every problem

(Lasnik and Uriagereka (1988:156))

In the examples in (205), it is possible to some degree to obtain the inverse scope reading ( $\forall>\exists$ ). Importantly the inverse scope reading is even less available (if not impossible) in the examples in (206).

- (206) a. Some girl, found out from her, boyfriend what every boy brought to the party
  - b. Someone, expects his, sister to marry every boy
  - c. Somebody, thinks that he, solved every problem

The only difference between the examples in (205) and (206) is that the indefinite in (206) is binding a pronoun. The abstract configuration of these examples is almost the same as the earlier examples from Lebeaux (1995), Fox (1999), Fox (2000) and Wurmbrand and Bobaljik (1999) that were used to argue for A-movement reconstruction. Here I repeat one from Wurmbrand and Bobaljik (1999):

(207) At least one soldier, seems to his, commander to be likely to die in every battle  $(*\forall \geq \exists, \exists \geq \forall)$ 

As can be seen, (206)a and (207) are parallel in the relevant aspects. The narrow scope reading of the indefinite in (206)a is supposed to be ruled out as a WCO violation (in order to be assigned narrow scope *at least one solider* has to undergo A-movement reconstruction, and after that it is not able to bind the pronoun *his*). However, this explanation is not available for (206)a since A-movement reconstruction will not result in the appropriate configuration between the two quantifiers. The point can be made even clearer with examples like (206)c. Even if A-movement reconstruction applies to the

(i)

Some librarian or other found out which book every boy needed.

indefinite subject, the indefinite will still c-command the pronoun in the embedded clause:63

(208) Somebody, thinks [Somebody, [that he, solved every problem]]

Thus, since the descriptive generalization in (200) applies to cases that cannot be explained in terms of A-movement reconstruction approach, I will conclude that the Amovement reconstruction approach to examples like (207) is not well-motivated.⁶⁴

In other words, the argument for A-movement reconstruction based on examples like (207) is not correct because those type of examples fall under a descriptive generalization (namely (200)) that cannot be explained in term of A-movement reconstruction. The question that arises is what motivates and explains this descriptive generalization in (200). Right now, I don't have a clear answer for this question. Maybe, there are too many dependencies for the speaker to compute. Note that the baseline data involve inverse scope readings which by themselves are already difficult to obtain. The crucial examples involve inverse scope reading and bound pronoun readings. Maybe the task of having inverse scope readings and bound pronoun interpretations is too difficult to perform. There is certain evidence that this might be on the right track since under certain

(i)

⁶³ Under the standard assumption that clauses do not undergo object shift.

⁶⁴ Some cases where the descriptive generalization in (200) does not seem to hold are the following. ((i)c and (i)d are from Hornstein (1995:162).)

Some boy invited every girl to visit his parents a.

Some girl told every boy that she was sick b.

Someone asked every attendant if he could park near the gate C.

d. John got someone / at least one patron to tell every critic that he hated the play Although there is some variation, it seems to be the case that according to my informants in the sentences in (i) it is possible to have the bound reading interpretation of the pronoun and the inverse scope reading. Fox (2000:64fn52) offers different judgements. He claims that there is a contrast between the following sentences. (ii)

A girl expected every boy to come to the party a.

h A girl, expected every boy to come to her, party

According to Fox, inverse scope is possible in (ii)a but not in (ii)b. This would accord with the descriptive generalization in (200). Clearly, more research needs to be done on the status of these sentences.

circumstances it is possible to find counterexamples to that descriptive generalization (see examples in footnote 58 and Wurmbrand and Bobaljik's (1999) examples in (194)).

### 5.6 Double raising to subject

May (1985:102) presents a different argument for the idea that there is a direct relation between QL and A-movement (in the sense that QL undoes A-movement). He claims that the sentence in (209) is three ways ambiguous, depending on whether the indefinite is interpreted in sits surface position, under the scope of *seems* or under the scope of *likely*.

(209) Some politician seems to be likely to address John's constituency

May (1985:166fn.6) also notes that there is some disagreement in the literature about the interpretation possibilities of this sentence. Aoun (1985:84) attributes to Noam Chomsky and James Higginbotham the judgement that (209) lacks the interpretation in which *some politician* is interpreted under the scope of *likely*. This discussion is very relevant for the following reason: if QL undoes A-movement (or QL is some type of Amovement reconstruction), as sentence like (209) should have the interpretation in which the indefinite is interpreted under the scope of *likely*. In order to obtain (209), two instances of raising to subject must have taken place. In other words, if A-movement leave a trace, a partial representation of (209) would be the following, where *t1* and *t2* represent A-traces.

(210) Some politician seems [t1 to be likely [t2 to address John's constituency]]

If QL can undo A-movement, some politician should be able to be interpreted in the position of t1 or t2. One of the difficulties with sentences like this is that its different

interpretations seem too difficult to tease apart. However, easier results are obtained with the following type of sentences.

(211) An alien is believed by Mary to seem to John to be abducting people

This sentence does not seem to have the interpretation in which *An alien* is interpreted in the most embedded sentence. In other words, this sentence lacks the interpretation according to which there is an alien abducting people only in John's belief world(s) (or to be more precise, in those worlds compatible with John's beliefs). In order for this sentence to be true, either there is an alien in the real world such that Mary has certain beliefs involving that alien, or there is an alien in every world compatible with Mary's beliefs (but not necessarily in the actual world) such that John has certain beliefs involving that alien (in those worlds compatible with Mary's beliefs). This is completely unexpected under the assumption that QL can freely undo A-movement. Note that the missing reading in (211) does not correspond to an impossible situation. That reading could be expressed with the following sentences:

(212) a. It is believed by Mary that it seems to John that an alien is abducting peopleb. It is believed by Mary that an alien seems to John to be abducting people

The impossibility of undoing (successive application of) A-movement for interpretative purposes can be attested in the following examples, modeled after one of Boeckx's (2001) example:

- (213) a. Even though I completely reject the possibilities of there being unicorns, I believe that a unicorn seems to Mary to be sitting in the middle of the garden.
  - b. #Even though I completely reject the possibilities of there being unicorns, a unicorn is believed by me to seem to Mary to be sitting in the middle of the garden.

The sentence in (213)b can be easily derived from (213)a through an additional instance of raising to subject. If this movement could be undone, we would expect (213)b to have at least the same interpretations as (213)a. However, this is not correct. (213)b is unacceptable, or to be more precise is contradictory. The reason is the following: the first part of (213)b states that according to the speaker, unicorns do not exist, whereas the second part presupposes that unicorns exist in the speaker's world. This presupposition does not exist in (213)a because the indefinite can be interpreted under the scope of *seem* and therefore the presupposition that unicorns exist can be restricted to Mary's belief worlds.⁶⁵

## 5.7 Scope assignment and Condition C

Fox (1999), Fox (2000:169-170) (see also Lebeaux (1995), Romero (1997)) claim that there is a relation between scope and Condition C. The claim is that in a sentence like (214)a the indefinite cannot be interpreted under the scope of seem because doing so would create a Condition C violation, as illustrated in (215)a. In (214)b on the other hand, the indefinite is free to undergo reconstruction because lowering does not trigger a Condition C violation, as seen in (215)b.

(214)	a.	A student of David's, seems to him, to be at the party ( $\exists > \text{seems}$ ) (*seems $> \exists$ )			
	b.	A student of	his, seems to David, to be a the party $(\exists > \text{seems})$ (seems $> \exists$ )		
(215)	a.	*seems $> \exists$ :	seems to him, [a student of David's,] to be a the party]		
	b.	seems $> \exists$ :	seems to David, [a student of his,] to be a the party]		

⁶⁵ It is interesting to compare the deviance of (211) with the sentence in (i).

⁽i) How many aliens does Mary believe that John thinks are sitting in the garden In (i), it is possible to interpret *aliens* under the scope of *think*. That is, it is compatible with the situation in which aliens only exist in John's belief worlds. This is expected if we assume that A-bar-movement leaves a trace and some part of *how many aliens* can be interpreted in the initial position, maybe along the lines suggested in Chomsky (1993).

⁽ii) [[How many aliens] does Mary believe that John thinks [[how many-aleins] are sitting in the garden]]

Fox also notes that the judgements are not clear. Only for some speakers is there a

clear contrast. For some others there is no contrast at all.

When I run the same test, I offered my informants the following context, which forces the narrow scope interpretation of the indefinite (since there is no particular relative of Mary that seems to her to be missing). I asked them to judge the sentence in (217), which under the A-movement/lowering approach would have the LF in (218).

- (216) Context: We are at a wedding. Mary and John are getting married. Mary's family is sitting on one side of the church. John's family is sitting on the other side. Seats have been assigned names, so everybody knows where to sit. Mary looks at her side and she sees an empty seat. She thinks that somebody from her family might be missing, but she doesn't know who, since she doesn't know how the seats have been assigned.
- (217) Someone from Mary's family seems to her to be missing
- (218) seems to her [someone from Mary's family to be missing]

The majority of speakers that I have consulted with find (217) perfect. However,

as Fox did, I have also found some variation. Fox decided to put aside the judgements

that would not conform to the expectation that lowering triggers Condition C effects,

without trying to explain the observed variation. William Snyder (p.c.) suggested to me a

possible way to explain the fact that for the majority of my informants (217) is perfect.

He suggested that maybe those speakers are disregarding the experiencer, hence

explaining the fact that no Condition C violation arises. Although this suggestion

explains the observed variability, it also predicts that the following should be acceptable,

contrary to facts.(see section 2.4.4 for discussion of this and similar facts.)

(219) *They seem to him_i to like John_i (=(52))

William Snyder also points out that collecting correct judgements about these sentences might be more difficult than usual since it is most difficult to make sure that the informants are judging the non-specific reading.

At any rate, it does not seem reasonable to reject a proposal (in this case, the lack of A-reconstruction) based on judgements that are systematically very unstable. Furthermore, note that the ungrammaticality of (217) under the non-specific interpretation does not in itself show that there is A-movement reconstruction. Under the A-movement reconstruction approach to the non-specific interpretation of (217), its (alleged) ungrammaticality should sharply contrast with the following sentences (under the same non-specific reading).

- (220) a. Someone from Mary,'s family seems to John to hate her,
  - b. Someone from Mary's family seems to her, mother to be missing

It seems that for some people these sentences are better than (217), as expected under the A-movement reconstruction approach. At any rate, as everybody agrees, all of these sentences are extremely difficult to judge.⁶⁶ It seems that this is one of the cases in which it seems that the theory should decide in which direction the data goes. Now, the problem is to determine which theory. Under the A-movement reconstruction approach, the contrast is expected. Under the assumptions adopted in this dissertation, no contrast is expected.

⁶⁶ One of the problematic aspects of these sentences is that many speaker show a tendency to reject the narrow scope reading of the indefinite. Remember from footnote 50 that Postal claimed that no scope ambiguity arises at all in these contexts.

# 5.8 A proposal

We have been considering certain raising to subject constructions that show a systematic ambiguity. As we saw earlier, many researchers have linked this ambiguity to A-movement, either through a rule (QL) that undoes A-movement, or as an instance of A-movement reconstruction effects. I have shown that the A-movement undoing approach (whether QL or A-movement reconstruction) is not correct. First, I have shown that some of the arguments are not conclusive. Second, the generalized undoing of A-movement overgenerates possible interpretations, as we saw in 5.6.

In what follows I will try to provide an account of what I take to be the crucial facts, namely, that in a sentence like (211) the indefinite in surface subject position can be interpreted under the scope of *believed* but not under the scope of *seem*, and that what is taken to be A-movement reconstruction is limited to indefinites, as shown by Lasnik (1999a). Some of his relevant examples appear below. (See section 1.3 for a fuller discussion):

(221)	<b>a</b> .	No one is certain to solve the problem	(*Certain > No one)
	b.	Everyone seems not to be there yet	$(*not > \forall)$

In principle, I see two options. Either there is no QL at all, or there is a very restricted application of QL. Under the first possibility we face the problem of explaining how the subject can be interpreted under the scope of the intensional operator. One possibility would be to assume that the indefinite quantifier can be interpreted under the scope of the intensional operator even if the intensional operator does not c-command the quantifier. It could be the case that the relevant notion is not c-command, but some less restricted configurational relation, maybe m-command.

Under the second approach we face the problem of how to constrain the lowering movement. Restricted QL (rQL) has to be restricted in at least two ways. First, it cannot apply to all types of quantifiers, otherwise, we would have no account for the facts in (221). Second, it has to be very local: it has to allow (222)a but not (222)b, since in a sentence like (211) the indefinite cannot be interpreted under the scope of *seem*. An alien is believed by Mary to seem to John to be abducting people

(222) a. _____is believed by Mary [an alien to seem to John [to be abducting people]]

b. *__is believed by Mary [to seem to John [an alien to be abducting people]]

One possibility to explain the local character of rQL could be to assume that it is restricted by some version of shortest move. Thus, (222)a would be preferred over (222)b because the movement in (222)a is shorter than the movement in (222)b. This line of reasoning based on economy considerations would expect no movement at all since the most economical operation is the lack of one. On the other hand, if one argues that lowering of the indefinite would be allowed (against economy considerations) because it yields a different semantic interpretation (along the lines of Fox (2000)), then I see no way of blocking (222)b since it yields a different interpretation than (222)a.

Another alternative to explain the impossibility of (222)b would be to assume that (r)QL is clause bound, in the same way that QR is standardly, though not universally, taken to be. In other words, QL can adjoin the indefinite quantifier to the closest embedded IP. Under the assumption that rQL is clause bound, then the contrast in (222)b would be straightforwardly ruled out because more that one IP is being crossed by rQL. The problem with such an account is that the parallelism with QR does not seem to hold,

since QR seems to be able to cross IP boundaries as shown by the possibility of having the inverse scope reading in the following sentences.⁶⁷

- (223) a. Two women seem to be expected to dance with every senator
  - b. Two senators seem to be expected to be caught in every sting operation
  - c. Two computer operators seem to be expected to crash every system Lebeaux (1998)

As things stand now, we seem to have the following choice: either we keep our syntax clean with the hope that somewhere in the semantic component the ambiguity can be taken care of, or we propose some special syntactic rule such as rQL. I will assume in this dissertation the first option: Thus I will assume that the narrow scope interpretation does not require QL of any type in the syntactic component. May (1985) considered and rejected an approach of this type. However, we have seen that its arguments against such a proposal are less sound that standardly assumed.

⁶⁷ This examples show that QR is not IP bound under the assumption that the inverse scope reading is obtained through long QR. Lebeaux himself uses these examples to argue for a different possibility: the inverse scope reading is obtained through long QL. I have just shown on the basis of examples like (213)b that long QL would make available impossible readings. Earlier, we saw that some of the empirical facts that supported Lebeaux's claim fall under a different generalization.

# **Chapter 6: Binding**

### 6.1 Introduction

In this chapter I will look at certain facts related to binding that have been used to argue for the existence of A-traces. The binding based arguments for A-traces come in two shapes: sometimes A-traces are used to flag the site where A-movement reconstruction should take place, and sometimes A-traces are used as relevant entities in binding theory. In both cases, I will show that there is an alternative that does not rely on the existence of A-traces. The alternative I will be arguing for is based on a derivational approach to syntactic relations, where certain syntactic relations are established as the derivation proceeds.

## 6.2 Pronoun binding

#### 6.2.1 The problem

Lebeaux (1995) and others use examples like (224) to argue that A-movement reconstruction must be possible.

(224) His, mother seems to everybody, to be the best

The form of the argument is the following. The assumption is that pronoun binding takes place at LF. In (224), the pronoun can have a bound reading interpretation. Therefore, it must be the case that the pronoun is c-commanded by the quantifier at LF. That is, *his mother* must undo raising to subject and the LF in (226) is obtained.

- (225) a. Pronoun binding takes place at LF.
  - b. In (224), the pronoun can receive a bound interpretation.
  - c.  $\therefore$  At LF, *his*_i mother must be c-commanded by everybody_i in (224).
- (226) seems to everybody, [his, mother to be the best]

Evidence that "exceptional pronoun binding" is related to A-movement (to reconstruction of A-movement) comes from the following:

(227) a. ??[Someone from his, class], shouted to every professor, [PRO, to be careful]
 b. [Someone from his, class], seems to every professor, [t, to be a genius]
 Fox (2000:147)

Since in (227)a, there is no movement form the embedded clause to the matrix clause, Someone from his class is never in the c-command of the universal quantifier, it is explained that the bound reading interpretation of his is not available. (227)b on the other hand, since there is A-movement from the embedded to the matrix clause, the pronoun his is atsome point in the derivation in the c-command domain of the quantifier and the bound reading interpretation of the pronoun is possible.

6.2.2 The solution: on-line binding

What I would like to propose is that pronoun binding can be satisfied on-line in the same way that anaphor binding can be satisfied on-line according to Belletti and Rizzi (1988), Lebeaux (1995), Lebeaux (1998) and others.

6.2.2.1 On-line approach to Binding Theory

Belletti and Rizzi (1988) explicitly proposed that Condition A of binding theory can be satisfied at any point in the derivation. They say: "[I]t suffices for principle A to be met somewhere, either at D-structure or S-structure or, perhaps, LF. Our claim is that Principle A is a kind of 'anywhere' principle" (Belletti and Rizzi (1988:314)). They were explaining cases like (228), where the anaphor is not bound at S-structure, in apparent violation of Condition A. If Condition A of binding theory can be satisfied at any point of the derivation, the anaphor in (228) satisfies the condition of being bound within a local domain before the raising to subject takes place, namely at the point in the derivation that appears in (229).

(228) Replicants of themselves, seem to the boys, [e to be ugly]

Belletti and Rizzi (1988:316) who attribute it to K. Johnson (229) seem to the boys_i [replicants of themselves_i to be ugly]

Belletti and Rizzi (1988:317) also note the contrast between (230)a and (230)b.

They assume that both are derived from a D-structure like (230)c. In (230)c all binding

principle are satisfied. This explains why (230)a is fine: Condition A was satisfied at D-

structure. However, (230)b is out. Belletti and Rizzi claim that (230)b is ruled out as a

Condition B/C violation that takes place at S-structure. Thus, there is a crucial asymmetry

between Condition A and Condition B/C. Whereas Condition A has to be satisfied at one

point of the derivation, conditions B/C must be satisfied at S-structure.⁶⁸

- (230) a. Pictures of himself, worry John,/him,
  - b. *Himself, worries John,/him,
  - c. [worry (pictures of) himself_i] John_i/him_i

Lebeaux (1988:Ch. 6) explicitly proposed that binding principles (Principle C, control, Condition A) apply throughout the derivation. Also, he proposed that negative conditions such as Condition C (an R-expression <u>cannot</u> be bound) must be satisfied everywhere during the derivation, whereas positive conditions such as Condition A (an

(i)

⁶⁸ As for whether Conditions B/C must be satisfied at D-structure within Belletti and Rizzi's proposal, see their footnote 16, where examples like the following are considered:

a. *Mary, John,'s picture of whom he, likes e

b. ??Which picture of John, did he, like?

c. Which picture that John, saw did he, like?

anaphor MUST be bound within a local domain) or control (controlled PRO <u>must</u> be bound) can be satisfied anywhere in the derivation. In his words:

- (231) Metatheoretical condition on indexing
  - a. If a possitive condition applies, it must be satisfied somewhere in the course of the derivation.
  - b. If a negative condition applies, it must be satisfied nowhere in the course of the derivation.⁶⁹

Let's consider some of the examples that Lebeaux uses as evidence. Let's start with some instances of control (Lebeaux (1988:6.5.4)). Consider the following sentence:

- (232) a. PRO to kiss the duck would make the lion happy
  - b. e would make-happy the lion [PRO to kiss the duck]

Lebeaux notes that in a sentence like (232)a PRO is not c-commanded by its antecedent *the lion* at S-structure, and still this example is fine under the obligatory control interpretation. Lebeaux notes that the structural oddity of this example disappears if, following ideas of Belletti and Rizzi (1988) and Kyle Johnson we assume that (232)b is the deep structure of (232)a. At the stage of the derivation represented in (232)b, PRO is c-commanded by its antecedent and hence the requirement that PRO is bound by its antecedent is satisfied at that point. This is enough since we are dealing with a positive condition.

A similar account is given for examples involving anaphors as in the following:

(233) Which picture of himself_{*i*/*j*} did John_{*j*} say that Bill_{*i*} liked t?

Lebeaux's proposal is that, since Condition A is a positive condition and can be satisfied anywhere, the anaphor in (233) can be coindexed with *Bill* at D-structure or with *John* after movement to the intermediate Comp (Lebeaux (1988:411)).⁷⁰

- (234) a. John said that Bill liked which picture of himself
  - b. John said [which picture of himself [that Bill liked t]]

Let's finally consider a negative condition such as Principle C (See Lebeaux

(1988:402) among other places). Consider an example like the following.

(235) *Near John_i, Bill said he_i saw a snake

Lebeaux attributes the ungrammaticality of (235) to a violation of principle C.

Obviously, at S-structure, there is no binding violation, since he does not c-command

John. However, Lebeaux notes, at D-structure, he does c-command John as illustrated in

(236). This triggers a violation of Principle C. Since Condition C is a negative condition

that must apply at every point during the derivation, the fact that Condition C is violated

at one point of the derivation (the D-structure representation in (236)) suffices to rule out

the sentence in (235).

(236) Bill said that  $he_i$  saw a snake near John_i

In later works, Lebeaux has departed slightly from the view maintained in his dissertation. Thus in Lebeaux (1995) and Lebeaux (1998) it is claimed that only negative condition such as Condition B and in particular Condition C apply during the derivation.

⁶⁹ Lebeaux adds in a footnote: "That is, the positive indexing in Condition A applies throughout a derivation and is checked at LF; while the stars that are assigned in Condition C are never removed. Condition C might have to be restricted to apply after NP movement (...)." Lebeaux (1988:452, fn.5).
⁷⁰ A similar account is given to examples like the following:

⁽i) John, wondered which pictures of himself_{ij} Bill liked_j</sub>

⁽ii) John, wonders how many new stories about himself, Mary will invent this week

Interestingly, examples like (ii) shows that Condition A might not be satisfied at LF, under the proposals that claim that the object of creation verbs needs to be reconstructed to its theta position (see (Heycock (1995), Fox (2000:153ff)). If so, the LF corresponding to (ii) would be (iii) and in (iii) Condition A cannot be satisfied. Since the sentence is fine, then it has to be concluded that Condition A does not need to be satisfied at LF.

⁽iii) John wonders how many x [Mary will invent x new stories about himself this week] At any rate, this argumentation goes against the proposals in this dissertation since it requires reconstruction to theta position, which requires A-traces.

Other conditions, such as Condition A, apply only at LF. Later I will discuss some of the evidence for such a change.⁷¹

## 6.2.2.2 On-line approach to pronoun binding

In this section I would like to propose that the syntactic licensing of pronoun binding readings can be done on-line (along the lines of Lebeaux's work, Epstein et al. (1998:67-68), Ordóñez (1998:326) and under a different set of assumptions, Lasnik (1976)).⁷² In particular I will propose that in an example like (237)a, the bound reading interpretation of the pronoun is licensed because at some point of the derivation the quantifier is c-commanding the pronoun. That point in the derivation is before raising to subject takes place and is represented in (237)b.

- (237) a. His, mother seems to everybody, to be the best⁷³
  - b. seems to everybody_i [his_i mother to be the best]

In order to make my proposal more precise I will start by assuming that the Heim and Kratzer (1998) syntactic condition on bound pronoun reading can be satisfied at any point in the derivation and not just at S-structure as Heim and Kratzer claim. The Heim and Kratzer condition on pronoun binding appears in (238). Their definition of syntactic binding appears in (239).

- (238) Binding Principle
   Let α and β be DPs, where β is not phonetically empty. Then α binds β syntactically at SS iff α binds β semantically at LF. (Heim and Kratzer (1998:264))
- (239) Syntactic Binding

⁷¹ See also section 6.3.2 for a slightly different approach to on-line binding.

 ⁷² The general picture that emerges is reminiscent of Jackendoff (1972)'s coreference table. For Jackendoff cyclic application of coreference rules would add coreference relations to the coreference table.
 ⁷³ Similar examples from the literature are:

⁽i) His mother's bread seems to every man to be known by her to be the best there is (Lebeaux (1998:36))

⁽ii) His mother is believed by everybody to be a saint (Hornstein (1995:159))

⁽iii) His father seems to every boy to be a genius (Fox (2000:147))

A node  $\alpha$  syntactically binds a node  $\beta$  iff

- a.  $\alpha$  and  $\beta$  are co-indexed,
- b.  $\alpha$  c-commands  $\beta$ ,
- c.  $\alpha$  is in an A-position, and
- d.  $\alpha$  does not c-command any other node which also is co-indexed with  $\beta$ , ccommands  $\beta$  and is in an A-position. (Heim and Kratzer (1998:261))

Simplifying considerably, for Heim and Kratzer the bound reading of a pronoun is

possible only if at S-structure the quantifier (the binder) c-commands the pronoun (the

bindee).⁷⁴ Note that from a minimalist point of view, this proposal is suspicious, since it

is standardly assumed in the minimalist literature (for instance, Chomsky (1993)) that S-

structure is not a linguistically significant level of representation.

Based on Heim and Kratzer's Binding Principle, I would like to propose the

following Licensing Condition on Bound Pronouns. The modification from Heim and

Kratzer's definition appears underlined.

(240) Licensing Condition on Bound Pronouns (LCBP) – First version A quantifier Q can bind a pronoun P iff at some point in the derivation Q ccommands P.

Consider again example (224), whose partial derivation follows:

- (241) a. [his, mother to be the best] b. seems to everybody, [his, mother to be the best]
  - c. his, mother seems to everybody, [ ____to be the best]

The bound reading interpretation of the pronoun his in (224) is possible because

at some point of the derivation, namely, the step in (241)b, the quantifier is binding the

pronoun. If at no point of the derivation does the quantifier c-command the pronoun, the

bound reading interpretation is not possible as in the following:

(242) His, mother seems to John to admire everybody,

⁷⁴ For expository purposes I am staying away from the Heim and Kratzer (1998) definition of semantic binding.

(243) a. [his, mother to admire everybody,]
b. seems to John [his, mother to admire everybody,]

c. his, mother seems to John [_____to admire everybody],

Importantly, if the proposal that I have made is on the right track, it is possible to obtain the bound reading interpretation in examples like (224) without A-movement reconstruction. Thus, the argument for A-traces based on this type of example vanishes.

There are certain cases that seem to cast some doubt on the approach presented in this section. These are cases in which the quantifier c-commands the pronoun at some point of the derivation, and the bound reading interpretation of the pronoun is still not available. The cases I have in mind are typical instances of Weak and Strong Crossover violations, like the following.

- (244) a. ?*Who_i does his_i mother love?
  - b. *Who, does he, think that Mary loves?
  - c. ??His_i mother loves everyone_i --> LF: Everyone_i [His_i mother love t]

There are two ways in which these examples are not problematic for the account presented in this section. One way is to assume Heim and Kratzer's definition of *Syntactic Binding*. According to them, syntactic binding is only possible from Apositions ((239)c). Thus, in the examples in (244), the bound reading interpretation is not possible because the quantifier actually does not bind the pronoun since the quantifier appears in an A-bar position. In section 6.2.3, I will show that there is a different and more empirically adequate alternative to explain the crossover phenomena. Somewhat ironically, the proposal will be based on Lasnik's crucial assumption that A-movement does not leave a trace but A-bar movement does.

# 6.2.2.3 On Lebeaux's Coherence condition

Lebeaux (1995) and Lebeaux (1998) observes a correlation between the possibility of bound pronoun interpretation and Condition C effects (see also Fox (2000), Romero (1997), Sauerland (1998)). Some of his examples follow:

(245) a. Which paper that  $he_i$  gave to Bresnan i did every student think that she i

- 45) a. Which paper that he_i gave to Bresnan_j did every student_i think that she_j would like?
  - b. *Which paper that he_i gave to Bresnan_j did she_j think that every student_i would like?
- (246) a. His_i picture of the president_j seemed to every man_i to be seen by  $\lim_{j \to \infty} t_j$  to be a real intrusion
  - b. *His_i picture of the president_j seemed to  $\lim_{j}$  to be seen by every man_i to be a real accomplishment
- (247) a. [His_i mother]_j's bread seems to everybody_i to be known by her_j to be the best
  - b. *[His, mother],'s bread seems to her, to be known by everybody, to be the best

Lebeaux's explanation of these facts is based on the possibility of late insertion of

adjuncts like relative clauses (in the case of (245)) or late insertion of the DP (in the case

of (246) and (247)). Thus in (245)a, Lebeaux argues that the late insertion strategy allows

insertion of the relative clause to be late enough so a Condition C violation is avoided but

early enough for the pronoun to be bound. However, this is not possible in (245)b. In

(245)b, if the relative clause is inserted early enough for the pronoun to be bound by the

quantifier, then there will be a Condition C violation. The proposal I have made in this

section can also explain the contrast in (245) under Lebeaux's assumption that relative clauses can be inserted late.

Lebeaux has a similar account for the contrast in (246) and (247). In (246)a and (247)b, the DP containing the bound pronoun can be inserted late enough to avoid a condition C violation. This is not possible in (246)b and (247)b, hence the

ungrammaticality of the bound reading interpretation. This account is incompatible with the idea that will be defended in section 7.3.3.1 that the experiencer can be inserted late. Thus it would be possible to have the following derivation:

(248) a. seen by every man [his picture of the president] to be a real accomplishmentb. [his picture of the president] seemed to be seen by every man to be a real acc.c. [his picture of the president] seemed to him to be seen by every man to be a real acc.

That is, it could be possible to insert the DP *his picture of the president* early enough so the pronoun could be bound by the quantifier *every man*, then, to raise the DP to the matrix subject position and then, to insert counter-cyclically the experiencer.

At any rate, the fact that the contrasts in (246) and (247) can't be accounted easily

is not too problematic since the judgements about these sentences seem pretty weak and

small variations seem to point towards directions unexpected under Lebeaux's (and

others') assumptions. Thus, the sentence in (249) is quite similar structurally to (246)b

but seems to be much better. And, (250) seems as bad as (247)b but Lebeaux's

explanation for (247)b cannot be carried over to (250), since cyclic insertion will not

trigger a Condition C violation. Something similar can be said of (246)b and (251).

- (249) Her_i picture of the president _j seemed to him_j to be seen by every woman_i to be a real accomplishment⁷⁵
- (250)(*)[His, mother],'s bread seems to her, sister to be known by everybody, to be the best
- (251)(??)His_i picture of the president_j seemed to his_j staff to be seen by every man_i to be a real accomplishment

Lebeaux's account of the contrast in (245), (246), (247) is framed under the

proposal that an element can be interpreted only in one position. He calls this proposal

the Coherence condition.

⁷⁵ A similar improvement seems to obtain in the following sentences:
(252) Lebeaux 's coherence condition (Lebeaux (1995:63))
 LF must be a coherent representation in the sense that an element occupies a particular position at LF (rather than occupying several positions at once).

Suppose that an element has moved through different position (successively), and that traces of that element appear where that element had appeared. Lebeaux's Coherence Condition (CC) demands that this successively moved element be interpreted only in one of those possible position. Lebeaux (1995) and Lebeaux (1998) (with minor differences between these two works)⁷⁶ assume that scope, binding (both anaphor and pronoun binding), and idiom interpretation are bundled together.

The Coherence Condition could be used to rule out the derivation in (248), provided that it is assumed that A-movement leaves a trace, and that in order for the pronoun to be assigned the bound reading interpretation A-movement has to be undone, or in Lebeaux's terms, the most embedded copy needs to be interpreted for every relevant purpose. Since we want the pronoun to be bound by the quantifier, the copy of *His picture of the president* that will be interpreted is the one in the most embedded infinitival, and in that position *the president* will be c-commanded by *him* and a condition C violation will be obtained. Of course, this would require us to abandon the on-line approach to pronoun licensing that I introduced earlier. In fact, the CC is completely incompatible with the on-line licensing of bound pronouns.

I will not adopt Lebeaux's CC (and therefore I will maintain the on-line approach to bound pronouns) for two reasons: First, it is not clear how sound the empirical evidence for the CC is (see the examples in (249)-(251)). Second, there seems to be

(i) [His_i picture of [the first lady]_j] seemed to her_j to be believed by [every man]_i to be a real accomplishment

evidence that the Coherence Condition is not empirically adequate. We already saw in the previous chapter (5.5) that the freezing effect which provides an important part of the empirical coverage of Lebeaux's CC, fall under a different generalization. Furthermore, we will see that the facts regarding idiom interpretation do not fall under the CC either (see also work in progress by Howard Lasnik). Finally, very simple sentences like the following seem to indicate that pronoun binding and anaphor binding are not bundled together. Consider the following sentence:

- (253) a. Somebody, seems to his, parents to like himself,
  - b. [IP Somebody, seems to his, parents [IP somebody, to like himself,]]

According to the CC, *somebody* can be interpreted in the subject position of the embedded sentence or in the subject position of the matrix sentence. Since the pronoun can be bound by the quantifier, the subject must be interpreted in the matrix sentence. Now, let's see how the anaphor is bound. since the sentence is grammatical and the pronoun binding requirement requires that the subject be interpreted in the matrix sentence, it must be the case that the anaphor is bound from the matrix position. However, if this is possible, incorrect results are obtained elsewhere. Consider the following sentence (which will be extensively discussed in the next section).

(254) *John seems to Mary_i to like herself_i

The ungrammaticality of this sentence can only be attributed to the fact that the binder (*Mary*) is not close enough to the anaphor. We know that its ungrammaticality cannot be attributed to a general ban on anaphor binding by the experiencer because of sentences like *Replicants of themselves seem to the boys to be ugly*. However, if the

⁷⁶ In Lebeaux (1998:1) the Coherence Condition is replaced by the Single Tree Condition, which in its simplified form states that "positive conditions hold at LF."

experiencer is not close enough to the object of the embedded clause, less close is the subject of the matrix clause. Therefore, the subject of the matrix clause should be even less likely to bind the anaphor in the complement position of the embedded clause. For this reason, we must conclude that the anaphor in (253) is bound within the embedded clause. But now we have a paradoxical situation, under the CC binding of *his* requires that *somebody* be interpreted in the matrix sentence, whereas binding of *himself* requires *somebody* be interpreted in the embedded clause. Of course, the paradox disappears if the CC is dropped.⁷⁷

A similar argument against Lebeaux's Coherence Condition and for on-line application of Condition A can be constructed using examples like the following: (255) John_i's brother seems to him_i to pity himself

If John's brother is interpreted at LF in the embedded sentence so Condition A is satisfied, then a Condition C violation should obtain. If John's brother is interpreted in the matrix sentence to avoid a Condition C violation, then there should be a Condition A violation. The grammaticality of (255) is completely expected under the assumption that Condition A is satisfied before John's brother raises to the matrix clause, and the experiencer is inserted counter-cyclically as I will argue in the next chapter.

Another type of evidence that could be used against Lebeaux's CC is examples like the following:

(256) a. John believes that it seems to Mary that a hideous rumor about himself is true. But he doesn't know which one.

⁷⁷ Note that the grammaticality of (253) is expected under earlier proposals by Lebeaux (especially, Lebeaux (1988)), since in those previous work Lebeaux claimed that an element could satisfy certain principles in a position different from the final one. In this dissertation, I follow this earlier position by Lebeaux.

b. John believes that a hideous rumor about himself seems to Mary to be true. But he doesn't know which one.

The judgements are subtle and some speakers reject both. This could be related to the already observed fact that for some speakers NPs that have undergone raising to subject cannot be assigned a narrow scope reading. However, there are some speakers who find (256)a worse than (256)b. This is expected under the assumption that it is important how close A-movement puts the anaphor to its antecedent. However, if A-movement were to reconstruct to obtain the narrow scope interpretation (which is favored by the continuation *But he doesn't know which one*) and Condition A were to apply at LF, we would not expect to find any difference between (256)a and (256)b, since the anaphor would be equally far from its antecedent in both examples. In other words, under Lebeaux's CC we should not expect any contrast between these two sentences: both should be ruled out as a Condition A violation. The fact that there is a contrast provides evidence against the CC.⁷⁸

### 6.2.2.4 Pronoun binding and QR

There is at least one classic argument against the proposal that anaphor or pronoun binding cannot take place anywhere in the derivation, and for the idea that the licensing configurations for anaphor and pronoun binding must hold at LF. The empirical evidence supporting this argument is the following.

- (257) Somebody, bought every picture of himself,  $(*\forall > \exists, \exists > \forall)$
- (258) Someone_i played every piece of music that he_i knew (*∀>∃, ∃>∀) Hornstein (1995:158) (See also Higginbotham (1980; May (1977; May (1985).)
- (259) Every picture of his_i dog seemed to someone_i to be out of focus ( $*\forall>\exists, \exists>\forall$ ) (Hornstein (1995:159))

⁷⁸ For an additional argument against Lebeaux's CC see footnote 70.

In these examples, the inverse scope interpretation is not possible under the indicated interpretation. The explanation for this fact goes as follows. In order for the indefinite to have scope over the universal quantifier, the indefinite must c-command the universal, through QR of the indefinite for May or through QL of the universal for Hornstein. Assuming the QR approach, the structure of (258) would be the following under the inverse scope reading:

(260) [every piece of music that he, knew [someone, played ]]

Importantly, in this configuration *someone* does not c-command *he* which explains why the bound reading interpretation is not possible, provided that the licensing conditions for pronoun binding must be met at LF. These facts would fall under Lebeaux's Coherence Condition: the universal quantifier can be interpreted in a position where it c-commands *someone*, or in a position where *someone* can c-command the pronoun, but not in both positions at the same time.

As should be obvious, these types of examples are problematic for the proposal made in this chapter that the bound reading interpretation can be licensed at any point of the derivation: since at least at S-structure *someone* binds the pronoun, the bound reading interpretation should be available contrary to facts. Note however that these examples could be ruled out under some extension of Higginbotham's proposal regarding the impossibility of an element being the antecedent of himself. (See section 5.4.) If when a quantifier A is interpreted under the scope of a quantifier B, it is assumed that the interpretation of A depends on the interpretation of B: The impossibility of the wide scope reading in the preceding examples would then follow. Consider (258). Because of

the fact that someone binds he, the interpretation of every piece of music that he knew depends on someone. Furthermore, if someone is interpreted under the scope of every ... then the interpretation of somebody would depend on every ..., and Higginbotham's well-formedness condition that an element cannot be the antecedent of itself would be violated.

6.2.3 Crossover effects and the A/A' distinction

Consider the following contrasts.

- (261) a. Everybody, seems to  $his_i$  mother to be the best
  - b. ?*Who_i does his_i mother love?
  - c. *Who_i does he_i think that Mary loves?

The sentences in (261)b and (261)c are typical instances of Weak and Strong Crossover (WCO / SCO), respectively. (261)a shows that A-movement does not trigger WCO violations. The contrast that we find in these sentences have received plenty of attention. Earlier I briefly review the account proposed in Heim and Kratzer (1998). For other type of approaches see Lasnik and Stowell (1991), Hornstein (1995) and references therein, and for the first discussion and characterization of the phenomena see Postal (1971).

In this section I would like to show that Lasnik's proposal that A-bar movement leave a trace but A-movement doesn't, and the proposal that binding is a property of the whole chain, can provide a straightforward account of the central cases of W/SCO. Let's assume the following licensing condition on bound pronoun interpretation.

(262) Licensing Condition on Bound Pronouns (LCBP) – Second version A quantifier Q can bind a pronoun P iff at some point in the derivation <u>all the</u> <u>copies</u> of Q c-command P.

Consider (261)a and its partial derivational story:

(263) a. [IP everybody; to be the best]
b. [VP seems to his; mother [IP everybody; to be the best]]
c. [IP Everybody; [VP seems to his; mother [IP to be the best]]]

In (263)a, the pronoun is not present, so the LCBP does not apply (or applies vacuously). In (263)b both the pronoun and the quantifier are present, so the LCBP applies. Since the quantifier does not c-command the pronoun, the LCBP does not license the bound reading interpretation. However, the bound pronoun interpretation is licensed in (263)c because all the copies (in fact, the only copy) of the quantifier *everyone* c-commands the pronoun *his*.

Consider now (261)b, a typical instance of WCO violation. Some steps of its derivation follow:

(264)	a.	[vp love who _i ]
	b.	[IP his, mother [vP love who,]]
	С.	$[_{CP} Who_i does [_{IP} his_i mother [_{VP} love who_i]]]$

In (264)a there is no pronoun, so the LCBP does not apply. In (264)b we have both a quantifier and a pronoun, but since none of the copies (in fact the only copy) of *who* c-commands the pronoun, the bound reading interpretation of the pronoun is not licensed. Finally, in (264)c, after wh-movement, only one copy of *who*, the higher one, ccommands the pronoun, and hence the bound reading interpretation of the pronoun is not licensed because the LCBP requires that all the copies of the quantifier c-command the pronoun.

The grammatical counterpart of (261)b appears in (265) and some steps of its derivation appear in (266).

(265) Who_i loves his_i mother?

(266)	a.	[vp loves his, mother]
	b.	$[_{IP} Who_i [_{VP} loves his_i mother]$
	C.	$\left[ _{CP} Who_i \right] \left[ _{IP} Who_f \left[ _{VP} loves his_i mother \right] \right]$

In (266)a the LCBP does not apply. In (266)b the LCBP applies and licenses the bound pronoun reading because the only copy of *who* c-commands *his*. The LCBP applies vacuously in (266)c, since the bound reading of the pronoun has already been licensed.

Now consider (261)c, a typical instance of Strong Crossover violation. Some steps of its derivation follow:

(267) a. [IP Mary [VP loves whoi]] b. [CP whoi that [IP Mary [VP loves whoi]]] c. [IP hei [VP think [CP whoi that [IP Mary [VP loves whoi]]]]] d. [CP Whoi does [IP hei [VP think [CP whoi that [IP Mary [VP loves whoi]]]]]]

Since there is no stage in (267) in which all copies of *who* c-command the pronoun, the bound pronoun reading is not licensed.

I have shown how the proposal in (262) can account for the grammaticality of (261)a and the ungrammaticality of (261)b and (261)c. However, nothing that I have said so far can explain the contrast between (261)b and (261)c. It has long be noticed that SCO violations feel worse that WCO (this is the reason why they were given the name they have).⁷⁹ In order to explain this contrast, I would like to propose that in the cases of SCO, besides failure to license the bound reading of the pronoun, there is a Condition C violation, along the lines suggested in Chomsky (1981:193ff). In other words, the sentence in (261)c is ruled out for two reasons: failure to license the bound reading interpretation of the pronoun, and a Condition C violation triggered by the fact that the variable (an R-expression, according to Chomsky) is bound. Alternatively, if we assume

and on-line approach to binding, one could say Condition C is violated in the stage in (267)c where *who* is bound by the coreferential pronoun he.⁸⁰

I have shown that the LCBP in (262) can explain the WCO/SCO effects. However, I have not offered independent motivation for the proposal that a pronoun must be bound by all copies of the quantifier for the pronoun to receive the bound reading interpretation. In what follows I will offer two pieces of motivation, both of them rather conceptual.

The account of SCO/WCO effects I am arguing for relies crucially on the idea that the appropriate syntactic relation between the quantifier and the pronoun must hold of all the copies of the quantifier. I would like to suggest that the reason for this is that binding is a property of the element as a whole, not just part of it. To be more precise I would like to adopt the principle of Chain Integrity proposed in Uriagereka (1998:392).

(268) Principle of Chain Integrity Only entire chains enter into C_{HI} operations.

Although I would like to adopt Uriagereka's proposal, I cannot accept his argumentation since it is based on the idea that subjects are generated in SpecVP, move to Spec,IP and leave a copy. At any rate, I will briefly present Uriagereka's motivation for his Principle of Chain Integrity. Some of the evidence that Uriagereka presents for (268) comes from the impossibility of having extraction out of constituents that have undergone movement, that is, from elements that are part of a chain. (See also Takahashi (1994) and Ormazabal (1995).) He attributes the contrast in (269)a and (269)b to the fact

⁷⁹ See in particular, Wasow (1972).

⁸⁰ Only the latter option seems to be possible under the framework that I am assuming that movement leaves copies and not traces. As I indicated in footnote 7, under the copy of theory of movement it does not

that extraction has taken place out of a trivial chain in (269)a, but out of a non-trivial chain in (269)b.

(269) a. Who have last week's scandals caused rumors about t?
b. *Who have rumors about t cause last week's scandals?

Extraction can take place in (269)a because *who* is moving out of every copy in the structure. However this is not the case in(269)b. A fuller representation of (269)b would be the following:

(270) Who have [NP rumors about who] have [NP rumors about who] cause last week's scandals

The proposal in (268) bans movement of *who* from the subject position in (270), because such a movement does not involve both links of the chain *rumors about who*.

The proposal in (268) provides straightforward motivation for (262). If syntactic relations can only affect entire chains, it seems reasonable to propose that the syntactic licensing condition of the bound pronoun interpretation must apply to the whole chain of the quantifierand to every copy in the chain.

The second piece of motivation for the proposal in (262) is that it can easily be extended to explain the well-known fact that whereas A-movement creates new anaphor binding configurations, A-bar-movement does not. Thus, as Hornstein (1999a:56) among others note, *which men* cannot bind *each other* in the following sentence even though the c-command requirement is met.

(271) Which men_i does it seem to each other_i [ $t_i$  are ugly]

This is expected if wh-movement is a copy, and the c-command requirement for anaphor licensing demands that all the copies of the binder c-command the anaphor. Even

seem natural to assume that what used to be a trace and now is a copy is subject to certain binding

though, which men binds each other, its trace  $(t_i)$  does not. In this way, the fact that anaphor binding is not possible from operator positions follows without any additional stipulations.

The present approach and Heim and Kratzer's (1998) approach make different predictions with respect to the possibility of pronoun binding from A-bar positions that are not the result of movement. Heim and Kratzer (1998) predict that binding should not be possible since the quantifier would be in an A-bar position and their definition of syntactic binding does not allow binding from A-bar positions. Under the present account, nothing prevents pronoun binding from an A-bar position, provided that all the copies of the quantifier bind the pronoun. The possibility of pronoun binding in examples like the following seems to favor the present account.⁸¹

- (272) a. John said [in every  $city_i$ ] that its_i people are the best
  - b. John says [at every University_i] that its_i students are the best
  - c. [In every box_i] you'll find instructions about how to open  $it_i$
  - d. [In every hotel_i] I have been to, I found its_i room service pretty poor

Under the present approach, in order to account for WCO and SCO violations such as (261)b and (261)c respectively, it is not necessary to stipulate that pronoun binding is impossible from A-bar positions (which does not seem to be correct either as shown by the previous examples). This seems to be a good result since it is not necessary to established an additional difference between A and A-bar positions. Following Lasnik (1999a) I have assumed that there is a fundamental difference between A and A-bar movement, namely that A-bar movement leaves a copy but A-movement does not. Now, we have seen that we can take advantage of this difference to explain the different

principles.

binding possibilities that are observed in A- and A-bar positions, without stipulating an additional difference between A- and A-bar movement. Using slightly different words, under the present account, the fact that A-movement does not reconstruct but A-bar movement does, and that A-movement creates new binding possibilities but A-bar movement does not, receive a unified treatment. Both facts follow from A-bar movement, but not A-movement, leaving a trace.

#### 6.3 SSC effects

### 6.3.1 The problem

Not having A-movement traces is problematic under most versions of Binding Theory. Remember that the first empirical evidence that was ever proposed was based on binding theory, in Chomsky (1973). There Chomsky considered the following sentences:

(273) a. *John seems to the men to like each other

b. It seems to each of the men [COMP John to like the others]

After having made the proposal that (273)a is transformationally derived from (273)b, he proposes that "[w]e might account for [(273)a] by assuming that when the NP *John* replaces *it* in [(273)b], it leaves behind a 'trace' which it controls. ... The controlled trace blocks *each*-movement, so that [(273)a] is ungrammatical." (Chomsky (1973:266-7))

In more modern terms, the ungrammaticality of (273)a is expected only if there is a trace in the subject position of the embedded infinitival that makes the embedded infinitival the binding domain in which the anaphor must be bound, under the more or

⁸¹ An interesting problem arises in these types of examples, namely how the quantifier can c-command outside the PP it appears in. See Pesetsky (1995) for some possible answers.

less standard assumption that the presence of a subject is a necessary feature of binding domains. If *John* does not leave a trace after raising to subject position in (273), then the ungrammaticality of (273)a is unexpected.

One possibility that could be considered is that anaphors must be bound at Deepstructure (provided that D-structure exists as a significant level of representation, contrary to current standard assumptions). Thus, the sentence in (273)a would be ruled out because in its D-structure ((273)c) the anaphor is not bound within  $\alpha$ , its binding domain.

(273) c. e seems to the men [ $_{\alpha}$ John to like each other]

However, this possibility would rule out the following sentences:

- (274) a. They seem to each other to be happy (Chomsky (1981:43))
- b. e seem to each other  $[\alpha$  they to be happy]
- (275) a. John wonders which picture of himself Mary likes

(Chomsky (1993:205ff))

b. John wonders  $[\alpha$  Mary likes which picture of himself]

The sentences in (274)a and (275)a are fine so the anaphor must satisfy binding

theory. However, at their D-structures ((274)b and (275)b), the anaphors are not bound.

Therefore anaphors need not be bound at D-structure. In other words, the

ungrammaticality of (273)a is particularly telling when compared to the grammaticality

of (274)a and (275)a.

Another possibility would be that experiencers cannot participate in binding relations. However, this proposal would not expect that an experiencer can play an active role in terms of Condition C, and pronoun binding (2.4.4) or the grammaticality of examples like the following:

- (276) Replicants of themselves, seem to the boys, [e to be ugly]
- Belletti and Rizzi (1988:316) who attribute it to K. Johnson
- (277) It seemed to the men that pictures of each other were on display.

Hornstein (1995:241)

#### 6.3.2 The solution: the clause-mate condition

In this section I will argue for a binding theory that can explain the ungrammaticality of sentences like (273)a without the need of traces. The idea is not new. In fact, it is quite old and has been revived in several forms. (See Postal (1974) for some references from the late sixties, and recent work by Lasnik for an attempt to revive this idea.) I would like to suggest that binding relations standardly subsumed under Condition A and B of binding theory are restricted to clause-mate elements. Furthermore, following Belletti and Rizzi (1988), Lebeaux (1995) and Lebeaux (1998) I will assume binding theory can be satisfied as the derivation proceeds and that there is an asymmetry between positive and negative conditions. In particular, following Lebeaux's work I will assume that whereas positive conditions can be satisfied anywhere in the derivation, negative conditions have to be satisfied everywhere.⁸²

First I will show how that approach can account for the problematic examples under the proposal that A-movement does not leave a trace, and then I will deal with those binding facts that do not seem to fall under the clause-mate relation, and show that

(ii)

c.

⁸² Although Belletti and Rizzi (1988) clearly consider Condition A to be an anywhere condition, they don't completely endorse the idea that conditions B and C are everywhere conditions. Based on examples like (i) they observe that conditions B and C must be satisfied at S-structure.

⁽i) a. *He; seems to him; [t to be likely to win]

b. *He, seems to John,'s sister [t to be the best]

As for whether Condition B and C must be satisfied at D-structure, they don't find the evidence conclusive. The relevant examples that they consider are the following (their fn16, from Riemsdijk and Williams (1981)).

a. *Mary, John's picture of whom he likes

b. ??Which picture of John did he like

Which picture that John saw did he like?

For Lebeaux, the grammaticality of (iic) is not an obstacle for his claim that Condition C (and negative conditions must apply at every point in the derivation) since he assumes that the relative clause can be inserted after wh-movement has taken place.

the modifications that need to be done to account for these special cases do not rule in

unwanted cases.

The following is the Binding Theory that I will assume for the central cases. Later

some modification will be introduced to accommodate other cases.

- (278) a. Condition A: an anaphor must be bound by a clause-mate
  - b. Condition B: a pronoun cannot be bound by a clause-mate
  - c. Condition C: an R-expression must be free
- (279)  $\alpha$  and  $\beta$  are clause-mates if they are dominated by the same IPs.
- (280) Positive conditions (Condition A) must be satisfied somewhere in the derivation. Negative conditions (Condition B and C) must be satisfied everywhere in the derivation.

Let's see how this theory can account for simple cases. Consider the following

sentences (ignoring for the moment the VP internal subject hypothesis):

- (281) a.  $[_{IP} Mary_i [_{VP} loves herself_i]]$ 
  - b.  $*[_{IP} Mary_i [_{VP} loves her_i ]]$
  - c.  $[IP Mary_i [VP thinks that [IP John [VP loves her_i]]]]$
  - d.  $*[_{IP} Mary_i [_{VP} thinks that [_{IP} John [_{VP} loves herself_i]]]]$

All of these cases are straightforward. In (281)a, the anaphor is bound by a clause-

mate in accordance with Condition A. In (281)b, the pronoun is bound by a clause-mate

in violation of Condition B, thus the ungrammaticality of this sentence is accounted for.

In (281)c, the pronoun is bound but not by a clause-mate, so no Condition B violation is

triggered. In (281)d the anaphor is bound but it is not bound by a clause-mate, thus the

ungrammaticality of this sentence is attributed to a violation of Condition A.

Now consider slightly more complicated examples that involve A-movement. As for ECM predicates, remember that I am assuming with Koizumi and Lasnik, among others, that in general there is overt object shift in English. Lasnik (1999a:201) has argued that object shift in English is optional in general but for pronouns it is obligatory.

(See also Johnson (1991), Diesing (1996).)

(282) a.	[IP John; believes that	[IP he, is clever]]
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- b.  $*[_{IP} John_i believes [_{AgrOP} him_i [_{IP} to be clever]]]$
- c.  $[_{IP} John_i believes [_{AgrOP} himself_i [_{IP} to be clever]]$
- d. *[IP John, believes that [IP himself, is clever]]

In (282)a, the pronoun is bound but not by a clause-mate, hence the sentence obeys Condition B. In order to consider the binding facts in (282)b, we need to consider some steps of the derivation, some of which follow:

(283)	a.	$[\mathbf{P} him_i to be clever]$
	b.	[vp believes [IP him, to be clever]]
	C.	$[A_{grOP} him, [VP believes [IP to be clever]]]$
	d.	[IP John, [VP believes [Agrop him, [IP to be clever]]]]

In (283)a him satisfies Condition B since it is not bound. Later in the derivation

more lexical items will be inserted. In (283)c him has undergone overt object shift. In

(283)d, there is a violation of Condition B of binding theory because a pronoun is c-

commanded by a clause-mate. Note that after raising to Spec,AgrOP, the pronoun is no

longer dominated by the embedded IP and thus is a clause-mate of the matrix subject.

The Condition B violation in (283)d explains the ungrammaticality of (282)b (under the

assumption that Condition B must be satisfied at every point in the derivation).⁸³

Now consider (282)c. Some steps towards its derivation are the following:

⁸³  $\Box$  eljko Boškovi $\Box$  (p.c.) makes an interesting observation regarding these types of examples. He notes that object shift does not seem to be obligatory with some pronouns, such as coordinated pronouns. Thus, the present analysis predicts that examples like (i) should be fine because object shift might not have taken place and the matrix subject and the embedded subject might not be clause-mates: (i) ??John believes Mary and him to be clever

Although the judgement is not clear, it seems that (i) is better than (282)b. However it is not perfect either, contrary to what the proposal in this text predicts. I will postpone a full account of examples like (i) for further research.

(284)	a.	[IP hims	elf, to be clever]
	b.	[vp believes [IP himse	elf, to be clever]]
	C.	$[Agrop himself_i]_{VP}$ believes $[IP]$	to be clever]]]
	d.	[IP John, [VP believes [Agrop himself, [IP	to be clever]]]]

Consider the IP in (284)a. At this point of the derivation, Condition A is violated. However, this does not terminate the derivation since Condition A does not need to be satisfied everywhere in the derivation; it only has to be satisfied somewhere in the derivation. By (284)c, *himself* has undergone obligatory object shift. Finally, in (284)d, Condition A is satisfied because the anaphor is bound by a clause-mate. Hence, the grammaticality of the sentence is accounted for.

Finally, consider (282)d. Its partial derivation is:

(285) a. [IP John; [VP believes that [IP himself; is clever]]]

At no point in the derivation is the anaphor bound by a clause-mate. The anaphor is bound in (285)b but not by a clause-mate. Hence the sentence is ruled out as a Condition A violation.

Now consider the following sentences where the element undergoing object shift is the antecedent instead of the pronoun/anaphor. Some steps of the derivation of (286)a appear in (287).

(286)	a.	John believes Mary, to love herself,
	b.	*John believes Mary, to love her,
(287)	a.	$[_{IP} Mary_i$ to love herself _i ]]]
	b.	[IP John believes [Agrop Mary, [IP to love herself,]]]

In (287)a Condition A is satisfied because the anaphor is bound by a clause-mate. However, in (287)b there is a Condition A violation because the anaphor is not bound by a clause-mate. However, this violation is not fatal because Condition A has already been satisfied, and Condition A only needs to be satisfied at one point in the derivation. Thus the grammaticality of (286)a is accounted for.

Consider now (286)b. Some steps in its derivation appear in (288).

(288) a. [IP Mary, to love her,]]] b. [IP John believes [Agrop Mary, [IP to love her,]]]

In (288)a there is a Condition B violation, because the pronoun is bound by a clause-mate. This violation immediately rules out the sentence because Condition B must be satisfied at every point in the derivation. Note that if the derivation were to proceed we would obtain (288)b. At that point in the derivation, no Condition B violation obtains since *Mary* and *her* are not clause-mates. However, the fact that there is no violation in (288)b is irrelevant since the sentence has already been ruled out, correctly.

At this point we can tackle the sentences that under standard accounts require the existence of A-traces.

(289) a. *John, seems to Mary to like him,

b. John, seems to Mary to like himself,

c. *John seems to  $Mary_i$  to like herself_i

d. John seems to Mary_i to like her_i

Let's consider each of these sentences. Some steps of the derivation of (289)a appear in (290).

(290) a. [IP John, to like him,] b. [VP seems to Mary [IP John, to like him,] c. [IP John, [VP seems to Mary [IP ____ to like him,]

In (290)a there is a Condition B violation because him is bound by its clause-mate

John. Later, in (290)c no such a violation exists because John and the pronoun are not

clause-mates. However, since Condition B is a negative condition, a single violation

suffices to rule the sentence out, correctly.

Some steps of the derivation of (289)b appear in (291).

(291)	a.	[ _{IP} John,	to like	himself _i ]
	b.	[vP seems to Mary [IP John]	i to like	himself _i ]
	C.	$[_{IP} John_i [_{VP} seems to Mary [_{IP}]$	to like	himself _i ]

In (291)a Condition A is satisfied because the anaphor is bound by a clause-mate.

This situation changes in (291)c, since John and himself are not clause-mates anymore.

Thus, there is a Condition A violation in (291)c. However, this violation is irrelevant

since Condition A has already been satisfied earlier in the derivation.

The ungrammaticality of (289)c is obvious under the present proposal. There is a Condition A violation because the anaphor *herself* is not bound by a clause-mate at any point in the derivation. We can see this in the following, which represents some steps in its derivation.

(292)	a.	[ _{IP} John	to like	herself _i ]
	b.	$[v_{P} \text{ seems to } Mary_i ]_{IP}$ John	ı to like	herself _i ]
	C.	$[_{IP} John [_{VP} seems to Mary_i [_{IP} \]$	to like	herself _i ]

In (292)a, herself is not bound. In (292)b / (292)c herself is bound by (to) Mary but Mary and herself are not clause-mates, since herself is dominated by the embedded IP but to Mary is not.

Finally, consider (289)d and some steps of its derivation in (293).

(293)	a.	[ _{IP} John	to lil	ke l	ner _i ]
	b.	[vp seems to Mary _i [IP John	to li	ke h	ner _i ]
	<b>C</b> .	[IP John [VP seems to Mary, [IP	to lil	ke l	ier _i ]

At no point in the derivation is Condition B violated, since at no point of the derivation is *her* bound by a clause-mate. In (293)a, *her* is not bound at all, and in (293)b / (293)c the binder of *her* is not a clause-mate. Hence, no Condition B violation obtains and the sentence is ruled in, correctly.

Consider examples like to following. (See Castillo et al. (1999).)

(294) a. Mary seems to John, to have been proved by him, to be innocent
*Mary seems to John, to have been proved by himself, to be innocent

Under the assumption that A-movement takes place successive cyclically, the

derivation of (294)a and (294)b would be (295) and (296), respectively.

(295)a. [IP Mary to be innocent] b.  $[v_{\rm P} proved by him [r_{\rm P} Mary to be innocent]]$  $[_{IP} Mary [_{VP} to have been proved by him [_{IP} ____ to be innocent]]]$ c.  $[_{VP}$  seems to John  $[_{IP}$  Mary  $[_{VP}$  to have been proved by him  $[_{IP}$  to be innocent]]]] d. e. [ $_{IP}$  Mary [ $_{VP}$  seems to John [ $_{IP}$  [ $_{VP}$  to have been proved by him [ $_{IP}$  to be innocent]]]]] (296)a. [P Mary to be innocent] [vp proved by himself [p Mary to be innocent]] b.  $[_{\mathbb{P}} Mary [_{\mathbb{VP}} to have been proved by himself [_{\mathbb{P}} __ to be innocent]]]$ c. [vp seems to John [P Mary [vp to have been proved by himself [P ____ to be innocent]]]] d. e. [ $_{\mathbb{P}}$  Mary [ $_{VP}$  seems to John [ $_{\mathbb{P}}$  [ $_{VP}$  to have been proved by himself [ $_{\mathbb{P}}$  to be innocent]]]]]

Under standard assumptions, a trace is necessary in the subject position of the intermediate clause so that a Specified Subject Condition configuration can be created. Under proposals like this, (294)a would be ruled in because the pronoun is free in the domain of a subject (namely, the A-trace), and (294)b would be ruled out because the anaphor would not be bound in the domain of the nearest subject.

Under the proposal defended in this section, the explanation for the contrast in

(294)a and (294)b is the following. (294)a / (295)e is ruled in because the pronoun is not

bound by a clause-mate element (at any point in the derivation) in accordance with

Condition B. (294)b / (296)e is ruled out because the anaphor is not bound at any point of

the derivation, in violation of Condition A.

It is interesting to note that this account of the contrast in (294) does not rely on the presence of a subject in the intermediate IP. In other words, no changes in the present account need to be made if it turns out that the subject did not pass through the

intermediate Spec, IP. *To .John* and *by him/himself* are not clause-mates independently of the presence of subject in the intermediate IP.⁸⁴

Finally, consider some sentences in which the appropriate binding configurations are established after A-movement has taken place. In this section I am going to show how my proposal can account for cases where the appropriate binding relations are established after the antecedent has undergone A-movement.⁸⁵

(297) a. John, seems to himself, to be happyb. John, seems to him, to be happy

Some steps in the derivation of (297)a are the following:

(298)	a.	[ _{IP} Jo	hn, to be happy]
	b.	$[v_{P} \text{ seems to himself}_{i}]$	in, to be happy]]
	C.	$[_{IP} John_i ]_{VP}$ seems to himself _i $[_{IP}$	to be happy]]]

In (298)b there is a Condition A violation because the anaphor is not bound.

However, in (298)c the anaphor himself is bound by its clause-mate John. (They are

clause-mates since both are dominated by the same IPs, namely the matrix IP. Note that

after raising to subject, John is no longer dominated by the embedded IP). Hence the

sentence is ruled in.

Now consider (297)b. Some steps in its derivation appear in (299). Importantly, in

(299)c him is bound by a clause-mate, and hence the sentence is ruled out as a Condition

B violation.

⁸⁴ However, other examples seems to indicate that an intermediate position is necessary:

⁽i) Mary has been proved by John to seem to herself to be clever

If *Mary* were able to move from the embedded infinitival subject position to the matrix subject position without stopping by the intermediate subject position (the subject position of *to seem to herself...*) then (i) would be expected to be ungrammatical, contrary to facts, since at no point in the derivation would *Mary* occupy a position in which it could bind *herself*. This is so because in the initial, most embedded subject position, it cannot c-command the anaphor, and after raising to matrix subject position, *Mary* would be too far away from the anaphor.

(299)	a.	[IP John, to be happy]
	b.	[vp seems to him, [1p John, to be happy]]
	C.	$[IP John_i [VP seems to him_i [IP to be happy]]]$

6.3.3 Some exceptions to the clause-mate condition

6.3.3.1 Picture NP-anaphors

Some cases where the clause-mate condition as stated before fails are examples

like the following:

(300)	a.	*John _i loves	Mary's	pictures	of hims	selfi

- b. John loves Mary,'s pictures of herself,
- c. John, loves several pictures of himself,

The grammaticality of (300)a is telling us that the clause-mate condition based on belonging to the same IP is not correct. In (300)a both *John* and *himself* are dominated by the same IPs, more precisely they are both dominated by the only IP in the structure, the matrix IP.

(301) [IP John, [VP loves [DP Mary's pictures of himself,]]]

In order to accommodate facts like this, I would like to suggest that the clause-

mate condition should be extended to the nominal domain in the following way:

(302)  $\alpha$  and  $\beta$  are clause-mates if they are dominated by the same IPs and DPs.

Thus in (300)a / (301) there is a Condition A violation because *himself* is not bound by a clause-mate. *Himself* is bound by *John* but Condition A is not satisfied because *himself* and *John* are not clause-mates. (*Himself* is dominated by the DP complement of *likes* but *John* isn't.)

⁸⁵ Earlier we saw some examples where the appropriate binding configuration was obtained after Amovement of the anaphor/pronoun. See examples in (282).

The sentence in (300)b is correctly ruled in. Condition A is satisfied because *herself* is bound by *Mary* and *herself*, and *Mary* are both dominated by the same DP (and IP).

(303) [1P John [VP loves [DP Maryi's pictures of himselfi]]]

However, (300)c is still problematic. The sentence is grammatical and according to what has been assumed and proposed so far it should be ruled out as a Condition A violation: the binder of *himself*, *John*, is not its clause-mate, since *John* is not dominated by the DP *pictures of himself* and *himself* is.

(304) [IP John, [VP loves [DP several pictures of himself,]]]

An important fact that has been noted in relation to sentences like this is that a pronoun is possible in similar contexts:

(305) [IP John, [VP loves [DP several pictures of him,]]]

Based on facts like this, several scholars have proposed that the relevant domains for pronouns and anaphors are different (Huang (1983), Chomsky (1986)). In particular, Chomsky proposes that the binding domain for an element is the domain in which the element under consideration can satisfy its binding requirements under some indexation, maybe not the actual one. The consequence of this approach is that in (305) the binding domain of the pronoun *him* is the DP since in that domain the pronoun can satisfy its requirement of being free. However, in (304) the binding domain of the anaphor cannot be the DP because the anaphor cannot find an appropriate antecedent within the VP. In (304) the binding domain of the anaphor is the matrix IP because in that domain the anaphor can find an antecedent.

Adapting Chomsky's (1986) idea to the present framework, I would like to propose the following:

(306) If an anaphor does not have a potential antecedent within its IP/DP, application of Condition A is postponed until the next IP/DP cycle, and the anaphor is considered a clause-mate within the next c-commanding predicate.

Consider under this proposal the examples in (304) and (305). The account of

(305) is not affected by the proposal in (306), since this proposal only affects anaphors.

Thus, (305) is ruled in because there is no Condition B violation: the pronoun him is not

bound by a clause-mate (John binds him but they are not clause-mates). The proposal in

(306) rules in (304) straightforwardly. Since himself does not have an antecedent within

its DP, application of Condition A is postponed until the IP level and at that level himself

is considered a clause-mate of John. At that point, Condition A is satisfied because John

binds himself, and John and himself are clause-mates (under (306)).

The following examples are also accounted for:

(307) a. The children, thought that pictures of each other, would be on sale
 b. The children, thought that pictures of them, would be on sale
 Lasnik (1989:31)

The sentence in (307)b is ruled in because there is no violation of Condition B (the pronoun is bound but its binder is not a clause-mate). In order to rule in (307)a we need to make use of the proposal in (306). Let's consider some steps in the derivation of (307)a:

(308) a. [IP [DP pictures of each other,] would be on sale]]]]
b. [IP The children, [VP thought [CP that [IP [DP pictures of each other,] would be on sale]]]]
In (308) a the anaphor does not have a potential antecedent and, according to
(306), Condition A is postponed . In (308)b, *the children* binds *each other*, and since they are now clause-mates (under (306)), Condition A is satisfied.

I would like to extend the same account to examples like the following:

(309) [_{IP} They'd prefer [_{CP} for [_{IP} each other to win]]] (Chomsky (1981:189))

In the embedded IP the anaphor is not bound, and there is no potential ccommanding element that could bind it. Hence exemption (306) is granted, and *each other* is able to search for an antecedent in the higher clause. Since there is actually a binder in the higher clause, there is no Condition A violation and the sentence is ruled in.

This account of (309) predicts that a pronoun should be possible in that context. This expectation is not completely fulfilled due to the presence of interfering factors. Consider the sentence in (310). This sentence is not perfect but it is a lot better than standard Condition B violations such as the ones that we saw in (281)b and (282)b. Thus, it cannot be treated as a Condition B violation. This is expected under the present analysis, and under the assumption that the embedded infinitival is an IP. There is no Condition B violation because although *them* is bound by *the children*, *the children* and *them* are not clause-mates. Only *them* is dominated by the embedded IP, and therefore no Condition B violation obtains.

(310) ??[IP The children [VP prefer [CP for [IP them to [VP win]]]]]

As for the degraded status of (310), I will attribute it to a violation of the Avoid Pronoun Principle (Chomsky (1981:65)): there is an alternative version of (310) that does not require the use of a pronoun, namely, The children prefer to win.

Finally consider the sentence in (282)d, repeated here.

(311) [IP John; believes that [IP himself; is clever]]

Based on the modifications that we have made, this sentence is now a problem. Since *himself* does not have a potential antecedent in the embedded IP, it can be bound by

an element in the matrix clause. Since it is actually bound by John in the matrix clause, no Condition A violation arises, and the sentence is ruled in, incorrectly. In order to account for the ungrammaticality of (311), in Chomsky (1986) it was proposed that anaphors undergo cliticization at LF and that the trace left by such a movement violates the ECP (an instance of the *that*-trace effect). This solution is dubious for the following reasons. First, the ECP is not available under the current framework. Second, whether we have that as a complementizer as in (311) or a null complementizer (as in *John believes *himself is clever*) has no grammatical consequences, as opposed to what happens in "standard" ECP violations: Who do you think (*that) came to the party. Third, the motivation for anaphor movement is not very compelling. Chomsky draws a parallelism between English and reflexive clitics in Romance languages. However, in Romance languages cliticization is not specifically a property of reflexive pronouns but of pronouns more generally. Thus, following the same reasoning, we would expect that in examples like (282)a, the pronoun would undergo cliticization and we would obtain violations of the ECP and Condition B.⁸⁶

Let's explore a different alternative to rule out (311). I would like to suggest that the reason why (311) is ungrammatical is because *himself* cannot be assigned nominative case.⁸⁷ Evidence for this follows.

It is a fact about English that if a subject contains two NPs and one is a pronoun, it might appear in accusative (maybe, because of some type of default accusative Case assignment):⁸⁸

⁸⁶ Special thanks to Howard Lasnik for clarifying discussion.

- (312) a. John and I will go to the party
  - b. John and me will go to the party

If (311) is ruled out because *himself* cannot be assigned nominative Case, we

should expect *himself* to be able to appear in contexts where some type of default accusative Case is being assigned. This seems to be confirmed:

- (313) a. ?Mick_i thinks that Keith and himself_i deserve a break
  - b. *Mick_i thinks that himself_i deserves a break
  - c. *Mick_i said that Bill thinks that Keith and himself_i deserve a break

Thus although (313)a is not perfect it is considerably better than (313)b and

(313)c. The contrast between (313)a and (313)c is particularly important because it is

telling us that even in these cases, we are dealing with anaphors that are subject to certain

locality conditions. Furthermore, if instead of using himself we use each other, which

seems to be able to be assigned nominative Case,⁸⁹ then the sentence improves

considerably:

- (314) Let's_i stop pretending that each other_i doesn't exist (From a TV show)
- (315) a. John and Mary didn't know what each other would do
  - b. ?John and Mary wondered if each other would win Lebeaux (1983:724)

6.3.3.2 Anaphor binding licensed by A-bar movement

It is well-known that A-bar movement can change binding relations. In particular

it has been observed that A-bar movement of the anaphor or an element containing the

anaphor can alter the binding possibilities of the anaphor. In this section, I will show that

 ⁸⁷ This proposal has occasionally been considered but rejected for different reasons: some times empirical, (the contrast to be presented below in the text were not considered relevant), sometimes conceptual (a gap in the morphological paradigm does not seem to be a very appealing explanation.) (Hornstein (1995:241))
 ⁸⁸ The topic shows up frequently in discussions about "proper" English, see for instance McWorter (1998).
 ⁸⁹ Admittedly the reasoning is circular since there is no independent evidence for the claim that *each other*

[&]quot;Admittedly the reasoning is circular since there is no independent evidence for the claim that each other can be assigned nominative Case other than the fact that the sentences in the text are fine.

the present account can explain these cases. The type of cases I will be considering are the following:

(316) a. John, wondered which picture of himself, Bill saw (Chomsky (1993:205))
b. John, thinks that himself, Mary likes (Lasnik and Saito (1992:110))

These sentences are relevant because they show that A-bar movement (whmovement and topicalization) can license new anaphor binding configurations. Note that the corresponding sentences without A-bar movement (of the DP containing the anaphor) result in Condition A violations (see also Barss (1986)):⁹⁰

- (317) a. *John, wondered whether Bill saw many pictures of himself,
  - b. *John, thinks that Mary likes himself, (Lasnik and Saito (1992:110))

Consider the following example and some steps in its derivation.

(318) John, wonders which picture of himself, Mary saw
(319)a. [P Mary [VP saw which [DP picture of himself,]]]]]
b. [CP which picture of himself, [P Mary [VP saw which [DP picture of himself,]]]]]

c. [P John; wonders [CP which picture of himself; [P Mary [VP saw which [DP picture of himself;]]]]]

Let's see how the present theory can explain the grammaticality of this sentence.

In (319)a, the DP does not contain an antecedent for the anaphor, so Condition A does

not apply and the anaphor is free to be bound as a clause-mate by Mary. However, since

Mary is not co-indexed with himself a Condition A violation occurs. This is not fatal

since we have assumed that Condition A does not have to be satisfied at every point in

the derivation. After wh-movement we obtain the structure in (319)b. At this point we

⁹⁰ Fox (2000:198) also notes similar contrasts:

⁽i) a. John and Bill wondered which picture of each other Mary bought

b. ??John and Bill wondered who bought which pictures of each other

Fox also notes that quantifier raising can also create new binding configurations, based on the following data:

⁽ii) a. John and Bill hoped that an inspector would supervise (every one of) each other's buildings  $*(\exists > \forall), (\forall > \exists)$ 

b. John and Bill hoped that many inspectors would supervise (every one of) each other's buildings *(many > b), (b > many)

have to find out whether Condition A applies to the anaphor in the higher copy of *which picture of himself*. Since there is no potential antecedent, Condition A does not apply and the anaphor is free to be bound by an element form the next higher up clause (remember exemption (306)). Finally consider (319)c. At this point of the derivation, *John* can bind *himself* (in the higher copy) and since they are clause-mates (as a result of the exception in (306)) *himself* (in the higher copy) satisfies Condition A.

For completeness, consider the following example:

(320) John wonders which picture of herself_i Mary_i saw
(321)a. [P Mary_i [VP saw which [DP picture of herself_i]]]]
b. [CP which picture of himself_i [P Mary_i [VP saw which [DP picture of herself_i]]]]
c. [P John wonders [CP which picture of himself_i [P Mary_i [VP saw which [DP picture of herself_i]]]]

In this example the anaphor satisfies Condition A in the lower copy in (321)a. In

(321)c, on the other hand, herself violates Condition A in the higher copy. Since

Condition A does not need to be satisfied at every point in the derivation, the sentence is

ruled in.

A similar analysis can be given to examples like the following, from Lasnik and Saito (1992:110).

(322)	John thinks that himself Mary likes	
(323)	a.	[ _{IP} Mary likes himself]]]]
	b.	[IP himself [IP Mary likes himself]]]]
	С.	[CP that [IP himself [IP Mary likes himself]]]]
	d.	[IP John [VP thinks [CP that [IP himself [IP Mary likes himself]]]]

In (323)a there is a Condition A violation because *himself* is not bound by a clause-mate. Since Condition A applies to IP, its contents will not be accessible again for Condition A. Now consider (323)b. At this point, *himself* has adjoined to IP. IP itself is not accessible for Condition A, but since *himself* is adjoined to it, and is an anaphor, it has to be checked by Condition A. However, Condition A cannot apply at this point

because there is no potential antecedent. Thus, Condition A is postponed and the higher copy of *himself* is free to be bound by a clause-mate from the next higher up clause. After more lexical items are added to the structure, we obtain (323)d. At this point, there is a potential antecedent, therefore Condition A applies and rules the sentence in since the anaphor is bound by an exceptional clause-mate.⁹¹

# 6.3.3.3 Huang's (1993) cases

In the previous section we have seen some cases where A-bar movement creates new binding configurations. Huang (1993) noted that certain cases of A-bar movement do not. He used those cases to argue for the Predicate Internal Subject Hypothesis. A particularly telling paradigm form Huang (1993) is the following:⁹²

(324)	a.	John knows that criticize himself, Bill never will
	b.	*Mary knows that criticize herself, Bill never will
(325)	a.	John wonders how proud of each other we can be
```	b.	*They wonder how proud of each other I can be
(326)	a.	John knows that pictures of himself, Bill likes
. ,	b.	John knows that pictures of herself, Bill likes
(327)	a.	They wonder which picture of each other we should buy
	b.	They wonder which picture of each other I should buy
		Huang (1993:110-1)

In order to explain the grammaticality contrast between (324)b and (325)b on one

side, and (326)b and (327)b on the other, Huang makes the following assumptions:

- (328) a. Subject are generated in a position internal to the maximal projection of its predicate (Koopman and Sportiche (1985), Koopman and Sportiche (1988), Sportiche (1988), Kuroda (1988) among others).
 - b. Raising of the subject from its predicate internal position to its surface position leaves a trace.

⁹¹ This proposal seems to predict that a sentence like *John thinks that him Mary likes* should be acceptable. It is not clear to me what the status of sentences like this is and its relevance to the present discussion. Even if they turn out to be ungrammatical, other factors could be involved, such as the topicalization of a pronoun correferent with an NP that has been introduced in the matrix sentence.
⁹² See also Barss (1986).

¹⁵⁹

- c. Predicate fronting as in (324) and (325) pied-pipes the trace of the subject.Consider the structure of (324)b under these assumptions:
- (329) Mary knows that [$_{VP} t_{Bill}$ criticize herself], Bill never will t_{VP}

Huang notes that the ungrammaticality of this sentence receives a straightforward explanation: *Mary* cannot bind the anaphor within the fronted VP because of the presence of the trace of *Bill* in Spec, VP. Obviously, if A-movement does not leave a trace, then the facts noted by Huang pose a serious problem, if no alternative explanation is available.

Takano (1995) and Heycock (1995) provide a slightly different account. They both propose that predicates must obligatory reconstruct (that is, they must be interpreted in their base position) although for different reasons. In what follows I will review both of them. Unfortunately, their account of the contrast found in (324), is incompatible with the assumptions of this dissertation. However, I will show that an alternative account is available.

For Takano (1995), obligatory reconstruction of predicates is triggered to avoid a PBC violation of the trace left by the subject in the specifier of the predicate projection. Let's consider (329) under Takano's proposal. According to the Proper Binding Condition (see Lasnik and Saito (1992) and references therein), traces must be bound by their antecedent. Thus in (329) the trace of *Bill* is not properly bound. In order to avoid a PBC violation,⁹³ Takano proposes that the VP obligatorily reconstructs. For Takano the LF structure of (329) would be the following:

(330) Mary knows that <u>Bill never will [VP t_{Bill} criticize herself]</u>

⁹³ Takano, contra Lasnik and Saito (1992), assumes that the PBC does not need to be satisfied at Sstructure.

Thus, the contrast observed by Huang (1993) follows, since under standard assumptions *Mary* cannot bind the anaphor in (330). Under the present approach to Condition A, *Mary* cannot bind the anaphor because they are not clause-mates, and at no point is the exception in (306) granted, since the anaphor always had a potential antecedent: (the trace of) *Bill*. Since Takano's proposal also relies on the existance of A-traces, his account is also incompatible with the present proposal.

Heycock's (1995) approach seems initially more compatible with the assumption that A-movement does not leave a trace, since her motivation for obligatory reconstruction of predicates does not rely on the existence of traces. She proposes that non-referential elements (predicates among others) must reconstruct obligatorily. Thus under her analysis, as in Takano's, (324)b would have the LF representation in (330) and would be ruled out as a Condition A violation.⁹⁴ Importantly for the present discussion, Heycock's account does not rely on the presence of traces, provided that Condition A applies only at LF. However, following Belletti and Rizzi (1988) and Lebeaux (1988) I have assumed that Condition A may be satisfied at any point in the derivation. Thus, under the assumptions that A-movement does not leave a trace and Condition A can be satisfied at every point in the derivation, even if the VP reconstructs in (324)b, as in (330), it is expected that the anaphor could be bound by the matrix subject at S-structure, as in the following representation:

(331) Mary knows that $[v_P _ criticize herself]$, Bill never will t_{VP}

At this point in the derivation, the exemption in (306) is granted and the anaphor can be bound by the matrix subject.

⁹⁴ Heycock (1995) is mostly concerned with Condition C violations.

So, we are in need of an explanation for the ungrammaticality of sentences like

(324)b. First. let's consider a non-explanation. It could be possible to take advantage of the fact that the anaphor is contained in an NP without a subject in (326) and (327) but not in (324) and (325). That this is not the correct account is shown by the following contrast.

(332) a. *John, thinks that spread rumors about himself, Mary never did
b. John, wonders which picture of himself, Mary saw

In both (332)a and (332)b, the anaphor is dominated by an NP without a subject, but there is still a contrast.

In what follows I will argue that the contrast that we find in (332)a and (332)b

(and Huang's cases, more generally), can be accounted for under the assumptions of this dissertation. Consider the derivation of (332)a, under the assumption that A-movement does not leave a trace:

(333)a. [VP Mary spread rumors about himself_i]
b. [IP Mary never did [VP spread rumors about himself_i]]
c. [IP [VP spread rumors about himself_i] [IP Mary never did t_{VP}]]
d. [IP John_i thinks [CP that [IP [VP spread rumors about himself_i] [IP Mary never did t_{VP}]]

Let's compare this derivation with the derivation of (318) (repeated here), where

A-bar movement does create new anaphor binding configurations.

(318) John, wonders which picture of himself, Mary saw

(334)a.

b.

 $[_{\mathbb{P}} Mary [_{\mathbb{VP}} saw which [_{\mathbb{DP}} picture of himself_i]]]]$

- $[_{CP}$ which picture of himself_i $[_{P}$ Mary $[_{VP}$ saw which $[_{DP}$ picture of himself_i]]]]
- c. $[_{IP} John_i wonders [_{CP} which picture of himself_i [_{IP} Mary [_{VP} saw which [_{DP} picture of himself_i]]]]]$

These two derivations differ in at least one feature. In (334), but not in (333), the

anaphor is moving out of the domain of the predicate where Condition A has been

checked, unsuccessfully. In (334)a, the anaphor could have satisfied Condition A under a

different indexation, within the domain of the predicate *saw*.⁹⁵ In (334)b, the constituent dominating the anaphor undergoes wh-movement and as result of that movement, the anaphor is no longer in the domain of *saw*. This is not the case in (333). In (333)a/b the anaphor could have satisfied Condition A under the domain of the predicate *spread*. After VP preposing. the anaphor is still within the domain of the predicate *spread*. I would like to exploit this difference to account for the grammaticality contrast that we find in this type of sentences.

As an approximation to a solution, consider the following proposal.

(335) Condition A cannot apply to an anaphor more than once within the same domain.

This proposal explains the contrast that we find in (333) and (334) in the following way. In (334), Condition A is allowed to apply to the anaphor twice. First before wh-movement takes place, under the domain of the subject *Mary*, and then after wh-movement takes place, under the domain of the subject *John*, successfully in the second instance. Things are different in (333), since Condition A can only apply to the anaphor once, in (333)a. Later, VP preposing will place the anaphor closer to the coindexed matrix subject, but the anaphor will be still under the domain of the VP where Condition A has already applied and therefore, Condition A cannot apply again, under (335).

In other words, the proposal in (335) can explain the contrast in (333) and (334), because of the fact that the element undergoing movement in (333) was a domain where Condition A applied (namely at the stage of the derivation represented in (333)a). Condition A applies at that point because there is a potential antecedent, namely the

⁹⁵ Condition A does not apply earlier, say at the level where the only elements present in the structure are

embedded subject, Mary. In (334), Condition A can apply after wh-movement because the element undergoing movement was never a domain in which condition A had applied because it never contained a potential antecedent for the anaphor.⁹⁶ Now, an obvious problem arises: how does the computational system knows that the VP in (333) was a binding domain but that the DP in (334) was not. If A-traces existed, the answer would be obvious, since there would be a trace in Spec, VP which would identify the VP as a biding domain. Since I am assuming that A-traces do not exist, an alternative answer is needed.

One possibility would be to propose that at a given stage, the computational system could have access to earlier stages of the derivation. This would go against standard assumption that syntactic derivations are markovian and at any given point, earlier stages of the derivation are not accessible. For this reason, I will not pursue this possibility under that formulation. However, I would like to show that there is an alternative markovian way of capturing the same idea.

According to Chomsky (2000) and Chomsky (1999), syntactic derivations works phase by phase and after all the operations in a given phase are performed, the phase is spelled out and its contents are no longer accessible for further computations. I would like to suggest a relativized version of this view. In particular, I would like to suggest that once the local conditions of binding theory (Conditions A and B) have applied to a given domain, the contents of that domain are no longer accessible for further applications of Condition A and B.

pictures of himself, because at that point there is no potential antecedent of the anaphor. ⁹⁶ Later, we will see that in some circumstances a PRO subject is needed within the *picture* phrase. In those cases, binding by the subject of the higher clause is not allowed. See section 6.4.

(336) Cyclic binding theory (for conditions A and B)Once Condition A and B have applied to a given domain, no element in that domain can be accessed in further applications of Conditions A and B.

In order to keep track of whether conditions A and B have applied to a given domain, I will assume that after application of Condition A or B, the relevant domain is assigned a diacritic (#), that indicates that the elements in that domain cannot participate in co-reference relations again.

6.3.3.4 The SSC revisited

Before we proceed, let's see where we are now. We started this section noting that the proposal that A-movement does not leave a trace creates problems in the domain of binding theory because the Specified Subject Condition effects are not accounted for in the cases where the subject is an A-trace (section 6.3.1). In order to account for the SSC effects I revived the old account that reduces binding relations to clause-mates (section 6.3.2). In section 6.3.3, we have modified the clause-mate proposal to rule in certain cases where the anaphor is not bound by a clause-mate. In particular, I proposed that in certain contexts where the anaphor does not have a potential antecedent, an exception to the clause-mate condition is granted. Finally, in order to prevent the exemption condition from ruling in ungrammatical cases, I proposed that Conditions A and B apply cyclically. The main ingredients of the binding theory that I have argued for are the following.

- (337) a. Condition A: an anaphor must be bound by a clause-mate.
 - b. Condition B: a pronoun cannot be bound by a clause-mate.
 - c. Condition C: an R-expression must be free.
- (338) α and β are clause-mates if they are dominated by the same IP, VP⁹⁷ or DP (which ever is relevant).

⁹⁷ If the VP internal hypothesis is assumed. Most of the times the choice between VP and IP as a binding domain will not be relevant.
- (339) Positive conditions (Condition A) must be satisfied somewhere in the derivation. Negative conditions (Condition B and C) must be satisfied everywhere in the derivation.
- (340) If an anaphor does not have a potential antecedent within its IP/DP, application of Condition A is postponed until the next IP/DP cycle, and the anaphor is considered a clause-mate within the next c-commanding predicate.
- (341) Cyclic binding theory (for conditions A and B) Once Condition A and B have applied to a given domain, no element in that domain can be accessed in further applications of conditions A and B. (After conditions A and B apply to a given domain, a diacritic is added (#) to that domain that prevents the elements in that domain from participating in coargument relations for binding theory purposes)

Let's consider some of the most problematic examples again. Consider (289)c.

Some steps in the derivation of (289)c appear below.

(342) a. [VP John to like herself_i]
b. [IP John [VP# to like herself_i]]
c. [VP seems to Mary_i [IP John [VP# to like herself_i]]]
d. [IP John [VP seems to Mary_i [IP [VP# to like herself_i]]]

In (342)a Condition A applies since all the arguments are present, and the anaphor has a potential antecedent. The VP is marked #, and hence nothing in the domain of VP will be accessible to further computations of binding theory. In the next stages, *John* raises to several functional projections and new lexical items are added to the syntactic structure.⁹⁸ In (342)d, *John* raises from the embedded Spec, IP to the matrix Spec, IP without leaving a trace. At this point *(to) Mary* could be a potential antecedent of the anaphor. However, since the VP has been marked #, *herself* and *Mary* cannot establish an exceptional co-argument relation. Note that this exceptional co-argument relation could be granted because at that point there is no true co-argument that could bind *herself*. So at no point is Condition A satisfied by *herself* and the sentence is correctly ruled out. Consider now (282)b, whose derivation appears below .:

(343)	a.	[IP# him, to be clever]
	b.	$[v_P \text{ believes } [I_{P\#} \text{ him}_i \text{ to be clever}]]$
	C.	$[A_{grOP} him_i [VP believes [IP# to be clever]]]$
	d.	$[v_P John_i [v_P believes [Agrop him_i [IP# to be clever]]]$

In (343)a (maybe earlier at the AP level), Condition B applies and IP is assigned #. In (343)b Condition A and B do not apply because an argument of *believe* (its subject) is not present in the structure yet. In (343)c, *him* undergoes object shift (obligatorily since it is a pronoun). In (343)d, the subject is inserted, and Condition B applies ruling out the sentence since *John* binds *him* and both are dominated by VP. If in (343), *him* is replaced by *himself*, then Condition A would be satisfied in (343)d. Other examples are accounted for along similar lines.

6.3.4 BT without A-bar-traces?

Note that the proposal developed in this section can explain not only the SSC effects allegedly triggered by traces left by A-movement but also the SSC effects triggered by A-bar movement traces. Consider the following sentences:

(344) a. $*[_{CP} Who_j does [_{IP} Mary_i think [_{CP} [_{IP} t_j loves herself_i]]]$ b. $[_{CP} Who_j does [_{IP} Mary_i think [_{CP} [_{IP} t_j loves her_i]]]$

The contrast that we observe in (344) can be accounted under the present proposal independently of the presence of a trace in the embedded IP. In (344)a, binding of *herself* by *Mary* does not satisfy Condition A because they are not clause-mates. This is because *herself* is dominated by the embedded IP, but *Mary* isn't. Furthermore, *herself* cannot acquire exceptional clause-mate-hood because *herself* does not escape the domain where

⁹⁸ #-marking of projections other than the embedded VP is not relevant here.

it fails to satisfy its binding requirements. In (344)b binding of *her* by *Mary* does not violate Condition B because they are not clause-mates.

Now consider the examples in (345). It is standardly assumed that the binding relation is not established between *who* and the anaphor/pronoun, but between the trace of *who* and the anaphor/pronoun. A direct relation is not possible because *who* is too far away.

However, under the proposal in this chapter, the contrast in (345) can be explained without using A'-traces. Consider some steps towards the derivation of (345)a under the assumption that there are no A-bar traces or that if they exist they might be irrelevant for binding purposes.

(346) a. $[IP Who_i love himself_i]]$ b. $[CP Who_i does [IP Mary think [CP [IP __ love himself_i]]]$

In (346)a *himself* satisfies Condition A because it is bound by a cluase-mate, namely, *who*. In (346)b, *himself* is not bound by a clause-mate, and a Condition A violation obtains. However, this violation is not fatal because Condition A does not need to be satisfied at every point in the derivation.

Now consider some steps towards the derivation of (345)b.

(347) a. [IP Who_i love him_i]] b. [CP Who_i does [IP Mary think [CP [IP __ loves him_i]]

In (347)b there is no Condition B violation because although *who* binds *him* they are not clause-mates. However, there has already been a Condition B violation in (347)a, where *who* and *him* were clause-mates. Since Condition B has to be satisfied at every

point in the derivation, the sentence is ruled out. Nevertheless, the fact that the SSC effects can be explained without any type of traces cannot be taken as proof that A-bar traces do not exist.

6.4 Idiom interpretation

In this chapter we have seen that assuming that A-movement does not leave a trace forces a very specific theory of binding: if there are no A-traces, binding conditions must be able to be satisfied on-line. In particular, Condition A can be satisfied at any point in the derivation. Chomsky (1993) presents an often repeated argument that Condition A must apply only at LF. Chomsky's argument is based on the relation between binding and idiom interpretation (hereafter, IdInt). Chomsky's factual discovery is that in a sentence like the (348), if the anaphor is bound by the matrix subject the idiomatic interpretation of *take pictures* (that is, the "photograph" interpretation) is not possible, and only the non-idiomatic interpretation is possible (that is, the "steal" interpretation).

(348) John wonders which picture of himself Bill took

However, if the anaphor is bound by the embedded subject, then both interpretations of *take pictures* are possible.

This section is organized as follows. First, I will go over Chomsky's explanation in some detail. Then I will consider the proposal in Brody (1995). Finally, I will make some modifications to Brody's proposal. The important point to be made is that under (the modification of) Brody's proposal, it is possible to account for the facts in (348) under the assumption that Condition A might be satisfied on-line.

6.4.1 Chomsky (1993)

Chomsky's observation appears illustrated again in the following paradigm:

- (349) a. John wonders which picture of herself Mary took with a good camera
 - b. *John wonders which picture of himself Mary took with a good camera
 - c. John wonders which picture of herself Mary stole
 - d. John wonders which picture of himself Mary stole

In (349)a and (349)b, the presence of the continuation with a good camera forces

the idiomatic interpretation, and thus, anaphor binding by the matrix subject is

impossible, as shown by the ungrammaticality of (349)b. In (349)c and (349)d, since

there is no idiom interpretation at stake, the anaphor is free to be bound by the embedded

or the matrix subject as shown by the grammaticality of both sentences.

Chomsky's (1993) account of the contrast in (349) is based on the assumptions in

(350).

- (350) a. Copy Theory of Movement.
 - b. BT applies at LF where LF anaphor movement applies.
 - c. IdInt applies at LF under adjacency.
 - e. There is an Operator making rule (Make-Op) that involves:
 - Self adjunction
 - Complementary deletion
 - f. Make-Op is subject to the Preference Principle (Chomsky 1993:209):
 Try to minimize the restriction in the operator position.

The Operator making rule ("Make-Op") applies at LF and turns the elements

(copies) in a chain into operator-variable configurations in the following way. In the head

and tail of an A'-chain, part of (or the entire) wh-phrase self-adjoins. Then,

complementary deletion takes place: what is deleted in the tail is left in the head. This

operator making process is subject to the Preference Principle that states that the

restriction in the operator must be as small as possible.

Consider (349)c under the set of assumptions in (350). Under the copy theory of

movement we have the representation in (351)a. In (351)a we apply anaphor movement

obtaining (351)b, and then Make-Op rule apply.

- (351) a. John wonders [which picture of herself] Mary stole [which picture of herself] Anaphor movement \rightarrow
 - b. John wonders [which picture of herself] Mary self-stole [which picture of t_{self}] Make-Op: \rightarrow Self-adjunction \rightarrow
 - c. John wonders [which [t picture of herself]] Mary self-stole [which [t picture of t_{self}] Complementary deletion \rightarrow
 - d. John wonders [which {t picture of herself}] Mary self-stole [which-[t picture of t_{self}] Semantic Interpretation \rightarrow
 - e. John wonders [which x] Mary self-stole [x picture of t_{self}]

Now consider (349)d, whose derivation appears in (352). In the derivation in

(352), the Make-Op rule cannot minimize the restriction in the operator because that

would delete the trace of self.

- (352) a. John wonders [which picture of himself] Mary stole [which picture of himself] Anaphor movement →
 - b. John self-wonders [which picture of t_{self}] Mary stole [which picture of himself] Make-Op: Self-adjunction \rightarrow
 - c. John self-wonders [which picture of t_{self}][t] Mary stole [which picture of himself][t] Complementary deletion \rightarrow
 - d. John self-wonders [which picture of t_{self}][t] Mary stole [which picture of himself][t] Semantic Interpretation \rightarrow
 - e. John self-wonders [which x: x a picture of t_{self}] Mary stole [x]

The sentence in (349)a receives the same analysis as (349)c. The derivation for

(349)a appears in (353). Importantly, in (349)a the idiomatic interpretation of take

pictures is possible because take and pictures are adjacent at LF.

- (353)a. John wonders [which picture of herself] Mary took [which picture of herself] Anaphor movement \rightarrow
 - b. John wonders [which picture of herself] Mary self-took [which picture of t_{self}] Make-Op: \rightarrow Self-adjunction \rightarrow
 - c. John wonders [which [t picture of herself]] Mary self-took [which [t picture of t_{self}]] Complementary deletion \rightarrow
 - d. John wonders [which [t picture of herself]] Mary self-took [which-[t picture of t_{self}]] Semantic Interpretation \rightarrow
 - e. John wonders [which x] Mary self-<u>took [x picture</u> of t_{self}] idiom interpretation possible

Now consider the crucial, ungrammatical (349)b, whose derivation appears in (354). As in (352), the restriction in the operator cannot be minimized because of the presence of the trace of *self*. Therefore, *picture* is going to be deleted from the tail of the chain. As a consequence of this, at LF *took* and *picture* are not going to be adjacent and the idiom interpretation is not going to be possible. Thus, the ungrammaticality of (349)b is explained because the presence of *with a good camera* requires the idiom interpretation.

- (354)a. John wonders [which picture of himself] Mary took [which picture of himself] Anaphor movement \rightarrow
 - b. John self-wonders [which picture of t_{self}] Mary took [which picture of himself] Make-Op: Self-adjunction \rightarrow
 - c. John self-wonders [which picture of t_{self}][t] Mary took [which picture of himself][t] Complementary deletion \rightarrow
 - d. John self-wonders [which picture of t_{self}][t] Mary took [which picture of himself][t] Semantic Interpretation \rightarrow
 - e. John self-wonders [which x: x a <u>picture</u> of t_{self}] Mary <u>took</u> [x] idiom interpretation impossible

There are at least two conceptual reasons to believe that Chomsky's proposal is not correct. First, as we saw earlier (see section 6.3.3.1, in particular the discussion around example (311)), it is not clear that LF anaphor movement is empirically wellmotivated. And second, the proposal in Chomsky (1993) relies on the Preference Principle, which does not seem to be compatible with most semantics treatments of operators. Normally, the operator restriction is maximized whereas the Preference Principle tries to minimize the operator restriction.

At any rate, it should be obvious why the ungrammaticality of (349)b poses a problem for any approach that assumes that Condition A can be satisfied as the derivation proceeds. If Condition A can be satisfied as the derivation proceeds, the anaphor should be able to be bound in Spec, CP by the higher subject, and then *pictures of himself* could reconstruct allowing for the idiomatic interpretation. At LF there would be a Condition A violation, but that violation is not fatal under the assumption that Condition A only needs to be satisfied at one point in the derivation.

6.4.2 Brody (1995)

Brody (1995) offers a different solution for the facts in (349). Brody claims that none of Chomsky's assumptions to deal with (349) are necessary. He argues that the crucial, ungrammatical example in (349)b can be explained if we assume that in the idiomatic interpretation, the presence of the implicit (agent) argument in *pictures* blocks anaphor binding between *John* and *himself*. In Brody's words:

(355) No strong argument can be based on [the ungrammaticality of (349)b], (...) since we can assume that anaphoric connection between *John* and *himself* is prevented by the understood subject of the noun *pictures*, which on the idiomatic interpretation must be coreferential with the subject of the [embedded] verb. (Brody (1995:136))

Thus, according to Brody, what rules out (349)b is not contradictory requirements

about where pictures of himself should be interpreted but the presence of a subject PRO

in the subject position of *pictures*. In other words, according to Brody the structure of

(349)b is the following.

(356) *John_j wonders which [PRO_i picture of himself_j] Mary_i took which [PRO_i picture of himself_j]

The presence of PRO within the DP headed by pictures blocks binding of himself

by John and the sentence is ruled out as a Condition A violation. As Brody points out, his

proposal has the consequence that some of the assumptions that Chomsky made to

explain the facts in (349) can be eliminated. In particular, under Brody's proposal we

don't need to assume LF anaphor movement or the Make-Op operation (and the Preference Principle). (At least we can say that the operation that creates operator variable configurations out of identical copies has no impact on syntax.) Interestingly for the purposes of this section, Brody's account is compatible with the assumption that Condition A can be satisfied at any point in the derivation: the sentence is ruled out because at no point of the derivation is *John* a good antecedent for the anaphor. I will assume the spirit of Brody's proposal (the ungrammaticality of (349)b is due to the presence of an interfering *PRO*) but not its implementation.

6.4.3 Some More Facts and a Proposal

Consider the following sentence:

(357) John wonders which picture of himself Mary said was taken with a good camera The grammaticality of (357) shows quite clearly that Chomsky's account is not correct. According to Chomsky, binding of *himself* by *John* should prevent "reconstruction" of *pictures of himself* and the anaphoric interpretation should be impossible, contrary to fact. Alternatively, if reconstruction takes place to license the idiomatic reading under LF adjacency, *himself* would be too far away from *John* for it to be its antecedent.

Let's see how Brody's proposal handles the grammaticality of (357). Remember that for Brody, the idiomatic interpretation is possible only if the *PRO* subject of *pictures* is coindexed with the subject of *take*. The problem is that in (357) there is no subject. It is not clear to me what Brody's proposal would expect in cases where there is no explicit subject as in (357) or in the following sentences:

- (358)a. John wonders which picture of himself was taken with a good camera
 - b. John believes several pictures of himself to have been taken with a good camera
 - c. Several pictures were taken with a good camera

It seems to me that if we take Brody's proposal literally we would expect the idiomatic interpretation not to be possible in (357) and (358), since coindexation cannot be established between the *PRO* subject of *pictures* and the subject of *take*. Alternatively, one could think that the coindexation actually takes place between the *PRO* subject of *pictures* and an implicit argument of *take*, but then we would expect binding not to be possible.⁹⁹

For this reason, I would like to suggest the following modification of Brody's proposal. I propose that in order for the subject of *take pictures* to be assigned the agent theta role of the idiomatic interpretation of *take pictures*, there needs to be a PRO in the "subject position" of *pictures*, which will be controlled by the subject of *take*. As will become clear later, it is important to note that the proposal that I am making requires the presence of PRO for the idiomatic interpretation of *take pictures* only when the agent of *take pictures* is being assigned a theta role.¹⁰⁰

⁹⁹ The examples in (357) and (358) are also problematic for the account presented in Runner (1998) for the facts in (349). Runner's approach is based on the following: first, *take pictures* under the idiomatic interpretation is a predicate. Second, anaphoric relations are established at the Argument Structure level (roughly Deep Structure). And third, there are two types of anaphors: true anaphors and 'exempt' anaphors. True anaphors have a co-argument as a potential antecedent and are subject to the Binding Theory principles whereas exempt anaphors do not have a co-argument as a potential antecedent and are not subject to the principles of Binding Theory. (See Runner (1998) and references therein.) Thus, according to Runner (1998) the difference between (349)b and (349)d is explained because in (349)b *Mary* and *himself* are co-arguments, but not in (349)d. According to Runner, in (349)a,b *himself* is a true anaphor whereas in (349)c,d *himself* is an exempt anaphor.

However, if the idiomatic interpretation forces the true anaphor status of *himself*, then the grammaticality of the examples in (357) and (358) is unexpected. In these examples, *take pictures* is interpreted in the 'photograph' sense. Thus, according to Runner, *himself* has the true anaphor status and must be bound by a co-argument. However, in these examples *himself* is not bound by a co-argument. Since the examples are fine, I conclude that Runner's analysis is not correct.

¹⁰⁰ One potential problem is raised by those analyses that assume that in passive sentences there is an implicit argument (see for instance, Roeper (1987)). If there is an implicit argument that is being assigned

Thus, according to my proposal, a sentence like (359) a will have the idiomatic interpretation if it has the structure in (359)b. Furthermore, a sentence like (359)c will be ruled out because there is no appropriate antecedent for PRO.

- (359) John took a picture of Mary a.
 - John_i took a PRO_i picture of Mary b.
 - John_k took a PRO; picture of Mary C.

I will propose no other principle constraining the idiomatic interpretation of take

pictures. In particular, I will not adopt Chomsky's proposal that IdInt requires some type

of LF adjacency. Furthermore, I will adopt the idea that IdInt can take place at some post-

syntactic level independently of the presence of PRO in the subject position of *pictures*.

My proposal appears summarized in (360).

(360) In order for the subject of *take pictures* to be assigned the agent theta role of the idiomatic interpretation, there needs to be a PRO in the subject position of pictures.

John wonders which picture of himself was taken by Mary a.

the agent theta role in taken pictures in examples like in (357) and (358), we would expect that this implicit argument could only be assigned if there is a PRO in the NP headed by pictures, and no difference should be expected between in (357) and (358), on one side, and (349)b on the other, contrary to fact. Standard evidence for the implicit argument in passive sentence is examples like (i) where the subject of the infinitival seems to be controlled by the implicit argument of sunk.

The boat was sunk to collect the insurance (Roeper (1987)) (i)

However, Lasnik (1988) has shown that this type of sentence does not really prove that there is an argument controller in the matrix clause. His argument is based on sentences like the following. *The ship was sunk [PRO to become a hero] (ii)

a. The ship was sunk by a torpedo [PRO to prove a point] b.

First, in sentences like (ii)a, structurally similar to (i), control by a supposed implicit argument is not possible as indicated by the ungrammaticality of (ii)a. This in itself casts doubts on the implicit argument approach to (i). Second, the fact that sentences like (ii)b are fine shows that the controller in sentences of this type does not have to be an argument: in (ii)b it clearly cannot be the agent of the action, since torpedoes do not prove points. People who launch them do.

A similar problem is raised by by-phrases. If, under the idiomatic interpretation, agent theta role assignment to the by-phrase requires presence of PRO in the subject of pictures (in the same way that active subjects do), we would expect that the sentences in (iv) could not have the idiomatic interpretation, contrary to fact. (iv)

John believes several pictures of himself to have been taken by Mary h

In order to solve this problem I would like to suggest that theta-role assignment of the by-phrase and of the subject in Spec, VP is different, in that only the latter requires presence of PRO in pictures to license the idiomatic interpretation. The different status of active and passive subject is corroborated by their different status in terms of obligatoriness: whereas subjects (in active sentences) are obligatory, by-phrases are optional (as expected, due to their adjunct character).

Now consider the contrast in (349)a,b, repeated here.

(349) a. John wonders which picture of herself Mary took with a good camera
*John wonders which picture of himself Mary took with a good camera

Since in both (349)a,b *take pictures* has an idiomatic interpretation (as required by the continuation ... *with a good camera*), it must be the case that there is a PRO subject in *pictures*. That is, assuming the copy theory of movement, the representation of (349)a,b would be as in (361).

- (361) a. John wonders [which PRO_i picture of herself_i] Mary_i took [which PRO_i picture of herself] with a good camera
 - b. *John_k wonders [which PRO_i picture of himself_k] Mary took [which PRO_i picture of himself] with a good camera

According to these representations, it is expected that (349)a is grammatical but

(349)b is not. In (349)a/(361)a the anaphor is bound by the closest antecedent, namely

PRO. However, in (349)b/(361)b the anaphor is not bound by the closest antecedent:

PRO blocks the binding relationship between John and himself.

This account of the contrast in (349)a,b is a small variant of Brody's but does not

have the problems that Brody's does with sentences like (357) and (358), repeated here.

- (357) John wonders which picture of himself Mary said was taken with a good camera
- (358) a. John wonders which picture of himself was taken with a good camera
 - b. John believes several pictures of himself to have been taken with a good camera
 - c. Several pictures were taken with a good camera

Since in these examples the agent of take pictures is not present, the agent theta

role is not being assigned and therefore, according to my proposal, no PRO needs to

appear in the subject position of *pictures*. For instance, the structure of (357) would be

the one that appears in (362). In (362), as opposed to what happens in (349)a/(361)a, the

binding relation between John and himself is not affected by the presence of the PRO subject in *pictures*.

(362) John; wonders [which picture of himself;] Mary said [which picture of himself;] was taken with a good camera

Note that according to my proposal we do not need to have any type of LF adjacency between take and pictures to get the idiomatic interpretation. Additional evidence for this comes from examples like the following.

(363) I took it

If the reference of *it* in (363) is a picture, (363) can be assigned the interpretation of *photograph*. This clearly shows that in order to get the idiomatic interpretation we do not need LF adjacency between *take* and *pictures* since it is even possible to have the idiomatic interpretation without the presence of pictures.¹⁰¹

My proposal regarding IdInt for *take pictures* has the virtue that it can give a

straightforward account of all the passive cases without the need of A-movement

reconstruction. In Chomsky (1993) it is proposed that in order to explain the idiomatic

interpretation in examples like (358)c, A-movement reconstruction needs to take place.

That is, at LF the expression *pictures of himself* would be interpreted in its "D-structure"

position. However, there seem to be enough reasons to doubt the existence of A-

I like the picture of Bill_i's sister that he_i took with Peter's camera xxx check a.

¹⁰¹ Occasionally it has been suggested that the same paradigm that is observed in (349) is attested in relative clauses. For instance Munn (1994) attributes the contrast in (i) to the fact that idiom interpretation forces reconstruction of pictures of Bill.

The picture of Bill, that he, likes (i) a.

^{*}The picture of Bill_i that he_i took (idiomatic interpretation intended) b.

However, these data do not seem very compelling, since the sentences in (ii) seem fine even under the idiomatic interpretation. (ii)

b. Mary, likes the picture of herself, that John took with Peter's camera

movement reconstruction. Chomsky (1995b) and Lasnik (1999a) show that reconstruction is not possible with A-movement. Chomsky's proposal to explain this fact is that reconstruction is limited to A'-chains. Lasnik's proposal is that A-movement leaves no traces. Under either approach, the possibility of the idiomatic interpretation in examples like (358)c is problematic if the idiomatic interpretation requires some type of LF adjacency.¹⁰²

Under my approach, since LF adjacency is not required for the idiomatic interpretation to be obtained, the passive examples are easily accounted for even if Amovement leaves no trace (as in Lasnik (1999a)) or reconstruction is limited to A-bar chains (as in Chomsky (1995b)): examples like (357) and (358) can be assigned the idiomatic interpretation at a post-syntactic level.

Before I conclude this section, I will comment on a counter-argument presented by Lebeaux (1998) to the type of analysis of the take picture interpretation facts proposed on this section. Lebeaux claims that an analysis of the facts in (349) based on the presence of PRO cannot be correct because of the presence of similar contrasts in examples like the following:¹⁰³

(364) Sue and Bill wondered how much of each other's minds Mary and John blew Lebeaux (1998:15)

Under the present proposal the grammaticality of these sentences is expected under the non-raising analysis of relative clauses: if *pictures* is never in the object position of *took*, then the condition in (360) does not

apply. ¹⁰² Under the present proposal examples like the following can be accounted for without assuming a raising analysis of relative clauses.

John bought several pictures of himself that Mary took with Peter's camera (i) John bought several protection of the last of the

It was each other's shoulders that the boys said that the girls cried on (i)

It was each other's heads that John and Mary said that Bill and Sue turned (ii)

Lebeaux's claim is that in (364) the anaphor can only be bound by the embedded subject. However, other native speaker do not find a great contrast between both possibilities, and the sentence is considered degraded independently of which NP binds *each other*.

Even though Lebeaux's critique of the PRO proposal does not seem to be valid, his general reasoning is: if we could find idiom interpretation cases similar to (349) in that embedded anaphors are felicitous (as opposed to (364)c), but different in that the PRO analysis is not plausible (as in (364)c), then we would expect no relation between idiom interpretation and binding. Provisional results seem to indicate that this is correct. In the following sentences, the (a) sentences are better than the (b). sentences, as expected since no PRO seems likely to be present in *advantage*.

(365) a. John and Mary wonder how much advantage of each other John tookb. John and Mary wonder whether John took advantage of each other

I have shown in this section that the argument against on-line application of binding theory based on the relation between idiom interpretation and anaphor binding is incorrect, since it cannot account for certain facts. I have shown that the facts that supported the argument can be better analyzed under the assumption that there is an interfering PRO, along the lines of Brody (1995).

Furthermore, the facts presented in this section further undermine Lebeaux's Coherence Condition. According to Lebeaux a phrase can only be assigned idiomatic interpretation if no other principle of grammar requires it to appear in a position other than the "idiomatic position." However, in this section we have seen many instances in which an element could be assigned idiomatic interpretation even though other components of grammar require it to be interpreted in some other position.

6.5 Summary

In this chapter I have addressed certain problems that appear under standard assumptions if there are no A-traces. Section 6.2 I addressed certain cases of obligatory A-movement reconstruction based on pronoun binding, and I proposed following Epstein et al. (1998) among others, that the licensing condition on bound pronouns can be satisfied on-line, as the derivation proceeds.

In section 6.3, I first showed that lack of A-traces leaves us without an explanation for those cases where the A-trace is assumed to trigger a SSC effect. Then, I showed that those SSC effects can be accounted for under the assumption that binding theory is defined in terms of clause-mate-hood, and that binding theory applies cyclically.

Finally, in section 6.4 I discussed facts regarding idiom interpretation and binding theory that are particularly problematic under the assumption that Condition A of binding theory can be satisfied as the derivation proceeds, and I proposed an alternative analysis modifying a proposal by Brody (1995).

Chapter 7: A-movement Strong Crossover and Related Phenomena

7.1 Introduction

In this chapter I will be concerned with what sometimes has been called A-

movement instances of Strong Crossover. The purpose of this chapter is to show how a

derivational approach to binding relations can explain certain unexpected binding facts.

The facts I am primarily concerned with were initially brought to light in Postal (1971).

There Postal proposed the Crossover principle. One of the formulations that Postal offers

is the following:

(366) Crossover principle (Postal (1971:62))

Given a transformation T which moves NP and a phrase marker P to which T is otherwise applicable, T cannot apply to P is the operation of T on P will result in one NP crossing another with which is coreferential.

Some of the examples that Postal used to support the Crossover principle are the

following:

- (367) *Who_i did he_i shave? (Postal (1971:74))
- (368) a. *I seem to myself to be clever (Postal (1971:33))
 - b. *Jack is believed by himself to be insane (Postal (1971:256))

Postal's view on these facts has long been abandoned, although the name that he

gave to the phenomena has been maintained. Quite standardly, the ungrammaticality of

(367) is not attributed to an illicit application of a movement operation, but to the lack of

the necessary structural configurations that should exist between a quantifier and the

pronoun that is bound by it (and/or to a Condition C violation). Earlier in this dissertation

(section 6.2.3) I developed an account along those lines. As for (368)a,b, it is standardly assumed that they are grammatical. (See for instance example (274)a.)

Rizzi (1986) (expanding observations by Kayne (1975) and Burzio (1986)) noted that sentences structurally similar to (368) were ungrammatical in French and Italian if the anaphor is realized as a clitic. Rizzi's characterization of the facts and proposal was quite different from Postal's. Rizzi's proposal (see below) relied on a representational view of syntax and on the existence of A-traces. In this dissertation, I have been arguing for the lack of A-traces and for the derivational approach to syntax. Thus it is appropriate to see whether an alternative account can be given of the NP movement Crossover phenomena. The goals of this chapter are first, to show that to some extent we can find in Spanish similar facts to those discussed by Rizzi, and second to provide an account of the Spanish facts under the assumptions of this dissertation. In a sense, what I will propose in this chapter is to revive Postal's crossover approach under a derivational approach to binding relations.¹⁰⁴

In section 7.2, I will review Rizz's description and account of A-movement Crossover facts in Italian. In section 7.3, I will provide a derivational account of similar facts that we find in Spanish. In 7.3.1, I lay out the Spanish paradigm that we find in raising constructions. In 7.3.2, I discuss possible explanations of the Spanish facts. In 7.3.3, I lay out the derivational account. Note that even though the discussion is triggered by Rizzi's discussion and account of the Italian facts, the empirical domain I will be concerned with comes from Spanish.

¹⁰⁴ For discussion of these and other facts see also Lasnik (1985) and Epstein (1986).

7.2 Rizzi (1986) or the anaphoric clitic effect

7.2.1 Rizzi (1986)

Rizzi (1986) (see also Kayne (1975)) notes that a derived subject cannot be the antecedent of an anaphor, if the anaphor is a clitic. Consider the contrast found in Italian between a transitive verb and a raising verb, which appears illustrated in (369). (All the examples in this section come from Rizzi (1986).)

 (369) a. Gianni si considera intelligente Gianni himself considers intelligent
 'Gianni considers himself intelligent'
 b. *Gianni si sembra intelligente¹⁰⁵ Gianni himself seems intelligent
 'Gianni seems to himself intelligent'

In both (369)a and (369)b there is an anaphoric clitic bound by the subject. Since the only difference between (369)a and (369)b is that the subject in (369)b is a derived subject, Rizzi concludes that the correct descriptive generalization is that derived subjects cannot bind anaphoric clitics. Alternatively, one could characterize these facts in terms of Crossover: in (369)b the subject cannot raise over the coindexed clitic.

Rizzi also notes that the status of the anaphor is crucial. The contrast that we find in (370)-(372) indicates that anaphors cannot be bound by derived subjects when the anaphor is realized as a clitic. However, if the anaphor is realized as a full pronoun, derived subjects can bind it. Thus in (371)a, the derived subject *our friends* can bind the

- (i) *?Gianni, sembra perfino a se stesso [e, non fare il suo debere] Gianni seems even to himself not to do the his duty
- 'Gianni seems even to himself not to do his duty'
- (ii) *?Gianni, sembra a Piero [e, non fare il suo debere] Gianni seems to Piero not to do the his duty
 'Gianni seems to Piero not to do his duty'

¹⁰⁵ The version of this example with a full anaphor (as in (i)) is ungrammatical but for independent reasons, since even if the anaphor is substituted by an non-anaphoric expression (as in (ii), the sentence is still bad.

anaphor each other because the anaphor appears in its full form. In (371)b, our friends

cannot bind the anaphor because the anaphor appears in its clitic form.

Gianni è affezionato a se stesso¹⁰⁶ (370) a. Gianni is affectionate to himself 'Gianni is affectionate to himself' b. *Gianni se è affezionato Gianni to himself is affectionate 'Gianni is affectionate to himself' I nostri amici sono stati presentati l'uno all'altro (371) a. The our friends have been introduced the one to the other ('Our friends have been introduce to each other') *I nostri amici si sono stati presentati b. The our friends to each other have been introduced ('Our friends have been introduce to each other') spesso vengano t_i in mente l'uno all'altro (372) a. I due menici The two enemies often come to mind to each other ('The two enemies often come to mind to each other') *?I due menici vengano t'_i in mente t''_i b. spesso si The two enemies often to each other come to mind ('The two enemies often come to mind to each other') More generally, Rizzi points out, the descriptive generalization is that the

configuration that appears in (373) is ruled out. In (373) si stands for any anaphoric clitic.

(373) NP_i ... $[\alpha si_i ... e_i ...]$

Rizzi argues that these facts follow from a representational view on chains. The

view on chains that he adopts appears in (374). Some of the necessary definitions appear

in (375)

(374) $C = (a_1 \dots a_n)$ is a chain iff, for $1 \le i \le n$, a_i is the local binder of a_{i+1} .

¹⁰⁶ Rizzi (1986), following work by Stowell (1981) and others, assumes a Small Clause analysis of copulative constructions, according to which the subject is generated as the subject of a Small Clause, and then raises to its surface position.

- (375) a. α is a binder of β iff, for α , β = any category, α and β are co-indexed, and α c-commands β .
 - b. α is a local binder of β if α is a binder of β and there is no γ such that γ is a binder of β , and γ is not a binder of α .

When the chain formation algorithm in (374) applies to a structure like the one in (373), the result is the chain that appears in (376). This is so, because of the way Chain formation is defined. Chain formation is defined in such a way that it "cannot "skip" intervening binders" (Rizzi (1986), p. 71).

- (376) (NP, si, t_{NP})
- (377) θ -criterion (informal formulation): There is a biuniqueness between θ -roles and chains.

Importantly, the resulting chain in (376) is an ill-formed chain. Rizzi argues that the chain in (376) violates the θ -criterion in (377). Thus, when the Chain formation algorithm applies to structures like (373), the result is an illegitimate chain, a desired result, Rizzi argues, since structures like (373) correspond to ungrammatical sentences. In short, Rizzi (1986) shows that adopting a representational view of chains "buys" us the explanation for the ungrammaticality of the sentences in (369)-(372).

However, there are enough problems with this account to grant a search for an alternative solution. The first one is a bit technical. Rizzi claims that in a situation like (378), the chain formation algorithm cannot create a chain that obeys the θ -criterion. In particular, the chain (NP, t_{NP}) cannot be formed because of the presence of the clitic. In other words, the chain that will be formed will be (NP, si, t_{NP}). However, it is not clear to me what goes wrong if we end up we the two chains (NP, si, t_{NP}), (t_{si}). Something might be wrong but it is definitely not a θ -criterion violation, since both chains would receive a θ -role.

(378) NP_i ... $[\alpha si_i \ldots t_{NPi} \ldots t_{sii}]$

The second problem is conceptual. It does not seem that this account can be formulated within a copy theory of movement. If what movement leaves behind are copies, it does not seem plausible that the chain formation algorithm will be confused by the presence of coindexed elements that are not copies.

Finally, Rizzi's account is completely incompatible with the proposal that Amovement does not leave a trace. If there are no A-traces, there is no reason for the chain formation algorithm to apply in the instances of A-movement. Thus, if we want to keep the formulation A-movement does not leave a trace, then we need to find an alternative explanation for Rizzi's facts. ¹⁰⁷

7.2.2 McGinnis (1998)

McGinnis (1998) offers a different characterization of the anaphoric clitic effect. For her, the problem with the sentences in (369)-(372) is that the anaphor is too close to the antecedent. She calls this situation "Lethal Ambiguity," which appears in (379).

- (379) McGinnis (1998): Lethal Ambiguity An anaphoric dependency cannot be established between specifiers in the same checking domain, even if one or both raises out of this domain.
- (380) a. *Giannii non sij sembra [ti tj [ti fare il suo debere]] (i=j)
 G. not Refl seems to do the his duty
 'Gianni doesn't seem to himself to do his duty'
 - b. Archy seems to himself [t to be a rather good poet]

¹⁰⁷ One potential criticism to Rizzi's proposal that I will not make is related to the VP internal subject hypothesis (VPISH). Someone could argue that under the VPISH there shouldn't be any difference between raising and transitive verbs, since under the VPISH we always have derived subjects. This criticism is only valid if one does not adopt Koizumi's proposal for VP (Koizumi (1993), Koizumi (1995), Lasnik (1995b) and seq.). In fact, the anaphoric clitic effect could be taken as evidence that we need a Koizumi type of structure.

McGinnis explains the contrast in (380) in the following way. In (380)a the experiencer is a clitic, thus a DP with Case and phi-features. Thus, *Gianni* cannot raise over it; it has to move to an intermediate position. However, if this intermediate position is occupied by a co-referential element, a situation of "Lethal Ambiguity" arises. In (380)b, since the experiencer is a PP, the experiencer is not a potential candidate to move to the subject position and therefore, the subject does not have to go through the intermediate position.

There is at least one problem with McGinnis's account: there is no independent evidence for this "Lethal Ambiguity" principle. In other words, it does not have the appeal of Rizzi's account in the sense that the facts do not seem to be accounted for independently.¹⁰⁸

7.2.3 Kayne/Pesetsky

Pesetsky (1995:4.1.3.1) presents a solution to Rizzi's paradigm based on a proposal by Kayne (which Pesetsky attributes to Kayne himself). I will briefly show how this proposal works but I will reject it on the basis of Spanish facts.

According to Kayne, reflexive clitics are always external arguments, although they are assigned accusative Case, and the subject in a sentence with a reflexive clitic is actually a derived subject. Thus, the French counterpart of *Marie sees herself* would be:

(381) Marie_i [$_{VP}$ se_i voit t_i] \land /

¹⁰⁸ But note that McGinnis' account remains neutral between the representational and derivational account.

Under this proposal, reflexives are considered unaccusatives. Kayne (personal communication to Pesetsky) notes that this proposal can explain Rizzi's paradigm. Consider the following pair:

(382)	a.	Gianni <i>gli</i> è stato affidato		
		Gianni to him was entrusted		
	b.	*Gianni si è stato affidato		
		Gianni to himself was entrusted		

In (382)a the non-reflexive clitic is in the IO of the verb. In (382)b, the clitic is the external argument by hypothesis, but the passive *affidato* 'entrusted' lacks an external argument, hence the ungrammaticality.

The reason I would reject this proposal is that Spanish provides clear evidence that reflexive clitics are not external arguments. As is well-known, in Spanish, clitics can co-appear with the DP in argumental position. This is normally called clitic doubling. In fact, when a DP in argumental position is a pronoun, clitic doubling is obligatory:

- (383) a. *Ví a ella saw to her
 - b. La vi a ella her.saw to her 'I saw her'

Importantly for the present discussion, clitic doubling is possible with reflexive

pronouns. Thus the Spanish counterpart of (381) could be either (384)a or (384)b.

- (384) a. María se mira María SE look at
 - b. María se mira a sí misma María SE look at herself 'María looks at herself'

It is not obvious how Kayne's analysis could be applied to (384)b. According to Kayne's analysis, the subject in (384)b is a derived subject that has moved from the object position. This move does not seem to be possible since the object position is occupied by the doubled *a si misma*. Thus, Kayne's assumption does not seem to hold for Spanish. Since Kayne's assumption does not hold for Spanish, one would expect that Spanish does not show the type of effect that Rizzi described for Italian. However, the expectation is not met, as we will see in the next sections. For this reason, I will not adopt Kayne/Pesetsky analysis of Rizzi's paradigm.¹⁰⁹

7.3 A derivational approach to NP strong crossover phenomena

In this section I will investigate to what extent the strong corssover phenomena in A-movement cases can be explained under a derivational approach to syntax. First, I will show that the anaphoric clitic effect in Spanish correlates with certain unexpected binding behavior in raising constructions. Then I will provide an explanation for these facts under the assumptions of this dissertation. In the next section, I will investigate similar phenomena in other types of constructions.

7.3.1 Unexpected binding in Spanish raising constructions

7.3.1.1 Anaphoric clitics in raising constructions

The Spanish examples in (385) replicate the Italian examples in (369): the derived subject in (385)b cannot bind the anaphoric clitic. The ungrammaticality of (385)b

¹⁰⁹ Kayne's analysis could be maintained if the double does not occupy an argumental position as has been occasionally suggested. For other arguments against the unaccusative approach to anaphors see Reinhart and Siloni (1999).

contrasts with the grammaticality of (385)a where no anaphoric clitic is present, and with (385)c where the subject is not a derived subject, but the subject of a transitive verb.

- (385) a. Juan me parece inteligente J. to-me seems intelligent
 - b. *Juan se parece inteligente J. to-himself seems intelligent
 - c. Juan se considera inteligente J. himself considers intelligent

The structure that I am assuming for (385)b is the one that appears in (386). I assume that *Juan* is generated in the subject position of the small clause complement of *pareció* 'semed', and then *Juan* raises to subject position. This derivation goes against standard assumption that raising over the experiencer is not possible in Spanish (Torrego (1996), Torrego (1998)). Taken at face value, examples like (385)b are problematic for the standard assumption that raising over the experiencer is not possible in Spanish. In order to explain this type of example and maintain the generalization that raising over the experiencer is not possible in Spanish. In order to possible in Spanish, Torrego (1996) proposes that in examples like (385)b there is no raising at all. However, such an analysis cannot capture the contrast that is found between (385)b and (385)c, and others that we will see later.

(386) Juan me parece [sc t_{Juan} inteligente] J. to-me seems intelligent

The example in (387)a is a typical example that is used to show that the experiencer clitic blocks subject raising in Spanish. It is important to note that if the clitic is an anaphoric clitic the sentence is much worse, as in (387)b. This is expected if Spanish raising constructions show Rizzi's anaphoric clitic effect. Both (387)a and (387)b contrast with the grammatical (387)c.

(387)	a.	??Ese taxista me parece estar cansado	
		That taxi driver to-me seems tired	(Torrego (1998))

- b. **Ese taxista se parece estar cansado That taxi driver himself seems tired
- c. Ese taxista parece estar cansado That taxi driver seems tired

7.3.1.2 Condition C violations in raising constructions

Condition C of binding theory establishes that an R-expression (like a definite

NP) cannot be A-bound. This rules out a sentence like (388)a. Sentences like (388)b,

show that c-command, and not linear precedence is the relevant relationship. In both

(388)a and (388)b pro precedes Juan. But there is only a Condition C violation in (388)a,

and not (388)b, because pro c-commands Juan only in (388)a

- (388) a. *pro_i cree que Juan_i ama a María He thinks that J. loves to María 'He thinks that Juan loves María'
 - b. Cuando *pro*_i llegó, Juan_i estaba enfadado When he arrives, J. was mad 'When he arrived, Juan was mad'

Unexpectedly, in Spanish, as illustrated in (389), an R-expression in a raised subject seems to be able to trigger a Condition C violation. The only difference between (389)a and (389)b is that in (389)b *Juan* and the clitic experiencer are coindexed. Thus, this coindexation must be the source of the ungrammaticality of (389)b. Note that there is nothing wrong with coindexation of a referential expression within the subject of a transitive sentence and a clitic as illustrated in (389)c.¹¹⁰

¹¹⁰ It is not possible to have the counterpart of (389)b without the clitic because in Spanish the experiencer in *parecer* constructions has to be doubled with the clitic even when the experiencer is a full NP:

⁽i) Juan (*le) parece a María inteligente

(389)	a.	El amigo de Juar	n me	pareció	inteligente
		The friend of J.	to-me	seemed	intelligent

- b. *El amigo de Juan, le, pareció inteligente The friend of J. to-him seemed intelligent
- c. El amigo de Juan, le, dió un libro The friend of J. to-him gave a book

7.3.1.3 Bound pronouns in raising constructions

As is well-known, in order for a quantifier to be able to bind a pronoun the

quantifier must c-command the pronoun (at S-structure). This is what explains the

possibility of a bound reading interpretation in (390)a but not in (390)b.

- (390) a. [Todo el mundo], ama al amigo de su, madre All the world loves to-the friend of his mother 'Everybody loves his mother's friend'
 - b. *El amigo de su_i madre ama [a todo el mundo]_i The friend of his mother loves to all the world 'His mother's friend loves everybody'

The c-command requirement is generally taken to be a S-structure constraint. In

this section, I will show that raising predicates behave unexpectedly. As illustrated in (391) and (392), there is a clear contrast between derived and non-derived subjects. The grammaticality of (391)a and (392)a shows that the pronoun in the derived subject can be bound by the quantifier in the experiencer position (although it is not clear how, since the quantifier does not bind the pronoun at S-structure). (391)a and (392)a sharply contrast with (391)b and (392)b, where the bound reading interpretation is not available.¹¹¹ (The

Juan to-him seems to María intelligent

^{&#}x27;Juan seems to him to be intelligent'

¹¹¹ Suñer (1988) claims that there are no WCO violations when the quantifier is doubled by a clitic. Her claim is based on examples like the following:

⁽¹⁾ a. $?*Su_i$ madre quiere a todos_i

comparison in (391) and (392) is between raising constructions and ditransitive
constructions because they offer the best structural parallelism. A comparison between
raising and transitive constructions would be less direct because clitic doubling in
transitive constructions is subject to certain conditions that are of no interest here.)
(391) a. El amigo de su, madre le, pareció inteligente [a todo el mundo], The friend of his mother to-him seemed intelligent to everybody

- b. *El amigo de su_i madre le_i dió un libro [a todo el mundo]_i The friend of his mother to-him gave a book to everybody
- (392) a. El amigo de su_i madre no le_i pareció inteligente a nadie_i The friend of his mother not to-him seemed intelligent to nobody
 - b. *El amigo de su_i madre no le_i dió un libro a nadie_i The friend of his mother not to-him gave a book to nobody

7.3.2 Towards an explanation

(2)

This section will be devoted to providing an explanation for the unexpected

binding facts that we find in raising constructions. This section is organized as follows. In

section 7.3.2.1, I show how a possible explanation based on the idea that the preverbal

subject in Spanish appears in an A-bar position does not work. Section 7.3.2.2 is devoted

his mother loves to everybody 'His mother loves everybody'

- b. Su_i madre los quiere a todos_i his mother CL loves to everybody 'His mother loves everybody'
- I don't accept Suñer's conclusion because variations of her examples lack the bound reading interpretation of the pronoun:
 - a. *Su_i madre los_i vió [a todos los estudiantes]_i en la ceremonia de graduación his mother CL saw to every the students in the ceremony of graduation 'His mother saw every student in the graduation ceremony'
 - b. *Su_i madre no los_i vió [a ninguno de los estudiantes]_i en la ceremonia de graduación his mother no CL saw to nobody of the students in the ceremony of graduation 'His mother saw none of the students at the graduation ceremony'

to the role that clitics play in binding theory. In section 7.3.3, I will propose an analysis based on the idea that binding can take place as the derivation proceeds.

7.3.2.1 Could we be dealing with A'-subjects?

One possibility that comes to mind to explain the unexpected binding behavior that we find in Spanish raising constructions is to assume that preverbal subject in Spanish must be an A-bar-position (at least in the relevant cases). This possibility would go as follows. Derived subjects in raising constructions, ditransitive passive and psych predicates cannot bind an anaphoric clitic and show Condition C and bound pronoun reconstruction effects. This is because those derived subjects are in an A'-position. (For arguments that the preverbal subject in Spanish occupies an A-bar position, see Uribe-Etxebarría (1992), Ordóñez (1997), Ordóñez and Treviño (1999) and references in Alexiadou and Anagnostopoulou (1998), for the different binding properties of A- and A'- positions see Freidin and Lasnik (1981), Chomsky (1981:184). For the differences between A and Abar scrambling, see Mahajan (1990), Saito (1992) and many others). If this is the case, we could explain that a derived subject in a raising construction cannot bind an anaphoric experiencer as in (385)b because A-bar binding does not license anaphors. In other words, the ungrammaticality of (385)b would be on a par with the ungrammaticality of Who do each other's friends hate. In the same way, we would explain the unexpected Condition C violations ((389)b) and bound reading interpretation ((391)a) as standard Abar-movement reconstruction effects. In other words the ungrammaticality of (389)b would be explained in the same way as Which picture of John does he like (John=he).

However, this proposal incorrectly predicts that we should find WCO violations in those situations where the subject cannot bind the anaphoric clitic and there are unexpected Condition C violation and bound pronoun readings. In other words, according to this proposal the following sentences should be out, contrary to facts:

- (393) a. Todo el mundo le parece inteligente a su madre All the world to-him seems intelligent to his mother 'Everybody seems to his mother (to be) intelligent'
 - b. Nadie es considerado un genio por sus hijos
 Nobody is considered to be a genius by his-pl children
 'Nobody is considered by his children (to be) a genius'

Thus, the possibility of the bound reading interpretation in (393) shows that there must be a preverbal A-position (call it X) from which the raised quantifier can bind the pronoun. If so, the suggested explanation of the unexpected binding facts in raising constructions cannot be correct, since the derived subject in X should be able to bind an anaphor (since X is an A position), and A-bar movement reconstruction could place the subject in X, making unexpected the Condition C violations and the bound reading interpretations.

Further evidence that the preverbal position in Spanish might not be an A-bar

position follows. Consider the following examples:

- (394) a. Algún estudiante llegará tarde a la fiesta Some student will arrive late to the party 'Some student will arrive late to the party'
 - b. Ningún estudiante vino a la fiesta No student came to the party 'No student came to the party'

These examples are fine with a neutral intonation, which I take to indicate that they are not contrastively focussed elements. One could still argue that the A-bar status of

the preverbal topics comes from the fact that they are topics (inaybe left dislocated elements with the verbal inflection playing the role of a doubling clitic). However, there is independent evidence that negative quantifiers and non-specific indefinites resist topicalization. Evidence for this comes from the fact that they are impossible in hanging topic constructions:

- (395) a. *En cuanto a un estudiante, llegará tarde a la fiesta As for to a student will.arrive late to the party 'As for a student, he will arrive late to the party'
 - b. *En cuanto a ningún estudiante, no vino a la fiesta As for to no student no came to the party 'As for no student, he didn't come to the party'

In other words, the fact that the preverbal subjects in (394) cannot be considered to be contrastively focused constituents due to the flat intonation, nor can they be considered topics due to the type of quantifiers they are, rests credibility on the claim that preverbal subjects in Spanish always appear in A-bar position.¹¹²

7.3.2.2 Clitics and BT

Rizzi's explanation of the Italian paradigm crucially relied on the presence of clitics. In particular, it was important that clitics could be considered elements that could interfere in the process of chain formation. If clitics can interfere in the chain formation process, one would expect that clitics could also have an active role in binding theory. In what follows I will show that they don't (at least in Spanish): it will be shown that if clitics could participate in binding theory relations, wrong predictions are made.

¹¹² See references mentioned at the beginning of this section for evidence for the opposite view.

It is well-known that Spanish pronominal clitics are verbal clitics and therefore must be phonologically attached to a verb. The precise position of the clitic is subject to some debate. Thus some people argue that they are adjoined to the verb, whereas some other people argue that they are adjoined to some maximal projection (or maybe in the specifier position of some Clitic Phrase).¹¹³ Since the purpose of this section is to investigate whether clitics can play a role in binding theory, I will make the assumptions that are most favorable for the idea that clitics do play a role in binding theory. The assumptions concern the position and the status of the clitic. Thus, let's assume that clitics occupy a position from where they can c-command other elements within the clause.

As for the status of the clitic, and under the standard assumption that binding theory governs the relation between XPs (or more precisely, DPs), we need to assume that clitics are maximal projection. This assumption seems difficult to maintain because of the mounting evidence that clitics are heads (they are attached to other heads, and cannot move like XPs). However, this potentially contradictory situation can be overcome under Chomsky's (1995a) theory of phrase structure that allows clitics to be both heads and maximal projections.

So, now that we have the necessary background to investigate whether clitics can participate in binding relations, consider the following Spanish examples:

- (396) a. ¿Qué le, compró el padre de Juan,? what him-bought the father of J. What did John's father buy him?'
 - b. Qué [le_i compró [el padre de Juan_i [$t_v t_{CL} t_{QU}$]]

¹¹³ See Fernández-Soriano (1993) for an overview of some of the proposals.

As is well-known, even though Spanish has relatively free word order, in questions the verb must precede the subject (see Torrego (1984), Ausín and Martí (2000), among many others) as in (396)a. If the clitic *le* could participate in binding theory relations we would expect (396) to be ruled out as a Condition C violation contrary to facts, since the pronominal clitic *le* is c-commanding (by hypothesis) the coreferential Rexpression *Juan*. However, (396) is acceptable. A similar effect can be found in cases where subject-verb inversion is not obligatory as in the following example:

(397) Lei ha traido un amigo de Juani un regalo muy caro to-him brought a friend of J. a gift very expensive 'A friend of Juan's has brought him a very expensive gift'

If the clitic could participate in BT, we would expect the clitic in (397) to trigger a Condition C violation: *le* would c-command *Juan* in the postverbal position. I would take the fact that the clitic in (396) and (397) failing to trigger a Condition C violation as evidence that clitics do not participate in binding theory relations.

One could argue that the lack of a condition C violation in (397) is not due to the fact that the clitic does not participate in BT but to the fact that the clitic is occupying an A-bar position. There are two reasons not to consider this possibility: First, clitics would be expected to interfere with A-bar movement, which is not true as observed in (396)a. Second, it would make the proposal indistinguishable from its alternative. Saying that clitics can participate in binding relations but don't because they occupy an A-bar position seems to me to be indistinguishable form saying that clitics do not participate in binding relations.

A question that arises is why clitics cannot participate in binding relations. It seems to me that there are two possible answers. One is that clitics are adjoined to the

verb, which prevent them from c-commanding other elements in the clause. The other is that clitics are actually some type of agreement / Case morphemes as has been suggested (see for instance Borer (1984), Fernández-Soriano (1993), Franco (2000) and references therein). Importantly, clitics would not be XPs, and therefore, under the assumption that only XPs participate in binding theory, clitics are not allowed to establish binding relations. (See Ordóñez (1998:fn.7) for more arguments against the idea that clitics participate in binding relations.)

Varela (1988) presented an even simpler argument against the idea that clitics could participate in binding relations. Her argument was based on the clitic-doubled relation. She shows that if we assume that the clitic-double relation is mediated by binding theory we are lead to contradictory requirements. Varela's argument has two steps. First, she shows that clitics must somehow be involved in binding theory. She uses examples like the following:

- (398) a. *Pedro₁ le_2 dijo que pro_1 le_2 había traído un regalo a Luis₂ Pedro him told that pro him brought a present to Luis
 - b. Pedro₁ le₂ dijo que pro_1 le₂ había traído un regalo
 - c. Pedro₁ le₂ dijo que pro_1 le₃ había traído un regalo a Luis₃ 'Pedro told him that he had brought a present to Luis

As Varela put it, "what is surprising about these examples is that even though the higher clitic can bind the lower one (398)b, and the lower clitic can bind the R-expression (398)c, the higher clitic cannot bind the R-expression (398)a." (Varela (1988:37))

Varela notes that a natural explanation for the ungrammaticality of (398)a is to assume that the higher clitic c-commands the embedded clause triggering a condition-C violation. However, if this is the correct explanation for (398)a, then it has to be

explained why there is no Condition C violation in (398)c, where the R-expression is ccommanded by the clitic.

Varela's own proposal to explain that a clitic can bind an R-expression only when that R-expression is its double, is to assume that the clitic and the double NP form a chain (an A chain, to be precise) and that (following Barss (1986)) binding theory does not apply within chains. Thus, in (398)c there is no Condition C violation even though the clitic le_3 binds its double NP Luis₃ because le_3 and Luis₃ are part of a chain.

Although I agree with Varela that the mere existence of clitic doubling constructions offers a clear argument against the idea that clitics have an active role in binding theory, I will reject Varela's conclusion that clitics are exempt from binding theory only with respect to their doubles. I will do that for two reasons. First, Varela's proposal predicts that the sentences in (396) and (397) should be ungrammatical since the clitic is (arguably) c-commanding the coreferential R-expression *Juan*, and the clitic and *Juan* do not form a double-clitic chain. Second, since Varela herself assumes that when there is no double for the clitic, there is an empty category that is doubling the clitic, there is an alternative explanation to rule out sentences like (398)a. It seems reasonable to assume that in cases where the clitic seems to be playing an active role, it is the empty category that is actually playing a role. Thus, the ungrammaticality of (398)a would be attributed not to the fact that the clitic in the higher clause c-commands the R-expression in the embedded clause, but to the fact that the empty category that is associated with the clitic does.
More generally, I will assume that the associate of the clitic (whether it is a full NP, pronoun or empty category) is the element that is involved in binding theory, and that the clitic never plays a role. Thus, consider the following examples.

- (399) a. Juan se ama J. himself loves 'Juan loves himself'
 - b. *Yo se amo I himself love 'I love himself'
- (400) *Le_i dije que el padre de Juan_i había venido to-him told.I that the father of Juan had come 'I told him that John's father had come'

The ungrammaticality of (399)b and (400) can only be attributed to a binding theory violation. There are two possibilities: either the clitic is responsible for such a violation, or the empty category associated with the clitic is. As we have seen, assuming that the clitic can actively participate in binding theory leads to several incorrect predictions and complications of the theory. On the other hand, the proposal that the clitics are associated with an empty element in examples like the one above, and that this element does play an active role in binding theory, easily explains the ungrammaticality of (399)b and (400): In (399)b, the empty category associated with the anaphoric clitic *se* is not bound, and in (400) the empty category associated with clitic *le* is triggering a Condition C violation because it is binding *Juan*.¹¹⁴

If there is an empty category that is doubling the clitic whenever there is no overt double for the clitic, the question arises regarding the type of the empty category. I will follow Varela's proposal that the type of empty category is determined by the type of clitic.¹¹⁵ Thus if the clitic is a pronominal clitic the associate would be a pronominal empty category. If the clitic is an anaphoric clitic the associate empty category would be an anaphoric empty category.

Rizzi (1986:fn.17) argues for a similar approach. He is concerned with the contrast that appears in (401). In both (401)a and (401)b, the anaphoric clitic is intervening between the derived subject and its trace. So, according to the Chain Formation Algorithm in (374), we should obtain illegitimate chains both in (401)a and (401)b. However, whereas (401)a is out, (401)b is fine, unexpectedly under Rizzi's account.

- (401) a. *Loro si erano ritenuti [t_{loro} fedeli t_{si}] (Italian) They to-e.o. were believed loyal 'They were believed (to be) loyal to each other'
 - b. Loro si dovevano [t_{loro} parlare t_{si}] They to-e.o. had to speak 'They had to speak to each other'

Rizzi notes that the observed grammaticality contrast in (401) can be accounted for if the relevant element is not the clitic itself but the empty category associated with the clitic, which for Rizzi is its trace. Thus (401)a is ruled out because t_{si} intervenes between t_{loro} and *loro*. This is not the case in (401)b because t_{loro} c-commands t_{si} in (401)b. Rizzi assumes that the subject of predication of the adjective is generated in the most internal position, crucially lower than the complement of the adjective. (Incidentally, clitic climbing is possible because *ritenere fidele* 'believed loyal' forms a

¹¹⁴ In this proposal that the clitic is doubled by a null pronominal element I am also following among many others Uriagereka (1995), Torrego (1998) and Ordóñez (1998).

¹¹⁵ Or alternatively, that the type of clitic is determined by the type of empty category.

complex predicate that preserves the full configurational structure of the reanalyzed structure.)

7.3.3 On-line binding and reversed relations

The examples in (385), (389) and (391) show the contrast that exists between raising and transitive (non-raising) structures. The sentences that show unexpected binding behavior are (385)b, (389)b, (391)a, and (392)a. They all appear repeated in (402). The stage of the derivation of these sentences before raising to subject position appears in (403). (I am assuming that the clitic is associated with an empty pronominal element *pro*.)

- (402) a. *Juan se parece inteligente J. to-himself seems intelligent
 - b. *El amigo de Juan, le, pareció inteligente The friend of J. to-him seemed intelligent
 - c. El amigo de su_i madre le_i pareció inteligente [a todo el mundo]_i The friend of his mother to-him seemed intelligent to everybody
 - d. El amigo de su_i madre no le_i pareció inteligente a nadie_i The friend of his mother not to-him seemed intelligent to nobody
- (403) a. *se, parece pro, [Juan, inteligente] to-himself seems J. intelligent
 - b. *le, pareció pro, [el amigo de Juan, inteligente] to-him seemed the friend of J. intelligent
 - c. le_i pareció [el amigo de su_i madre inteligente] [a todo el mundo]_i to-him seemed the friend of his mother intelligent to everybody
 - d. no le_i pareció [el amigo de su_i madre inteligente] a nadie_i not to-him seemed the friend of his mother intelligent to nobody

Remember what my assumptions are: binding relations can/must be established on-line and the experiencer of *parecer* c-commands the complement of *parecer*. Let's examine the representations in (403) under these two assumptions.

Consider first the stage in (403)b. Under the present assumption that Condition C applies at every point in the derivation, Condition C applies at the stage represented in (403)b. At this point a Condition C violation obtains because *Juan* is c-commanded by the coreferential experiencer: *pro_i*. This violation explains the ungrammaticality of (402)b.

Now consider the stages in (403)c and (403)d, which are intermediate steps in the derivation of (402)c and (402)d. At this point of the derivation, the quantifiers *todo el mundo* 'everybody' and *nadie* 'nobody' c-command the pronoun su. Thus, the bound reading interpretation of the pronoun in (402)c and (402)d is licensed in accordance with the assumption that bound pronoun reading can be satisfied at any point in the derivation. (See section 6.2.2.)

Finally consider (403)a, a step towards the derivation of (402)a. Remember that this is the crucial piece of data that supports Rizzi's (and McGinniss and Kayne/Pesetsky's) account. In Ausín (2000a), I argued that (402)a is ruled as a Condition C violation, because in (403)a the R-expression *Juan* is bound by the anaphor. However, I now think there are several reasons to reject that analysis. First, it relies on the implicit assumption that anaphors have a referential index that can trigger Condition C violations, which although it is not completely unheard of, it does not have independent motivation. Second (and more importantly), the Condition C approach to (402)a / (403)a predicts that if a pronoun is present instead of an R-expression, the sentence should be fine, contrary

to facts as seen by the ungrammaticality of (404)a. The relevant step of its derivation appears in (404)b.

(404)	a.	*Él _i se _i parece inteligente
		He SE seems intelligent
	b.	se _i parece pro_i [sc él _i inteligente]
		himself seems pro him intelligent

In (404)b, even though the anaphoric experiencer c-commands the subject of the embedded clause, there should not be a Condition B violation according to the binding theory assumed in the previous chapter based on the clause-mate condition. This is so because the experiencer is not a clause-mate of the subject of the embedded small clause. Note that if we were to allow the experiencer to be a co-argument of the arguments of the predicate in the embedded SC, we would predict that the experiencer could have an anaphoric relation with a complement of the embedded predicate in examples like the following:

 (405) *Juan le parece a María fiel a sí misma Juan her seems to María faithful to herself
'Juan seems to María (to be) faithfull to herself'¹¹⁶

Here, I would like to propose an alternative way of ruling out both (402)a and

(404)a. My proposal is based on a proposal in Higginbotham (1983), mentioned in

section 5.4. Remember that Higginbotham's proposal has the effect that "the

interpretation of an item cannot be given in terms of that item itself" (p.404), and that it

explained the anomaly of sentences like:

(i) a. Juan le parece a María fiel a sí mismo

Juan her.seems to María faithful to himself

'Juan seems to María (to be) faithfull to himself')

¹¹⁶ This example should be compared with (i). Following the proposal from the previous chapter, I assume that in (ia) Condition A is satisfied before raising to subject takes place, namely, in the step of the derivation that appears in (ib).

b. [sc Juan [fiel a si mismo]]

(406) *[His, wife], saw [her, husband], (Higginbotham (1983:404))

I would like to suggest that the example in (404)a (and the example in (402)a) is ruled out along similar lines. For the purposes of the current discussion I would like to propose the following, adopting and symplifing Higginbotham's proposal within the frame of the derivational approach to binding relations that I assume.

- (407) If X is the antecedent of Y at some point in the derivation, then Y cannot be the antecedent of X at any point in the derivation.
- (408) X is the antecedent of Y if X binds Y.

Consider now several steps in the derivation of (404)a:

(409)	a.	[sc él inteligente]
. ,	b.	se _i parece pro_i [sc él _i inteligente]
	C.	él, se, parece proi [sc inteligente]
		him himself seems pro intelligent

Remember that I am assuming that binding relations are established as the derivation proceeds. In (409)b the anaphor binds the pronoun, so the anaphor is established as the antecedent of the pronoun. In (409)c, the pronoun c-commands the anaphor, so the pronoun is established as the antecedent of the anaphor. But, then we have exactly the same situation that is ruled out by (407). If we focus on the interpretation of the anaphor, we see that the anaphor is interpreted in terms of the pronoun, which in turn, is being interpreted in terms of the anaphor. Thus the interpretation of the anaphor depends on the interpretation of the anaphor itself.

The same explanation carries over (402)a, with the peculiarity that (402)a is also ruled out as a Condition C violation (provided that anaphors have a referential index).

To conclude this section, I have shown that the peculiar binding behavior that we find in raising constructions in Spanish falls into place under the derivational view of binding relations.

7.3.3.1 The importance of being a clitic

Earlier in this dissertation we saw English examples similar to those in (402)c and (402)d (see for instance (274)a and the discussion about it). We have accounted for both the English and Spanish examples in a similar way. A question that I will address in this section is why the English counterparts of (402)a and (402)b are fine in English, as illustrated in the following examples taken from Lebeaux (1995).

- (410) a. John,'s mother seems to him, to be the most wonderful woman b.
 - John, seems to himself, to be a nice guy

Under the present assumption that Condition C applies during the derivation, the sentences in (410) should be ruled out as Condition C violations: John is c-commanded by the co-indexed experiencer before the subject raises to its surface position. That stage of the derivation appears in (411).

seems to him, [John,'s mother to be the most wonderful woman] (411) a. seems to himself, [John, to be a nice guv] b.

The problem that these sentences pose for an on-line application of Condition C was already noted by Lebeaux. Lebeaux's own solution was to assume that John's mother and John are inserted late, after NP movement has taken place. In particular, Lebeaux proposes a derivation along the following line for sentences of this type Lebeaux (1998:27):

(412)	a.	seems to himself [pro to be a nice guy]	A-movement	
	b.	pro _i [seems to himself [t_i to be a nice guy]]	Lexical insertion	
	C.	John, [[seems to himself [t, to be a nice guy]]	Bind-anaphor	
	d.	John _i [[seems to himself _i [t_i to be a nice guy]]		
(413)a	ì	seems to him [pro to be quite wonderful]	A-movement	

(413)a. seems to him [pro to be quite wonderful] A-movement b. pro_i seems to him [t_i to be quite wonderful] Lexical insertion c.[The pictures of John]_i seems to him [t_i to be quite wonderful]

Lebeaux proposes that an empty element *pro* is inserted in the subject position of the embedded clause. This *pro* undergoes NP movement. After *pro* has raised to matrix subject position it is substituted by the full NP (*John* or *Pictures of John*).

I will not adopt Lebeaux's proposal because it requires a considerable complication of the grammar. First, it requires the existence of certain categories that have no independent motivation (namely, this particular instance of *pro*, which has no effect on the input, since it is just a temporary place holder). Second, it requires the existence of a real substitution operation that has no independent motivation under current assumptions (according to which all instances of phrase structure operations are instances of merge). Third, the relation between the full NP and the trace of *pro* is not straightforward: if it is a chain-like relation, we need what seems to be a new mechanism to ensure that the NP and the trace of *pro* are interpreted as a chain. If the NP and the *pro*-trace do not form a chain-like relation, then we would have two different elements at LF. This would be problematic since there does not seem to be two different roles for the elements to fulfill. Finally, it does not seem to be a way in which Lebeaux's proposal can explain the different status of the sentences under consideration in English and Spanish.

The two main ingredients of the proposal that I would like to make are the following. First, adjuncts can be inserted a-cyclically as in Chomsky (1993), Lebeaux

(1988), Lebeaux (1995) and Ochi (1999). Second, the experiencer can be analyzed as an adjunct as proposed in Torrego (1996) and Stepanov (to appear). Under these assumptions, the derivation of a sentence like *John seems to himself to be a nice guy* would be:

(414)	a.	John to be a nice guy	(Insertion of seems \rightarrow)
	b.	seems John to be a nice guy	(Raising of John \rightarrow)
	C.	John seems to be a nice guy	(Insertion of to himself \rightarrow)
	d.	John seems to himself to be a nice guy	

As can be seen, at no point in the derivation is *John* being bound by *himself*. By the time *to himself* is inserted in the structure, *John* has already moved to matrix subject position. Hence, there is not Condition C violation.

This proposal provides further support for Lasnik's idea adopted throughout this dissertation that A-movement does not leave a trace. Let's momentarily assume that A-movement does leave a trace and that a trace is a copy of the item that moves. If so, the representation of (410)b would be the following.

(415) John seems to himself [John to be a nice guy]

However, if this is the correct representation of (410)b, we would expected it to be ruled out as a Condition C violation since the lower copy of *John* is bound by *himself*. However, if raising of *John* does not leave a copy, no Condition C violation arises:

(416) John seems to himself [____ to be a nice guy]

Now, the question that we have to answer is why the same type of derivation is not available for the Spanish cases. The answer I will give is that in Spanish late insertion of the experiencer is not possible. In what follows I will try to offer some motivation for this. Let's compare examples from both languages:

(417) a. Juan me parece inteligente Juan to-me seems intelligent

b. John seems to me intelligent

The main difference that we find between English and Spanish in *seem* constructions is that the experiencer in Spanish can be realized as a clitic. In fact, it must be realized as a clitic. I would like to suggest that the fact that in Spanish the experiencer necessarily has to be realized as a clitic is what prevents the experiencer to be inserted a-cyclically.

Remember what the intuition is behind the idea that adjunct can be inserted late: certain optional elements can be inserted late. It is because *John seems intelligent* is a complete, well-formed sentence that we can consider *to me* as an optional element and hence an adjunct. And as a consequence of this, we are allowed to insert the experiencer late.

Consider now the Spanish example. Earlier we adopted the idea that clitics are some type of verbal morpheme that attaches to the verb. In this I followed Varela (1988), Borer (1984), among many others. Thus, one could say that the clitic is actually part of the verb. But if this is true, then we would have some motivation for the proposal that the experiencer in Spanish cannot be inserted late, since inserting the experiencer late would require us to insert part of the verb late, and that does not seem to be reasonable. In other words I derive the impossibility of late insertion of the experiencer in Spanish from the impossibility of late insertion of parts of words.

This proposal crucially relies on the idea that experiencers are adjuncts that can be inserted late, and that Spanish and English differ on whether late insertion of the

experiencer is possible. This idea is adapted from Stepanov (1999a)but the proposal that I am making differs slightly from Stepanov's. For Stepanov the experiencer in English always has to be inserted late, whereas in Spanish the insertion of the experiencer has to be cyclic. In this way Stepanov explains the (alleged) fact that raising to subject across the experiencer is possible in English, but impossible in Spanish.

The facts presented in this section are compatible with Stepanov's proposal since they require the experiencer in English to be inserted late. However, we have seen at several points in this dissertation that there are examples that require the experiencer to ccommand the raising subject at some point in the derivation. As pointed out by Boeckx (1999), if we assume that binding relations are established as the derivation proceeds, the fact that we can have binding in sentences like the following seems to indicate that the experiencer c-commands the subject before it raises, contrary to Stepanov's expectations.

(418) Pictures of himself seem to John to be ugly

Furthermore, one of the motivations of Stepanov's proposal that the experiencer needs to be inserted late in English but cyclically in Spanish, is that this allows us to explain the alleged fact that raising over the experiencer in Spanish is not possible. However, earlier in this dissertation and in Ausín and Depiante (2000) it was shown that raising over the experiencer is possible in Spanish.

(419) Este chico me parece inteligente This boy to-me-seems intelligent 'This boys seems to me intelligent'

Finally, Stepanov's proposal seems to have certain internal problems. Simplifying the problem a bit, for Stepanov late insertion of adjuncts is obligatory unless the adjunct

has a wh-feature. Wh-adjuncts have to be introduced in the structure cyclically. If this is so, examples like the following seem to be problematic, as Stepanov himself notes in his footnote 22.

(420) To whom does John seem to be smart?

If to whom is inserted cyclically then we would expect it to block raising of John to the matrix sentence. In order to explain how raising to subject is possible, Stepanov proposes that before raising to subject takes place, to whom raises to the edge of vP, and because of this movement the subject is able to raise over the experiencer. The precise details of this proposal are not relevant here. The important point is that if this strategy is generally available (and if it isn't, then it seems to be a restatement of the problem), we would expect it to be available in Spanish too. Thus, we would expect that the presence of a wh-experiencer would suddenly free raising to subject over the experiencer in Spanish. However, this is not the case. Raising over the experiencer is possible with small clauses and impossible with infinitival clauses independently of the status of the experiencer:

(421)	a.	Juan le parece a María inteligente
		Juan to-him seems to María smart
	b.	*Juan le parecer a María ser inteligente
		Juan to-him.seems to María to be smart
(422)	a.	A quién le parece Juan inteligente?
		To whom to-him seems Juan smart
	b.	*A quién le parece Juan ser inteligente?
		To whom to-him seems Juan to be smart

7.3.3.2 Some loose ends

It could be that the difference that we find between Spanish and English is the same difference that is found within Italian, namely, the different behavior that Rizzi found between different types of anaphors. However, it is not clear that a complete explanation is available. For instance, consider the following examples from Rizzi (1986).

- (423) a. Gianni è affezionato a se stesso Gianni is affectionate to himself 'Gianni is affectionate to himself'
 - b. *Gianni se è affezionato Gianni to himself is affectionate 'Gianni is affectionate to himself'

One could argue that in (423)a the anaphor can be inserted late, but not in (423)b since in (423)b the anaphor is realized as a clitic, and that this difference is related to the different grammatical status. Unfortunately, different timing of insertion does not guarantee that the subject is going to be bound by the anaphor. If it could be shown that the anaphor is higher than the thematic position of the subject in (423)b but not in (423)a, then the argument for the present proposal would be complete. I will leave this issue unresolved for future research.

I will also leave for future research the situation that we find in ditransitive passives and psych verbs in Spanish. In these cases the facts seem to be even murkier. On one side, it is not clear what the grammatical status of sentences like *María se gusta* 'María likes herself' is. On the other hand, the structure of Spanish ditransitive constructions is still not completely understood. See Demonte (1995), Ordóñez (1998)

and Torrego (1998) for some proposals regarding the structure of Spanish ditransitive constructions.

7.3.4 Conclusion

To conclude this chapter, I have shown that under a derivational approach to binding relations, it is possible to account for (some of) the facts discussed in Rizzi (1986). This is an interesting result because Rizzi's original account relied on the existence of A-traces. In this chapter, as well as in the previous chapter, I have shown how a derivational account of syntactic relation can account for some of the facts that motivated the existence of A-traces.

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