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## Gaps as Nonprojected Arguments.\*

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### 0. Introduction.

In GB, gaps in a sentence are assumed to be empty categories, a projection in the syntactic tree with no phonetic content. But there have been a few proposals recently where some nonphonetically realized arguments are not ECs but rather are just not projected. Implicit arguments in NPs have been analysed like this by Williams (1985), Safir (1987). Rizzi (1986) also suggests that some null objects in English might have no projection in the tree. I will look at the possibility to extend this kind of analysis to other gaps and at the consequences of having such nonprojected arguments. I will argue that it is possible and that it is not just an exercise in translating one formalism into another: the index of the argument in the theta grid is independently motivated (cf. Stowell (1981)) and can effectively take over the role of ECs in the grammar. In section 1, I will argue that the take-over of the role of ECs by theta indices has some conceptual advantages over the standard view. In section 2, it will be seen that the Nonprojected Argument hypothesis can explain some apparent discrepancies in the behavior of null objects in French and Italian with respect to the binding theory. It provides a very simple analysis of past participle agreement in French, as we will see in section 3. Finally, in section 4, I will discuss consequences of this hypothesis for NP movement.

### 1. General theoretical considerations.

Let us take a fully modular approach to projection and assume that argument theta roles can always be optionnally projected in the syntactic structure. Whether syntactic projection is forced or not depends on independent factors: nonprojection is fully productive. What licenses nonprojection? In order to answer that question, it will be useful to first look at why projection takes place at all, what is its role. Following Rothstein (1983), a Fregean account of projection can be given along the following lines. The theta grid of a verb (or of any theta assigning head) can be assimilated to a valence structure that

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requires proper saturation. "Intuitively, a theta role is saturated when it is associated with some referential content--that is, when we can understand "who does what" in the situation referred to" (Rizzi (1986:508)). Projection is the standard means of saturation since it associates a theta role with a phrasal argument and hence "identifies" the theta role. The projection principle and the theta criterion are embodiments of this standard means of syntactic saturation.

The standard assumption is that saturation of a theta role is the result of a unidirectional relation between a position in the theta-grid of a head and an argument projection: the argument projection assigns its index to the position in the theta-grid, i.e. binds it. Thus in John saw Mary, Mary assigns its index to the theta-position of theme in the grid of saw. We can represent this schematically as in (1).

1.  $V_i$   $NP_i$ 

But does a theta role necessarily fail to be identified if it is not bound by an argument projection? I want to suggest that it is not the case. If saturation is association with some referential content, there is no a priori reason why the association should be unidirectional. If we assume that identification comes from association with material active in the syntactic projection, then thematic binding, binding of projected material by a theta slot, should also be sufficient to identify the theta role. The claim here is that association with material active in the syntactic projection is bidirectional: it can be either binding of the theta role index by an actual argument projection (along the lines of Stowell (1981)) or binding of a projected element by the theta role index. In fact, this is what we expect given standard assumptions: the theta index is accessible to syntactic processes since, as Williams (not dated) points out, it must be available for theta role assignment; and if it can be bound as in Stowell's analysis, then it should be equally able to bind something. To have it otherwise would require additional stipulations in the grammar barring this possibility, a costly move.

The theta index is accessible to processes of the kind that affect ECs. To claim that this index can actually play the role of an EC in certain constructions is not such a controversial position therefore. Besides the conceptual advantages of such a position, this also solves another problem with the empty category hypothesis: empty categories are redundant in most constructions, if not all.

- 2.a. Wh-movement:  $WH_i \dots V_i t_i$
- b. NP-movement:  $NP_i \dots V_i t_i$
- c. Null object:  $V_i e_i$
- d. pro:  $pro_i AGR_i$
- e. PRO:  $PRO_i VP_i$

In all these constructions, the EC is redundant and could possibly be dispensed with. For example, in (2.b), the NP is assumed to leave an EC behind because the chain must be assigned a theta role and it gets it by being anchored in a theta position. But the NP could just as well be directly binding  $V_i$  since the V is independently required to be coindexed with the NP to assure theta

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assignment. In the next three sections, we will look at arguments which support the proposal to dispense with some ECs.

2. Null objects in French, Italian and English.<sup>1</sup>

Rizzi (1986) argues that there is a crucial difference between the English sentence in (3) and its Italian equivalent in (4): the VP in (3) has an internal structure as in (5.a), while the VP in (4) is as in (5.b).

3. This sign cautions against avalanches.  
 4. Questo cartello mette in guardia contro le valanghe.  
 5.a. VP --> V X  
 b. VP --> V NP X

The claim is that the "missing" object argument is implicit in English but explicitly realized as an empty NP in Italian. The effect of this difference would be that the argument is not projected in the syntax in English, so it is inert, whereas it is projected in Italian and is active. Rizzi gives four constructions where precisely this contrast is found. The Italian null object being a pro, it can control, bind an anaphor and bind the subject of an argument SC in a causative construction; all of these are impossible in English. As the (c) examples show, French is similar to Italian in these respects.<sup>2</sup>

- 6.a. Questo conduce \_\_ a [PRO concludere quanto segue].  
 b.\*This leads \_\_ [PRO to conclude what follows].  
 c. Ceci amène \_\_ à [PRO conclure ce qui suit].  
 7.a. La buona musica riconcilia \_\_ con se stessi.  
 b.\*Good music reconciles \_\_ with oneself.  
 c. La bonne musique réconcilie \_\_ avec soi-même.  
 8.a. Questa musica rende [ \_\_ allegri].  
 b.\* This music renders [ \_\_ happy].  
 c. Cette musique rend \_\_ heureux.

The contrasts in (6-8) should not be used to make as strong a distinction between English and French/Italian as the one in (5) because null objects can be active in English and when they appear not to be, it is because of structural differences between English and French/Italian.

2.1. Null objects are always active.

A distinction as in (5) misses a crucial point about the data. All of the examples in (6-8) are instances of a similar type of binding. Thus, they have been claimed to fall under generalized control (Koster 1984), under condition A of the binding theory (Bouchard 1984) or under some form of predication (Williams 1980, Culicover and Wilkins 1984). Rizzi does not look at some crucial aspects of the binding "activity" of English and Italian null objects in other types of constructions like those involving condition B or condition C. By his assumptions, null objects should trigger binding theory effects in Italian and French but not in English. Such a contrast is not found however: condition B and C effects hold for null objects in all those languages, suggesting that the null objects are just as active in English as in French or Italian. Null objects are active in English with respect to condition B as we see in (9).

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- 9.a. John<sub>i</sub> always warns himself<sub>i</sub>/\*him<sub>i</sub>/\_\_\_arb/them against avalanches in this area.  
 b. In this area, it is safe practice [PRO<sub>arb</sub>' to warn oneself/\_\_\_arb" against avalanches.

In (9.a), John and the arbitrary object must be disjoint in reference, just like with the active pronoun them; in (9.b), arb' cannot be equal to arb". These sentences show that null objects are active with respect to condition B both in Italian and in English.

The same holds for condition C. The null object itself is not governed by condition C since it is assumed to be a pronominal. However, it can itself bind an R-expression and trigger a condition C violation. English arbitrary null objects are just as active as overt pronouns with respect to disjoint reference when they c-command an R-expression. For example, in (10), as Williams (1985) points out, unlike (b), (a) cannot mean that Mary made the promise to the doctor.

- 10.a. Mary promised \_\_\_ that the doctor would never see her again until she was really sick.  
 b. Mary promised \_\_\_ that he would not see her again until she was really sick.

Here, the null object triggers condition C effects. What emerges from this is that null objects in English are as active as null objects in French/Italian with respect to conditions B and C.

## 2.2. Structural differences between English and French/Italian.

If the null object is as active in English as it is in Italian with respect to conditions B and C, we would expect it to be as active with respect to condition A type binding (I am assuming local control and predication also fall under such a condition). But the facts in (6-8) seem to indicate the contrary. Since the difference between English and Italian cannot stem from a difference in the structural properties of the null object itself given the condition B and C facts, we will have to look elsewhere for an explanation. The key to the solution lies in the fact that, although the null object is the same in English and in Italian, there are differences in the structures in which the element bound by the null object appears. The basic idea is the following. Assume that the null object is not projected in the syntactic structure and consider the schema in (11), where  $\beta$  is the element that the null object is trying to bind.<sup>3</sup>

11. NP V \_\_\_ [XP... $\beta$ ...]

What happens in English is that XP is transparent to binding by the subject NP, and this structural binding overrides binding by the nonprojected object. In French/Italian on the other hand, the structure of XP is different and binding by the nonprojected object is not overridden. As we saw in section 1, since a theta role must be identified, it must be bound by material active in the structure or it must itself bind such material. In (11), no argument is projected in the structure to bind and identify the object theta role, so the theta index

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must bind something. Because of the differences in structure between English and French/Italian, thematic binding does not occur in English, but it does in French/Italian. So nonprojection of the argument is licensed in French/Italian, but not in English.

The idea that the structure in which  $\beta$  appears is relevant to the possibility of binding it is not new of course: it is found in virtually all proposals about binding. The additional idea that there might be two aspects to binding and that a more structure-dependent binding might override a more thematic-oriented one is found in Jackendoff's (1972) seminal work on thematic interpretation. In Jackendoff (1972), the role of syntactic structure is to determine potential controllers while the role of the thematic structure is to determine the actual controller if the structure allows more than one potential controller. If there is a mismatch between structurally determined binder and thematically determined binder, the result is ungrammatical. If the thematically determined binder corresponds to none of the structurally determined binders, the sentence is ungrammatical. This approach has been further developed in Jackendoff (1983, 1987): there, among other things, he replaces the notion of thematic binding by the notion of conceptual binding since he considers that theta roles are not primitives of the theory but rather are "relational notions defined structurally over conceptual structure, with a status precisely comparable to that of the notions Subject and Object in many syntactic theories" (Jackendoff 1987:379). I essentially adopt this idea that there are two aspects to binding: one structural and one thematic, or conceptual. I will slightly depart from Jackendoff's position in the way the structure determines potential binders however: I will assume as in Bouchard (1984) that antecedent-government is the relevant structural condition for binding of an anaphor. If PRO is uniquely governed by an antecedent, then it is an anaphor and we have obligatory control.

12. John tried [PRO to leave]

When antecedent-government does not hold, the reference of PRO is determined on purely thematic and pragmatic grounds: PRO is then essentially pronominal.

13. Mary argued with John about [PRO getting married in a church]. (Postal 1970)

When there is more than one antecedent-governor, then thematic factors determine the actual binder.<sup>4</sup>

14.a. John promised Bill [PRO to see Mary].  
b. John persuaded Bill [PRO to see Mary].

The crucial point is that antecedent-government determines the potential binder and that this can result in a clash with what NP the thematic/pragmatic factors point to as the actual binder. As a result, a null object will be possible only when the subject does not antecedent-govern the element that the null object is trying to thematically bind because a null object must thematically bind in order to be licensed. With this in mind, we can now turn to the specific constructions discussed by Rizzi (1986).

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There is a contrast between English and Italian in four constructions involving some kind of binding in (6-8). We will now see that this contrast is due to structural differences in the same way that structural differences account for the differences in binding possibilities in the constructions in the previous section.

15. Control.

- a. \*This leads \_\_\_ [PRO to conclude what follows].
- b. Questo conduce \_\_\_ a [PRO concludere quanto segue].
- c. Ceci amène \_\_\_ à [PRO conclure ce qui suit].

The difference between (15.a) and (15.b-c) is that in (a), PRO is antecedent-governed by the subject but not in (b-c). The subject in (a) is therefore determined to be the potential binder and this clashes with the thematic conditions which point to the goal as the controller. In (b-c), the structure is such that no element antecedent-governs the PRO, so only thematic factors are at play and the sentence is grammatical since the nonprojected goal can thematically bind PRO. This means that we have to assume that there is a crucial difference between the infinitival complement in English and in French/Italian, the structure in English allowing antecedent-government as in (16.a) but not the structure in French/Italian (16.b).

- 16.a. [IP This [VP leads [IP PRO to conclude what follows]]].<sup>5</sup>
- b. [IP Ceci [VP conduit [CP à [IP PRO conclure ce qui suit]]]].

The literature abounds with observations that point in that direction. The element to in English infinitival clauses is in INFL (cf Postal and Pullum (1982), Chomsky (1985)). This does not seem to be the case for à and de in French (and their equivalents in Italian): they are generally assumed to be more like English for than like to (the element corresponding to English to is  $\emptyset$  as in Je veux partir). For example, Kayne (1981) assumes that de is in COMP like English for because de does not cooccur with a WH-phrase in COMP (17) and de is not possible after raising verbs (18).<sup>6</sup>

- 17.a. Je lui ai dit où aller 'I told him where to go'
- b. Je lui ai dit d'aller là. 'I told him to go there.'
- c. \*Je lui ai dit où d'aller. 'I told him where to go'
- 18. Jean semble/paraît  $\emptyset$ /\*d'être parti. 'Jean seems/appears to be gone'

Another test involves the rule of L-tous which can move the quantifier tous from an embedded infinitival clause to the matrix (Kayne 1975, Quicoli 1976, Pollock 1978, Rochette 1980). Although L-tous can apply across a  $\emptyset$  infinitive or a raising infinitive where à/de are in INFL like English to as we see in (19-20), it cannot apply across a de or à in COMP (21) or higher than COMP (22).

- 19.a. Jean a voulu tous les regarder. 'Jean wanted to see them all'
- b. Jean a tous voulu les regarder.
- 20.a. J'ai fini de/commencé à les lire tous.
- b. J'ai tous fini de/commencé à les lire.

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- 21.a. J'ai dit à Jean de les lire tous.  
 b. \*J'ai tous dit à Jean de les lire.  
 22.a. J'ai parlé à Jean de les lire tous.  
 b. \*J'ai tous parler à Jean de les lire.

There are many complicating factors that I cannot get into here, but the main observation is fairly clear: the presence of de/à is usually an indicator of a less transparent structure and L-tous depends on the "transparency" of the structure. For example, Pollock (1978) talks about "closeness" of tous and Rochette (1980) argues for a distinction in terms of V'-COMP vs P-OBJ in an LFG analysis.

These observations on French infinitivals indicate that there is a distinction between English and French along the lines of (16). If this is correct, then the impossibility of having a null object in English follows from this difference between infinitival complement structures. Antecedent-government by the subject determines a potential binder that clashes with the one determined by thematic properties in English. In French however, antecedent-government does not hold in (16) so thematic binding is straightforward.

23. Binding of an anaphor.  
 a. \*Good music reconciles \_\_\_ with oneself.  
 b. La buona musica riconcilia \_\_\_ con ce stessi.  
 c. La bonne musique réconcilie \_\_\_ avec soi-même.

In Bouchard (1984), I argued that antecedent-government also is relevant in binding overt elements like reflexives: a reflexive governed by its antecedent is an anaphor, otherwise it is a pronominal.<sup>7</sup> Thus, the antecedent-governed anaphoric reflexive allows only a sloppy reading in VP deletion in (24.a) but a pronominal reflexive allows both strict and sloppy interpretations in (24.b).

- 24.a. John kicked himself and Bill did too.  
 b. John said that a picture of himself was in the paper and Bill did too.

One area where reflexivization differs in English and in Romance languages is in PP constructions. For example, consider the contrast between (25) and (26).

25. John<sub>i</sub> talked about himself<sub>i</sub>/\*him<sub>i</sub>.  
 26. Jean<sub>i</sub> a parlé de lui-même<sub>i</sub>/lui<sub>i</sub>.

The contrast comes from an elsewhere approach to binding (cf. Bouchard (1984), chapter 2).<sup>8</sup>

27. Elsewhere Condition on Binding:  
 Antecedent-government is a specialized syntactic relation to express coreference and a reflexive is a specialized morphological form to express coreference: by the Elsewhere approach, if a reflexive can be antecedent-governed, it must be.



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In (26), Jean cannot antecedent-govern the complement of de because of the PP node, so both the "false" reflexive and pronoun are possible. In (25) however, since English allows reanalysis of V-P, John can antecedent-govern himself since there is no PP node after reanalysis and the pronoun is disallowed by the elsewhere condition. The contrast between English and French/Italian therefore stems from a difference between the two languages with respect to reanalysis.

Now let's reconsider the contrast in (23). In (23.a), oneself can be antecedent-governed by good music since reanalysis is possible in English: given the elsewhere condition, oneself must be so bound. But then this structurally determined antecedent for the self-phrase clashes with the thematically determined antecedent (the nonprojected object) and this results in ungrammaticality. In French/Italian, no antecedent-government of the reflexive is possible, so the thematic conditions are not overridden by any syntactically determined antecedent and the sentence is grammatical. The contrast in (23) is therefore due to a difference with respect to reanalysis, not a difference in projection of the object theta role.<sup>9</sup>

28. Argument small clauses.

- a.\*This music renders \_\_\_ happy.
- b. Questa musica rende \_\_\_ allegri.
- c. Cette musique rend \_\_\_ heureux.

The contrast in (28) is due to another well-known contrast between English and French/Italian: these constructions in French/Italian undergo a restructuring rule which does not apply in English (cf. Rizzi (1982)). There have been many proposals to account for what is going on in French/Italian: V-NP raising (Kayne 1975), superscripting (Rouveret and Vergnaud 1980), parallel structures (Goodall 1984). What these analyses have in common is that the subject of the infinitival clause in these constructions is also in some way the object of a complex verb faire+V<sub>inf</sub>. For example, Zubizarreta (1985) claims that 1° in French and Spanish, this NP is simultaneously subject and object; 2° in Italian, it is only an object of the complex V; 3° in English, we simply have a clausal complement with no restructuring whatsoever. This means that there is a crucial difference between Romance languages and English in restructuring constructions. In Romance languages, the NP becomes an argument of the complex V and hence its index is in the grid of that complex V; in English on the other hand, the NP never is a complement, only a subject, so its index is not entered in the grid of a V. A null object is a V-grid position that is not projected under certain recoverability conditions. Since there never is a V-grid position corresponding to the NP in English in this construction, then it cannot be a null (nonprojected) object: it never is an object. Again, the contrast between English and French/Italian follows from an independent distinction between the two types of languages.

Rizzi considers the possibility that this difference between French/Italian and English with respect to restructuring might correlate with the difference with respect to null objects. He rejects this possibility because restructuring takes place with perception verbs and epistemic verbs, but these verbs do not license null objects.

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- 29.a.\*Gianni vede \_\_\_ felici. 'Gianni sees happy'  
 b.\*Gianni ritiene \_\_\_ felici. 'Gianni believes happy'

In his section 5.2, Rizzi shows that the affectedness of the NP seems to determine whether restructuring is possible or not: "certain syntactic processes appear to be inapplicable to the carriers of unaffected roles" (Rizzi (1986:538). Cf. Anderson (1977), Fiengo (1980), Jaeggli (1986)). But this still allows us to draw a distinction between English and French/Italian with respect to restructuring and hence to licensing of the nonprojection of the object theta role as proposed above. The additional condition of affectedness just further restricts when we can have null objects in French/Italian.

The main point for us is that all three constructions where a contrast exists between English and French/Italian in the possibility of projecting an object theta role or not exhibit independently motivated structural differences between the languages: these structural differences have the effect of allowing antecedent-government by the subject in English and hence clashes with the thematic restrictions on binding. But as far as licensing a nonprojected object per se, the languages do not differ: they all allow nonprojected objects under the same conditions. Moreover, this analysis supports the view that the object must be nonprojected since otherwise its syntactic binding capacity would not be overridden by the projected subject in English.

3. Past Participle Agreement.<sup>10</sup>

Consider now the consequences of having nonprojected arguments for past participle agreement. Past participle agreement in French crucially depends on the theta index of the complement in the grid of the past participle. This coindexation of the past participle with its complement triggers past participle agreement if certain conditions are met. These conditions are general conditions on agreement, binding and chain formation.

All nodes in a structure are assigned an index. This index is interpreted differently depending on the type and position of the node it is assigned to.<sup>11</sup> For example, it is generally tacitly assumed that an index on most NPs is interpreted as referential. Additionally, it is natural to assume the following:

30. Interpretation of an index on a [+N] element:  
 An index  $i$  on a [+N] element is interpreted as having features of number and gender. If  $i$  is interpreted as being referential, it also has a person feature.

The effect of (30) is that there is no theory of agreement per se. Agreement derives from the fact that, since coindexed elements share the same index, they will be interpreted as having the same relevant features, hence as agreeing. The intuition behind (30) has repeatedly been noticed in the literature. An example of such an observation in TG grammar is found in Hust and Brame (1976). In English, one can refer to a ship by using either a neuter or a feminine pronoun. However, it very awkward to say (31) if one intends the two pronouns to refer to the same entity.

31. #She<sub>i</sub> isn't as fast as it<sub>j</sub> used to be.

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The relevance of (30) for past participle agreement becomes clear if one assumes that the index in the theta-grid of the V is relevant for the binding theory in sentences like (32).

- 32.a. Jean a peint<sub>[i]</sub> la table<sub>i</sub> 'John has painted<sub>[masc]</sub> the table<sub>[fem]</sub>'  
 b.\*Jean a peinte<sub>[i]</sub> la table<sub>i</sub> 'John has painted<sub>[fem]</sub> the table<sub>[fem]</sub>'

If the indexation of the past participle takes place at or before S-structure, then it will be interpreted with respect to the binding theory (assuming that the BT applies at SS) and the sentence will be ruled ungrammatical because it would constitute a violation of condition C.<sup>12</sup> Moreover, the index on the past participle being interpreted at SS, it would fall under (30) and would be required to agree with la table. Hence sentences like (32.b) with agreement with an unmoved direct object are ungrammatical because the indexing at S-structure triggers agreement and also triggers a binding theory violation. The indexation of the past participle could be "late" at LF however, avoiding the binding theory violation, since actual saturation of the theta role at that late stage would be sufficient to provide a proper interpretation of the sentence. But then the index is not interpreted in PF and hence the past participle receives the unmarked features of French, masculine singular, as in (32.a).

The situation is different in sentences like those in (33).

- 33.a. Ce sont les tables<sub>i</sub> que<sub>i</sub> Jean a peintes<sub>i</sub> . 'These are the tables that Jean painted'  
 b. Jean les<sub>i</sub> a peintes<sub>i</sub> . 'Jean painted them'  
 c. La somme<sub>i</sub> a été remise<sub>i</sub> par Jean. 'The amount was returned by Jean'

If we assume that the structures are as given here, that is, without the empty categories in object position but with an index on the past participle serving as a trace, then "early" coindexation can take place before the binding theory applies since the index on the past participle binds nothing in the object position and hence does not trigger a violation of binding theory conditions. Furthermore, because the indexed past participle functions as the trace here, it must be indexed early in the derivation, given the intuition behind the Projection principle: an A-chain must be anchored in a theta position. The intuition again is related to the interpretation of an index. Be it for theta assignment or binding theory checking, the principles do not apply to segments of a discontinuous element, but to the element as a whole, to all its segments. If the index of a chain has to be interpreted with respect to one of these components, all the segments that must eventually bear the index have to be so indexed at the point in the derivation where interpretation takes place. Since binding conditions are operative at S-structure, chains have to be formed at that level. If the past participle bearing the index in (33) is the "trace" in the chain, then it must bear the index at that level. As a result, the indexed past participle is interpreted at S-structure and, given (30), it shows agreement.

The crucial point here is that a simple account of past participle agreement can be given that falls under very general principles that govern the interpretation of indices, binding and chain formation. In order to predict when agreement takes place, it is crucial that the index in the theta grid of the

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past participle be an active binder for the binding theory conditions, hence have properties usually attributed to ECs.

4. NP Movement.

In two recent analyses of NP-movement (Williams (1987) and Lasnik and Saito (forthcoming)), NP traces play virtually no role and could be dispensed with apparently without problems. Thus, Williams analyses a sentence like (34) in the following way.

34. John<sub>i</sub> was [ killed t<sub>i</sub> VP<sub>i</sub> ]

He assumes that an NP trace can be assigned a theta role but that it cannot satisfy it, so it must reassign it. So in (34), killed assigns a theta role to t, which reassigns it to VP, which in turn reassigns it to John, the latter satisfying the theta role. Williams assumes that assignment of the external theta role to a subject in a nonpassive construction is done by 'vertical binding' by the VP. It is generally assumed that passive morphology blocks assignment of a theta role to the subject position. Extending Williams's analysis, we could assume that assignment of the external theta role by vertical binding is blocked: that is, the VP does not get the index of the external theta role. But then this leaves open the possibility that the internal theta role of killed in (34) be assigned directly to the VP, maybe by percolation or a mechanism similar to the one that usually assigns the external theta role to the VP. Then the trace plays no role in (34) and the theta role can still be considered projected in the syntax and saturated by John.

Lasnik and Saito note that, for NP movement, condition A of the binding theory is redundant and that its effects can be derived from the second clause of their version of the Uniformity Condition which they formulate as in (35).

35. Uniformity Condition (Lasnik and Saito (forthcoming)):
- i. A assigns inherent Case to B only if A theta-marks B (D-structure)
  - ii. Suppose B bears a theta role assigned by A. Then, if C is a barrier for A, C dominates B.

The effects of (35.ii) is that there is no barrier between A and B: an NP always governs its theta assigner. For example, in (34), John governs killed if we assume a structure as in (36).<sup>13</sup>

36. [IP John<sub>i</sub> [INFL' was [VP killed<sub>i</sub>]]]

Why should there be such a condition in the grammar? If the antecedent-trace relation is an anaphoric relation and if the anaphoric relation is one of antecedent-government, as assumed in this paper, then we see why. If the trace of the NP is not an empty category but rather the nonprojected theta index in the grid of killed, then John must antecedent-govern its "trace" killed.<sup>14</sup>

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\* Parts of this paper were presented at different stages at the University of Texas at Austin, Rutgers University, l'Université de Montréal, the University of Washington at Seattle, the University of Florida and l'Université du Québec à Montréal. I would like to reassure all those who have given me comments: I still have a long way to go on this topic and I will eventually incorporate that comment. Thanks.

<sup>1</sup>An earlier version of the material in this section was presented at the Linguistic Symposium on Romance Languages at Rutgers University. Cf. Bouchard (to appear).

<sup>2</sup> Rizzi also discusses binding the subject of an adjunct small clause as in (i).

i. a. Un dottore serio visita \_\_ nudi.

b.\*A serious doctor visits \_\_ nude (where nude is predicated of the null object)

c.\*Un docteur sérieux visite \_\_ nu. (with the reading as above)

However, these are not good in French and also for many speakers of Italian. I will leave the fact that these are acceptable in Rizzi's dialect as an open problem for now.

<sup>3</sup> I am using 'binding' in a very general way here: it is to include anaphoric binding, local control, predication in small clauses.

<sup>4</sup> For additional arguments on the role of structural conditions affecting control, cf. Williams (1980), Bresnan (1982), Koster (1984), Bouchard (1984), among others.

<sup>5</sup>In order for the subject to govern PRO in (16.a), neither VP nor IP must block government. These nodes are known to be weak barriers. I will not attempt to defend this claim here but simply assume it and refer to Chomsky (1981,1985), Bouchard (1984), Lasnik and Saito (1984) on the transparency to government for these nodes.

<sup>6</sup>Although (17-18) are indicative of a general tendency for de to appear in COMP, it is possible for de to appear in INFL. Thus, raising is sometimes possible with de and other P-like elements (cf. Ruwet (1972), Postal (1974), Newmeyer (1975), Ruwet (1983)).

i. La plupart des gens ont commencé à/menacé de/continué à/cessé de/arrêté de/fini par arriver.

On the other hand, it might well be that these verbs are not raising verbs after all, as Lamiroy (1987) argues.

<sup>7</sup> My impression now is that such long distance reflexives might fall in the class of logophoric pronouns as discussed in Maling (1984), Sells (1987).

<sup>8</sup>See Reinhart (1983), chapter 7, for a similar approach to bound anaphora. She notes that noncoreference conditions essentially have the effect of guaranteeing that whenever it is possible to express a bound-anaphora relation between two NPs, we will get noncoreference if we do not use the specialized option which the grammar provides, namely reflexive pronouns.

<sup>9</sup> To account for constructions like (25-26), (Chomsky (1981:289-291)) suggests that it might be clitics rather than full pronouns that fall under condition B of the binding theory in languages that allow cliticization: full pronouns would be regarded as "somehow emphatic, thus immune to principle (B) of the binding theory" (p.289). There is a problem with this analysis. When the pronoun is object of an impossible clitic host like N in French, then the

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pronoun does fall under principle B: coreference is not possible between son and lui in (i).

i. Son portrait de lui-même/\*de Jean/\*de lui.

One could try to account for this by slightly modifying the proposal: only when cliticization is a possible alternative is the pronoun immune to principle B; if cliticization is not possible, then the pronoun falls under the binding theory as in languages with no clitics. But this will not work in other cases. Cliticization is also impossible under structural conditions like coordination as in (ii).

ii. a. Jean parle toujours [de lui et de Marie].

b.\*Jean en<sub>i</sub> parle toujours [ t<sub>i</sub> et de Marie].

Yet here coreference is possible although the pronoun is not "somehow emphatic." The difference lies in differing structures here. In (i), de is a dummy Case marker which does not create a PP and does not block antecedent-government, hence the bound element must be a reflexive by the Elsewhere condition (27). But in (ii), lui cannot be governed by Jean because de is a "real" P which forms a PP that blocks government from outside (additionnaly, coordination blocks government.Cf. Bouchard (1986)).

<sup>10</sup>This section draws a lot from the analysis presented in Bouchard (1987a).

<sup>11</sup>For some discussion of the interpretation of indices and their relevance in components of the Extended Standard Theory, see Safir (1982), Reinhart (1983).

<sup>12</sup> If a pronoun was in object position here, this would be a condition B violation. If there was an anaphor in that position, it would be a case of an anaphor bound by an improper antecedent since an anaphor is typically referentially dependent on its antecedent and here the antecedent would have no reference.

<sup>13</sup> Lasnik and Saito assume that VP is not a barrier to government. Note that we could assume that it is one here but that the head of a barrier can be governed (cf. Belletti and Rizzi (1981)): John governs the VP, so it governs its head killed. There is no minimality principle effect triggered by was to block government by John if one assumes the following definition of government (from Bouchard (1987b)):

i. Government:

X<sub>n1</sub> governs β in [...X<sub>n1</sub>...[γ...β...]...] if and only if X<sub>n1</sub> m-commands β and there is no X<sub>n2</sub> m-commanding β such that Y immediately excludes X<sub>n1</sub> but not X<sub>n2</sub>.

( A immediately excludes B if no segment of A immediately dominates B)

X<sub>n1</sub> and X<sub>n2</sub> are two elements of the same phrasal level, like two X<sup>o</sup> or two X<sup>max</sup>. This means that a local X<sup>o</sup> blocks government by a nonlocal X<sup>o</sup>, but not by a less local X<sup>max</sup>, and vice versa. Luigi Rizzi independently proposed a similar relativized minimality condition at the Septième Colloque International de Linguistique de l'Université Paris 8 in the Spring of 1987.

<sup>14</sup> One might object to this extension of the nonprojection of theta roles to traces that there is a crucial difference between traces and null objects: traces are not "overridden" by subjects in control constructions as the contrast in (i) shows.

i. a. null object: \*This leads \_\_\_ [PRO to conclude what follows].

b. WH-trace: Who did this lead \_\_\_ [PRO to conclude what follows]?

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c. NP-trace: John was lead \_\_\_ [PRO to conclude what follows].  
 Example (i.c) is not problematic because the object ends up in the subject position: override by the subject or not, the result is the same. Neither is (i.b) a problem because there is a crucial difference with (i.a): although no EC trace is left behind, the object is projected at D-structure in (i.b). But at no level is it projected in (i.a). We can assume that antecedent-government applies whenever it can, so that who would bind PRO at D-structure. Note that, in this case, the analysis is equivalent to van Riemsdijk and Williams' proposal that the binding theory applies at NP-structure before WH-movement.

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