

# **MOVEMENT, AGREEMENT and CASE**

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## **1. Introduction**

How much do the theory of movement and the theory of government have in common? The theory of movement basically deals with superficially unbounded syntactic dependencies between identical categories, two NP's as in NP movement, two identical phrasal projections as in wh-movement or two identical word level categories as in head movement. By contrast, the theory of government deals with extremely local syntactic relations between categories of different levels, most of the time a word level category and an NP as in Case assignment, Theta role assignment or agreement relations.

Nevertheless, there has been several attempts (e.g. Chomsky, 1986, Kayne, 1984) to unify the theories of government and of movement usually by reducing movement properties to government properties. This has been done by construing constraints on movement as violations of required government. One of the most suggestive generalization pointing in this direction is Huang's (1982) Constraint on Extraction Domain (CED) which states a constraint on movement explicitly in terms of government.

Here, I will pursue the goal of trying to reduce the constraints on movement processes to the theory of government by developing the idea that movement is so strictly local that each movement step is a movement from a governed position to a governing position. I will present

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<sup>\*</sup> Sections 1, 2, 3 and 6 are a substantially modified and considerably expanded versions of my 1987 Unifying Movement Theory and my 1988 Conditions on Silent Categories presented at University McGill in 1987, the 1989 GLOW, the Katholieke Universiteit Tilburg in 1988, the Université de Paris 8 in 1988, Université de Genève in 1988 and possibly elsewhere. The central modifications include the discussions of Case theory, the theory of small clauses and constituent structure adopted here both cast in a Larsonian mode. Except for a small part of Section 4 part of Conditions on Silent Categories, the essential ideas of sections 4, 5 and 6 have been presented to various audiences since 1987 including my UCLA seminars, University of Washington at Seattle, University of Paris 8, Katholieke Universiteit Tilburg, MIT and possibly elsewhere. Many thanks to all these audiences and to everybody I forget to mention.

a very specific version of this idea. Its central intuition is illustrated by the contrast between the two examples in (1):

- (1)      a.    Who did you see [<sub>NP</sub> pictures of t]  
             b.    \*Who did you see [<sub>NP</sub> John's [<sub>N'</sub> pictures of t]]

This contrast has been taken to suggest that wh-traces are anaphors because of their sensitivity to the presence of subjects (as e.g. in Chomsky, 1976, Aoun, 1984...). But why should intervening subjects matter?

There is a traditional way to handle the difference between the first two examples which requires no particular elaboration, and which is illustrated by the usual treatment of wh-islands: the ungrammaticality of the indicated movement #1 in (2):

- (2)      You wonder [<sub>CP</sub> where [<sub>IP</sub> John bought what]]
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is due to the facts that (i) unbounded movement #1 is prohibited, (ii) the necessary intermediate step #2 is impossible because the intermediate landing site is already filled (by where).

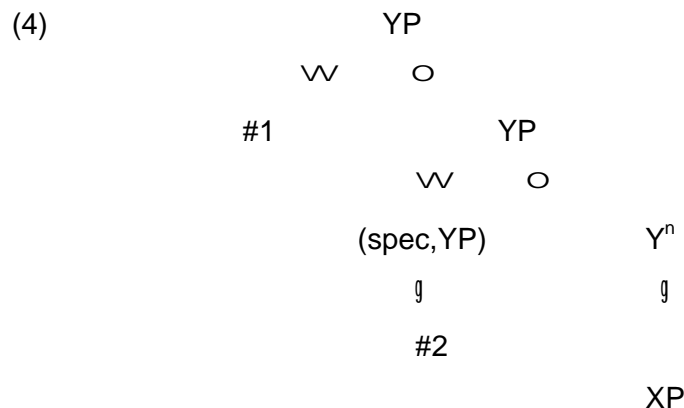
The analogy between (1) and (2) is immediate, if the (spec,NP) containing John in (1b) is also a necessary intermediate step. We could construe this idea as requiring that specifier positions are necessary intermediate steps for movement. Subjects block movement because they are specifiers. However, this assumption is superficially contradicted by the underlined intervening subjects in cases such as:

- (3)      a.    I wonder [who [ you think you saw t]]  
             b.    I wonder [what [ you consider [ these pictures pictures of t]]]

The specifier of a CP or the specifier of an NP block wh-movement. The intervening subject of a small clause or the subject of a clause does not block wh-movement. Furthermore for NP-movement, all subjects or specifiers of CP block movement. This raises the questions:

what is the set of intervening specifiers (or subjects) which block movement? and why is this set dependent on the kind of movement involved?

The theory of movement processes I will develop here was first outlined in Sportiche (1987) and further developed in Sportiche (1988a). It takes this analogy between (1) and (2) as fundamental in that it will require as intermediate landing site for a moving XP all the (spec,YP) positions of the YPs out of which XP is extracted, except if adjunction to YP is permitted, as illustrated in the diagram below: movement of XP out of YP must proceed either as in #1 or as #2:



Essentially, I will adopt many of the background assumptions and general approach of Chomsky (1986), with a number of significant differences some of which I list here (returning to them in more detail in the next section): First, I suppose that every  $XP = X^p$  can have as immediate daughter an NP position which I call its specifier or (spec,XP). In other words, every XP can be of the form  $[_{XP} NP X^{p-1}]$ . Furthermore, [spec,XP] is an A-position (i.e. a possible landing site for NP-movement) for every X except  $X = C$ . Second, I adopt the assumption that movement is substitution or adjunction of  $X^n$  into or to  $X^n$  and I suppose that adjunction of XP is only possible in case of A-bar movement (wh-movement) and not in case of A-movement (NP-movement). I will assume, unlike Chomsky (1986), that VP, IP and AP are possible adjunction sites, while NP, CP and PP are not.

The consequences of these assumptions are clear. In the case of NP-movement, since movement as #1 is not possible, movement as in #2 is forced: every NP specifier (i.e. every subject) will block NP movement. In the case of wh-movement, a specifier will block movement

just in case option #2 is excluded, i.e. when adjunction is forbidden: subjects or specifiers of CP, NP and PP will block wh-movement, while those of IP, AP or VP will not.

The link between the theory of movement and the theory of government is established by requiring that traces meet the following general condition:

(5)      Condition On Chain Links

t must be governed by an antecedent

where, as in Chomsky (1986), Government is defined in terms of barrier.

Section 2 describes and justifies some of the background assumptions we adopt. One of the most significant assumptions is our adoption of a modified version of Larson's (1988)'s construal of the VP-internal subject hypothesis and the concomitant modifications of theta theory and the projections rules from the lexicon onto syntactic structure.

In section 3<sup>1</sup>, I will show how this general condition, by forcing movement to take place as in (6), has the following effects:

1. it covers the facts above,
2. it subsumes the Subjacency Condition and the Condition on Extraction Domain (i.e. the wh-island constraint, the sentential subject constraint, the subject condition, the adjunct condition, the condition on P-stranding, the complex NP constraint),
3. it subsumes the Head movement Constraint,
4. it subsumes principle A of the Binding Theory as it applies to traces and consequently it handles the locality of Passive and Raising NP-movement, the impossibility of the super raising constructions and the problematic facts discussed in Lasnik (1985).

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<sup>1</sup>Section 3.1 and Section 3.2.1 establish the properties of movement rules abstractly. They are technical and can be skipped. It is sufficient for the understanding of most of the rest of this to read the summary of the conclusions of each section at the end of each of these two sections.

This will establish that movement through a specifier position plays a fundamental role in explaining the properties of movement dependencies.

In section 4, I will apply this theory to the treatment of French Clitics constructions. I will discuss how clitic movement should be analyzed as a combination of NP-movement wh-movement and head movement and why this explains both why it looks like it displays Specified Subject Condition effects and also seems to be able to move over subjects. I will then apply this analysis to past participle agreement in French and discuss how (most of) the properties of Past participle agreement in French in Clitic constructions and passive constructions simply follow from the system presented here.

In section 5, I will discuss asymmetries between objects under agreement. This will lead me to propose substantial modifications of Case theory and Agreement Theory which will further motivate the modified Larsonian approach to constituent structure adopted in section 2. I will argue that there is a substantial link between Structural Case and Agreement in French like languages. Among other things, I will discuss the notion that accusative objects are "subjects" of VP, that "Raising to Object" exist and is reducible to raising to subject, and that Burzio's Generalization can be derived.

In section 6, I will show that an extension of Larsonian structures to NPs and coupled with this revised Case theory explains a substantial number of properties of extraction from NP and NP internal syntax previously left unexplained.

## **2. Background Assumptions**

In this section, I outline some background assumptions on the various submodules of grammar. As I mentioned earlier, I will driven to modify some of them in radical ways.

### **2.1 X-bar Theory**

Following and elaborating on Chomsky (1986), I assume that the X-bar schema strongly constrains every syntactic category. By this, I mean that in core grammar:

- (6) a. There is no difference of internal structure across categories in a given language: all its XP's are structurally identical.

and also possibly:

- b. There is no difference of internal structure of XP's across languages.

The consequences outlined in Chomsky (1986) concerning C, I, A, N, V, P (or possibly, TP and AgrP if we split I in Tense and AGR as in Pollock (1989), and possibly more: Neg, Asp as in Carstens and Kinyalolo (1989), Koopman (1988) thus hold, in particular for non lexical categories (that is C, inflectional categories that I will note (annotated) I...

However, I also adopt the idea expressed by (i) above. Concretely, it means that the following reasoning is acceptable: assuming English allows a full NP as specifier of NP (e.g. John's book), we may conclude that every XP in English allows a NP specifier. Following (ii), we should conclude that this is true crosslinguistically.<sup>2</sup> Accordingly, every category is of the form:<sup>3</sup>

- (7) [XP spec [X<sup>n</sup>.....]]

Note that I define the specifier of X<sup>P</sup> as the YP (left-) daughter of X<sup>P</sup>. I will also refer to the specifier of YP as the specifier of YP or of Y<sup>0</sup>. Examining CP, IP and NP, we see that the categorial status of the specifier varies according to that of its host: AP, PP, NP and possibly VP (and also possibly CP) can occur as specifier of C. Only NP seems to be able to occur as specifier of I; NP can occur as specifier of N, along perhaps with QP... C on the one hand and I and N on the other differ in that the specifier of C is basically unrestricted, while the specifier of the others seems to be (with some further questions concerning I). I suggest the break is C versus A, N, P, I and V. Generalizing from the properties of I, assume that (except for the effect of other principles):

- (8) a. Specifiers of C can be any XP  
b. Specifiers of I, N, V, A, and P can only be NP.

<sup>2</sup>As Koopman, 1988, shows, there is substantial crosslinguistic support for this position

<sup>3</sup>Throughout, linear order is irrelevant.

I return to a possible reason for the restriction in (8b) below.<sup>4</sup> According to standard analyses of English or French, NPs do not surface as specifiers of A or P or V. There are in fact good reasons to believe that in some languages, these positions do allow NPs to surface as their specifier. Koopman (1992) provides evidence for this in Bambara VPs, Koopman (1988) and Koopman and Sportiche (1988) for Dutch VPs and PPs and Koopman (1990) for English in Particle constructions. By the assumption (6ii), this alone is sufficient to suppose that NP specifiers of these categories should be allowed in English, French... I will therefore assume that these positions are always available.

Next, I assume provisionally that an element YP getting an internal theta role from X occurs as a sister to X. In particular, the head of a phrase  $X^0$  forms a constituent  $X^1$  with its theta marked complement(s):

(9)  $[_{X^1} X^0 YP]$

Except perhaps for the lowest  $X^1$  level, I follow Kayne (1984) in assuming strict binary branching. Essentially then, XP dominates its specifier and a lower projection of X. While the head and its (theta marked) complement(s) form a constituent. Intermediate projections of X form constituents with modifiers or adjuncts of various sorts.

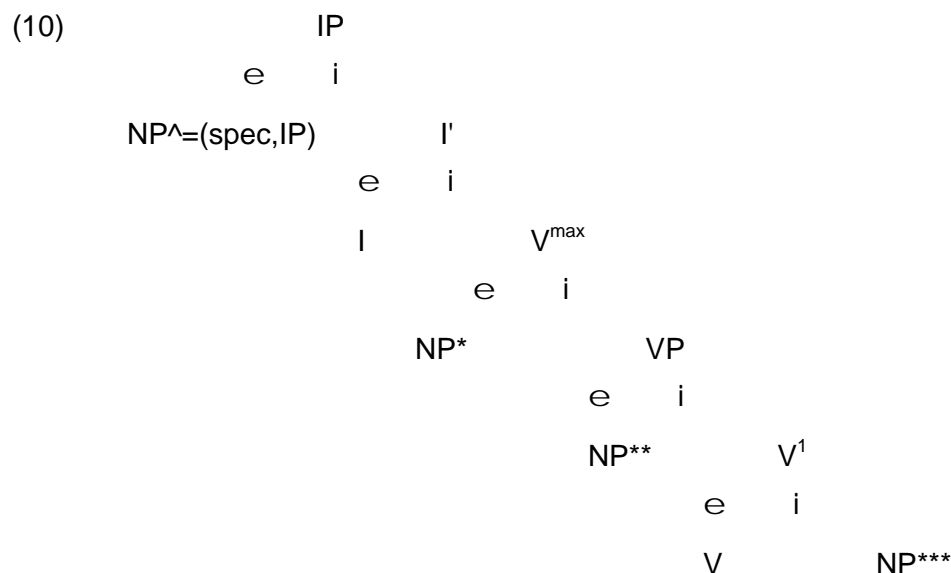
## 2.2 Theta Theory

### 2.2.1 Theta assignment and the A/A-bar distinction

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<sup>4</sup>Note that there is some terminological differences in the usage of the term specifier. For example Emonds (1985) and earlier work calls specifier elements like very in very sick. I do not. Perhaps a better terminology would reserve the term specifier for what Emonds calls specifier and subjects could be used for what I call specifier. One way to view the claim that every phrasal projection can have a subject is then similar to Stowell's (1983) claim. Note further that adverbs such as *very*.. do not have the same kind of relationship to A that specifiers do. Rather, they enter in the same relation with A that adjectives do with nouns: basically modifiers. The same holds of elements like *right* in relation to P's (as in e.g. *right on the nose*), or V modifiers such as manner adverbials in relation to V.

Theta relations, it is commonly assumed, are always realized as sisterhood relations. If correct, this means in particular that the external argument of XP must be realized as a sister to XP, thus deriving Koopman and Sportiche's (1985, 1988) proposal according to which the structure of clauses is as in (10):



where NP\* is the canonical or D-structure position of the subject (and is also the specifier of V<sup>max</sup>), NP^=(spec, IP) is its S-structure position in simple declarative clauses in English, and V<sup>max</sup> is a small clause whose predicate is VP. NP\*\* is the specifier of VP. We return to the question of what small clauses directly in section 2.2.2.

Suppose provisionally that I, N, V, P and A all theta mark their complements while C does not.

This assumption leads to the following considerations:

First, notice that [spec,IP] never is a theta position. The question arises as to whether it is obligatory or not, i.e. as to the correct interpretation of the Extended Projection Principle in this framework. Koopman and Sportiche (1988) suggest that the Extended Projection Principle effects might be derived by forcing the existence of the position NP\* in (10), not of NP^.<sup>5</sup> This assumption would say nothing about [spec,IP]. It might also be obligatory. The data discussed in Koopman and Sportiche (1988) or in Rouveret (1988) on Welsh suggests a negative

<sup>5</sup>If true, it would seem minimal to suppose that this extends to all such cases, so that any NP, PP, VP and AP must have an NP\* position regardless of whether it assigns an external theta role or not.



answer. However, I want to maintain that this position is always available, if not always present.

Second, we need to address the question of what counts as an A-position. Chomsky's (1981) definitions would entail that [spec,IP] must be an A-bar position. This is far from clear as Koopman and Sportiche (1990) discuss. Restricting ourselves to NP positions, it seems fairly clear that theta marked positions must count as A-positions. Non theta marked NP positions are either adjoined positions or specifier positions. Adjoined positions must count as A-bar positions. The situation with specifiers is much less clear. It is fairly clear that [spec,CP] can count as an A-bar position.

One significant indication is the observed restrictions on the possible categories occupying a specifier position: is it exclusively an NP-position or does it tolerate other categories. [spec,CP] is unrestricted and an A-bar position. An internal argument NP is a severely restricted position and an A-position. Using this as a guideline we could say that *A-positions are restricted NP positions, A-bar positions are unrestricted*. Many questions then arise: (i) what does a survey of what can occur in specifier position show? (ii) How do we define the A/A-bar distinction to get the right result? (iii) Do positions partition in A and A-bar positions?

Ignoring adjoined positions which always are A-bar positions, I will assume the following.

- (11) a. All NP positions within the projection of a lexical category must be A-positions.
- b. All NP positions within the projections of a contentive functional category can be A-positions.
- c. All positions within the projections of a functional category without content must be A-bar positions.

By this definition, we see that in (10), NP<sup>^</sup>, NP<sup>\*</sup>, NP<sup>\*\*</sup> and NP<sup>\*\*\*</sup> can all be A-positions, while the specifier of C is not, since C is a contentless functional category.

More generally, NP specifiers and complements of A, V, N and P are A-positions (11a).

[Spec,CP] is an A-bar position (11c). Specifiers of functional categories, i.e. of I, ASP, D, T can be A-positions. Must they? The answer is probably negative although it seems that the A/A-bar status is determined by the properties of the particular feature structure they have (e.g. if Case is assigned to their specifier, the specifier is an A-position). This is discussed to a certain

extent in Koopman and Sportiche (1990). Here, we will assume that they always are A-positions, unless otherwise indicated.

These definitions are obviously different from the previously assumed characterization of A-positions - positions which may receive a theta role - because of the position NP<sup>^</sup>, for example. However, it tries to capture the same idea: A-positions are positions in which arguments may in principle freely occur.

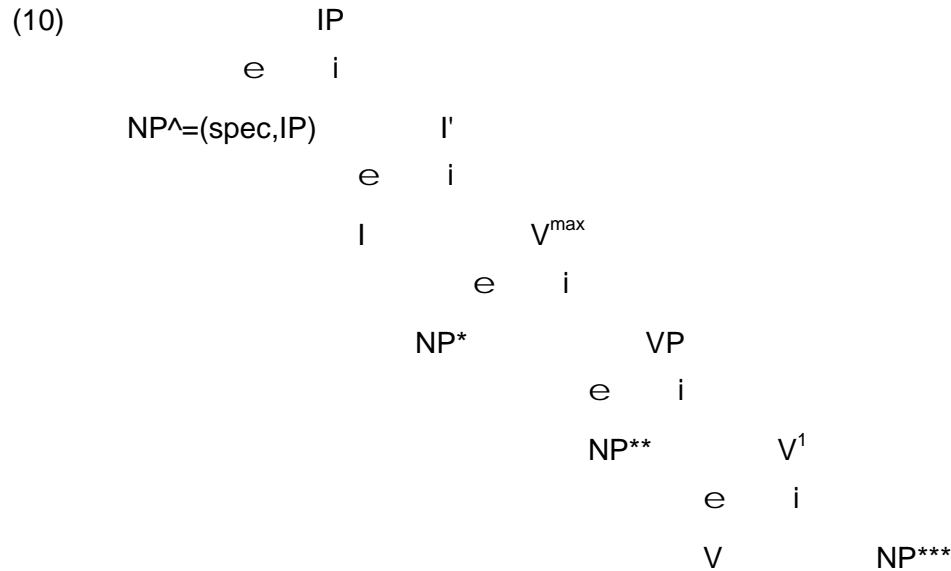
The A/A-bar status of a position should correlate with other properties crucially involving the notion A-position. One such property states that landing sites for NP-movement (i.e. movement subject to principle A of the Binding Theory) are A-positions. This is consistent with our assumptions (see discussion in Koopman and Sportiche, 1988, 1990, and in Sportiche, 1988a) that [spec,IP] and [spec,NP], and [spec,X<sup>max</sup>] are A-positions. This is shown by structures like:

- (12)
- a. John will be seen t
  - b. The city's destruction t/ its destruction t
  - c. With [John beaten t by his enemies]

In conjunction with the earlier assumption that specifier positions are always available, and the assumption that [spec,IP] is not an obligatory position, we see that [spec,XP] does not obey the (Extended) Projection Principle throughout: its possible existence is independent of the lexical properties of the head X<sup>0</sup>.

### 2.2.2 The Structure of VP and of Small Clauses

Consider again the clausal structure (10):



Notice first that the subject position of a small clause with head  $X^0$ , i.e. the  $NP^*$  sister to  $XP$  is different from the specifier position of  $XP$ . Next, notice that we are now led to distinguish between what we note as the phrasal projection of  $V$ , i.e.  $VP$ , and its maximal projection, i.e.  $V^{max}$  (similarly for other categories). In fact, this is no innovation. This distinction is already implicit in the theory of small clauses as expounded in Stowell (1981). Indeed, in structures like:

- (13) I consider [<sub>A</sub> [<sub>E</sub> this book] [<sub>B</sub> my book]]  
 I consider [<sub>A</sub> [<sub>E</sub> John] [<sub>B</sub> very sick]]

The constituent  $A$  is larger than the constituent  $B$ . The constituent  $B$  is subject to movement, but not the constituent  $A$  (or at least not in the same way). Corresponding to (13), we can form (14a) but not (14b), even if there are all embedded under I wonder:

- (14) a. Which book do you consider your book /How sick do you consider John  
 b. Which book your book do you consider /John how sick do you consider

We now turn to the question of how to properly interpret  $V^{max}$ .

### 2.2.2.1 VP Small Clause

We have supposed that NP\* is external to VP and is therefore distinct from [spec,VP]. This is by no means obvious. Exactly in what relationship does it stand w.r.t. VP? Whatever the correct answer to this question, it should be consistent with the idea that the structural relationship between the external argument of a predicate and this predicate is identical across categories. Thus all the following phrases should basically have the same underlying internal structure:

- (15)    a. (consider) [<sub>W</sub> John [<sub>Z</sub> very sick]]  
         b. (saw) [<sub>W</sub> John [<sub>Z</sub> quickly leave]]  
         c. (John will) [<sub>W</sub> NP\* [<sub>Z</sub> quickly destroy his toys]]  
         d. (witness) [<sub>W</sub> John's [<sub>Z</sub> quick destruction of his toys]]<sup>6</sup>

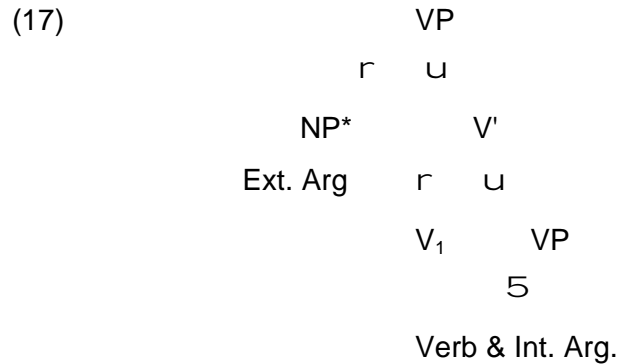
Extrapolating on the adjectival case (15a), it is clear that the constituent Z must be an XP, since it is not a head and is subject to movement as exemplified by *How proud of Bill do you consider John*. What then is W? There are three alternatives:

- (16)    (i) W=XP as suggested by Manzini (1983). In this case NP\* is not configurationally distinguishable from an adjunct to XP, except for the fact that it gets an external theta role from X. Presumably, it does not qualify as an adjunct.  
         (ii) W=X<sup>max</sup> as suggested in Koopman and Sportiche (1985, 1988). In this case, every X projects to XP and possibly to one further level.  
         (iii) W=XP as suggested by Larson (1988) for VP.

In the last case, the projection rules from the lexicon to syntax are altered so that the underlying structure of W in (15c) for example would be:

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<sup>6</sup>Note that in the case of NPs, the parallelism is not with NP small clauses of the type *I consider this a good picture* for the NP *this* does not and cannot correspond to the external argument of the noun as noted in Campbell (1989). This is shown by the grammaticality of *I consider this picture John's picture* and by the impossibility of *\*I consider the engineer('s) survey of the valley*. Rather, the subject of an NP small clause is an additional argument.



In derived structure, the verb raises to V<sub>1</sub>. In this structure, NP\* is in [spec,VP], but not of the minimal VP containing the verb in underlying structure.

Huang (1993) provides an argument bearing on this question. He argues in favor of the idea that NP\* is really [spec,VP] and specifically against alternative (ii). Note first that there many reasons why the external argument cannot be [spec,VP] of the smallest VP containing V: Koopman and Sportiche (1990) presents evidence that this position must be available for direct objects in Bambara and in Dutch. The same point will be extensively argued for here in section 4. However, there is also a sense in which Huang's elegant argument is convincing. In what follows, I will show how the two can be reconciled.

This argument is based on a difference in behavior between the W constituent in (15a) and (15c). An AP small clause as in (15a) cannot be preposed by movement:

- (18)
- a. You consider [John very sick]
  - b. How sick do you consider John
  - c. \*[John how sick] do you consider

If it can be shown that the W constituent in (15c) can be preposed by movement, it would suggest that it is not a small clause. The argument that W in (15c) can be preposed is based on the contrast between wh-movement and VP-preposing w.r.t reconstruction illustrated below:

- (19)
- a. Which paintings of each other do the girls say the boys like
  - b. Listen to each other, the girls say the boys do

In the (19a), the antecedent of the reciprocal can either be the main subject or the embedded subject. In other words, the binding theory can be satisfied either by the S-structure or by the

reconstructed structure (i.e. as if the preposed phrases was still in its base position. In (19b), only one reading is possible, namely with the reciprocal taking the embedded subject as antecedent. Why is there a contrast? If VP preposing carries NP\* along, we can derive this observation. Then the preposed VP is really [NP\* listen to each other]. NP\* counting as a subject for the binding theory, the reciprocal can only take it as antecedent explaining the lack of ambiguity of (18b). The subject of an AP small clause cannot preposed but the subject of a VP must be: the conclusion then is that NP\* and VP do not form a small clause in the same way the subject of an AP small clause and the small clause do.

The first thing to notice is that the contrast in (19) and its analysis provides an argument for the VP-internal subject Hypothesis, regardless of the way in which it is construed.

The conclusion that NP\* is internal to VP rather than a daughter to  $V^{\max}$  holds only if the difference can only be accounted for by a difference in constituent structure. Other possibilities come to mind.

The two problems to solve are the following:

#1 Why is pied piping of NP\* with VP's obligatory (if it were not, (53b) should be ambiguous)<sup>7</sup>, therefore necessarily carrying along NP\*. The argument should still carry in the case of bare verbs.}

#2 Why can't small clauses with overt subjects be moved as in (18c).

Begin with #1. Under alternatives (iii) above (and perhaps under (i), although it is less clear), NP\* is obligatorily carried along because movement moves V, which is under the higher VP. Under (ii), we would need some additional principle. For example, we would assume:

(20) Move the highest projection of an  $X^0$  possible

where possibilities are determined by the movement involved (to a head position or to an XP position or to an unrestricted position) and the principles of grammar (only heads, XPs and

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<sup>7</sup>We disregard here the fact that VP-preposing sometimes preposes the verb with whatever inflection it bears other than tense: *Criticizing John, Bill is* / *Criticize John, Bill did*. This suggests that VP preposing sometimes is a kind of IP preposing (with I the verbal morphology).

possibly  $X^{\max}$ s are visible to movement, Case theory...). The fact that (ii) needs what appears to be an otherwise unnecessary principle would seem to argue against it.

Turn to #2. We can attribute the ungrammaticality of (18c) to Case theory. Indeed, in (18c) neither *John* nor one of its trace is in a Case position. We get a Case filter violation. This contrasts with wh-movement in which either a wh-trace is in a Case position, or (as in the Case of Pied piping) the wh-phrase itself is in a Case position. This also contrasts with objects pied piped under VP preposing in which the Case assigner V is moved along the object.

Extending the range of data complicates the matter. Consider reciprocal binding under wh-movement of APs:

- (21)
- a. John considers [them proud of each other]
  - b. How proud of each other does John consider them
  - c. \*They consider [John proud of each other]
  - d. \*How proud of each other do they consider John
  - e. \*They say I am considered proud of each other
  - f. \*How proud of each other do they say I am considered

We get the same effects in AP preposing as we do in VP preposing. If we give up Huang's account entirely, we lose the explanation for the VP preposing facts. If we accept it, in order to account for the ungrammaticality of (21d,f), we are led to assume that the AP preposed by wh-movement also contains the subject of the AP small clause. This means that *John*, the subject of the AP small clause, has raised out of the small clause:<sup>8</sup>

- (22)
- a. \*They consider John<sub>i</sub> [<sub>W</sub> t<sub>i</sub> [proud of each other]]
  - b. \*[\_<sub>W</sub> t<sub>i</sub> [How proud of each other]] do they consider John<sub>i</sub>

Two consequences would follow. First, it would show that small clauses, that is the constituent W, can be preposed by movement. If we can explain why *John* cannot be pied piped under W preposing, we cancel a long standing argument against the idea that there are small clause constituents because they cannot move. Second, it undermines Huang's argument presented

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<sup>8</sup>The position of t<sub>i</sub> in (22b) relative to *how* is irrelevant to our point (it could be lower than *how*) as long as it is part of the preposed constituent.

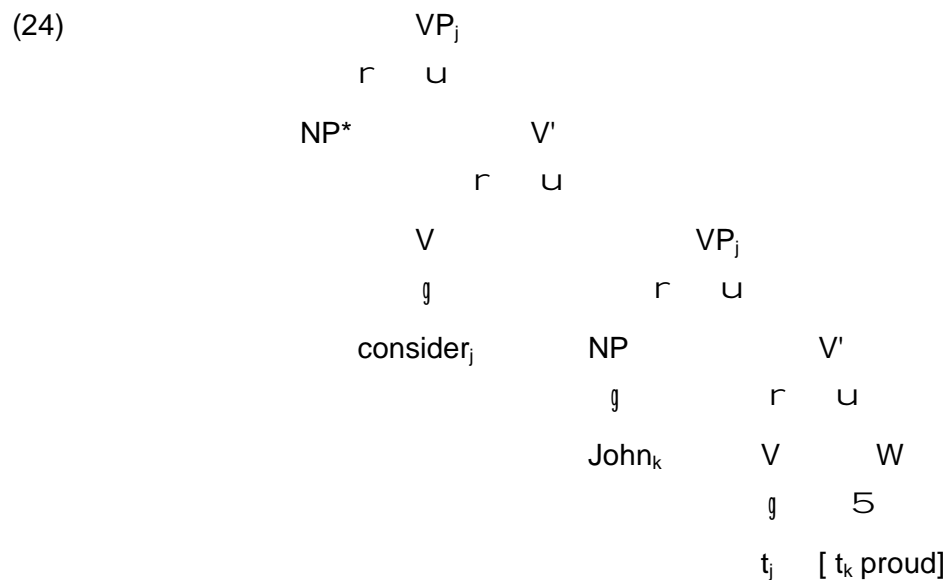
above against the  $V^{\max}$  hypothesis: it is still possible that all W are  $X^{\max}$ , but the subject raises out both in VP small clauses and in AP small clauses.

Where does the subject of the small clause raise out to and why? This raising is local suggesting NP-movement, hence movement to an A-position. NP-movement is usually forced by Case theory: suppose it must raise in order to receive accusative Case (we present further evidence for this in section 5.2.1.2.) Where does it raise to?

(23) will [ consider John<sub>j</sub> [ t<sub>j</sub> proud]

The only plausible position is [spec,VP]. However, the verb *consider* bears no morphology, hence plausibly has not raised anywhere for morphological reasons (that is to attach to some affix, cf. section 2.3). If it has not raised at all, it should follow *John*, not precede it. This suggests that the verb has raised after all, but not for morphological reasons.

A landing position for V must be provided. This is precisely what Larson's (1988) proposal provides. The structure of (23) would then be:



This is what we will adopt from on.<sup>9</sup> Why can't W preposing pied pipe *John*? The most appealing possibility is to invoke a Case Filter violation as mentioned above: if *John* is pied piped, it cannot get Case. Alternatively but less desirably, we could appeal to some version of

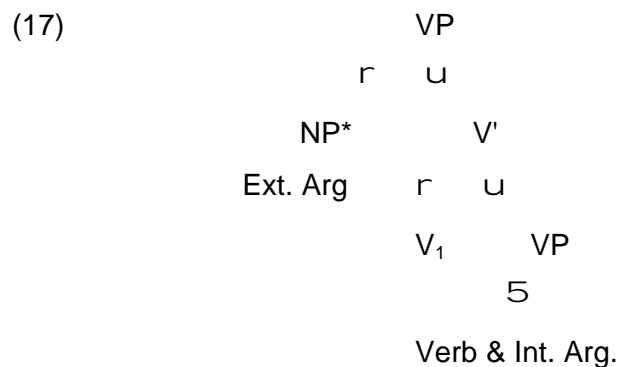
<sup>9</sup>This means that "Object Raising constructions" are "object raising" constructions, cf. section 5.2.1.



(19): the two  $VP_j$  are the projections of the same V head and therefore movement will always try to move the top one.

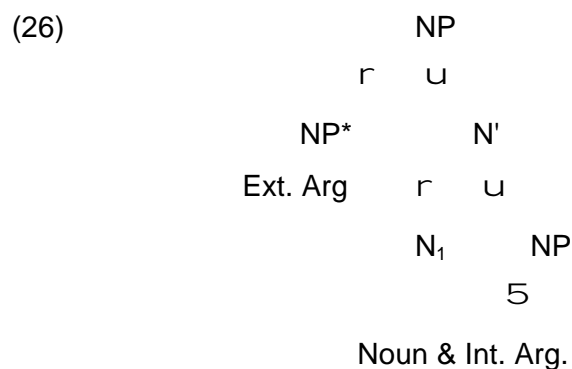
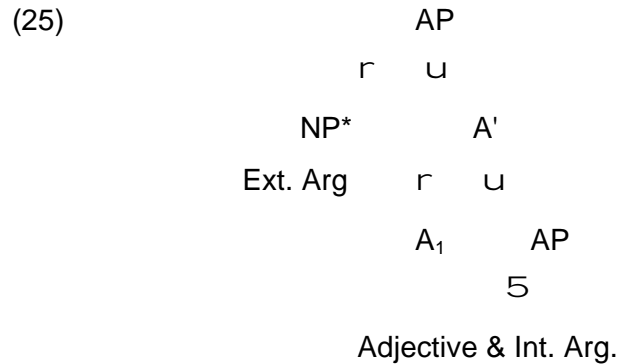
### 2.2.2.2 External Arguments and Small Clause Structure

We now adopt the VP structure (17), inspired by Larson (1988) (and which is quite close to what Kayne (1984) suggested.)



My assumptions will differ from Larson's (1988) in a number of ways. First, I will for the moment continue assuming a standard structure for the lower VP (returning to a discussion of this issue in section 5.2.3.1). Furthermore, I assume that the projection rule for external argument is as in (17): The external argument of a category K is generated as the specifier of a KP containing none of the internal arguments. If K does not have an external argument, there is only the lower VP.<sup>10</sup> Note that the distinction between VP and  $V^{\max}$ , still exists: all the verbal projections in (17) are projections of one verb. Consequently, the highest VP is the maximal projection of that V, i.e.  $V^{\max}$ . This distinction will become important in section 5. In keeping with the idea that all W constituents in (15) have an identical hierarchical organization, I will assume the following underlying structures for an A with all its arguments, i.e. an AP small clause or an N with all its arguments, i.e. an NP small clause (which is just an NP):

<sup>10</sup>This is not what Larson proposes. For him, the external argument will be external to the minimal VP containing the V only if some argument is projected as specifier of that VP.



Earlier, I supposed that Vs and As theta marked their complements. What does it mean in this new context? Does V<sup>1</sup> in (17) theta mark its VP complement? or A<sup>1</sup> in (25) its AP complement? This looks implausible, just as implausible as our assumption that I theta marks its complement (which theta role?). The right notion is more likely to be one distinguishing categories with content from categories without. Basically, every category but C has content; The right notion then should be close to Chomsky's (1986) L-marking. We are now assuming:

(27) All X<sup>0</sup> but C L-mark their complements

In other words, a head different from C L-marks its sisters.<sup>11</sup> Clearly, theta marking a complement entails L-marking it. We can revert to the more natural assumption that lexical categories theta mark their complements, while functional categories do not.

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<sup>11</sup>Note that this is preserved under adjunction: if X L-marks YP, and something is adjoined to YP, the derived YP nodes all count as L-marked.

As a final remark, note that there is a correlation between the L-marking status of a category and the A/A-bar status of its specifier, i.e. between (11) and (27):

(28) A category L-marks its complements iff it can have an A-specifier.

## 2.3 Inflection and Agreement

Inflectional affixes appearing on some element usually modifies the properties of the element (thematic, selectional...). Furthermore, inflectional affixes might have selectional properties of their own apart from selecting the type of head to which they attach (e.g. cooccurrence restrictions between particular tenses and temporal adverbs...). Accordingly, I suppose, following much recent work (Baker, 1988, Pollock, 1989) that usually, an inflectional affix A is a syntactic head taking as complement the projection of the word W that it affixes onto, and that the affixation process itself is nothing else than head movement of W to the affix position A (or possibly, but preferably not, lowering).

Turn now to agreement between a head and an XP. If the agreement affix in fact does display the properties of a head, it is natural to extend to it the general view about inflectional affixes described above. In this case, an agreement affix is just like any other projection inflectional affix and projects from an AGR to AGR' to AGRP as in Chomsky (1989), Mahajan (1990), Pollock (1989) for example. The shape of the agreement affix in this case is determined by what occupies the specifier position of AGRP.

It is quite unclear however whether Agreement inflection displays any property of a syntactic head. In this case, following Koopman (1988), we would take the agreement inflectional affix to be the morphological spell out of a relation between a head (say an adjective) and its specifier. Under both of these views, agreement is determined by the relation between a specifier and a head. In what follows, I will suppose without argument that Koopman's view is correct (see Koopman and Sportiche, 1990, for discussion). AGR projections could be added throughout with only a few changes to the text.

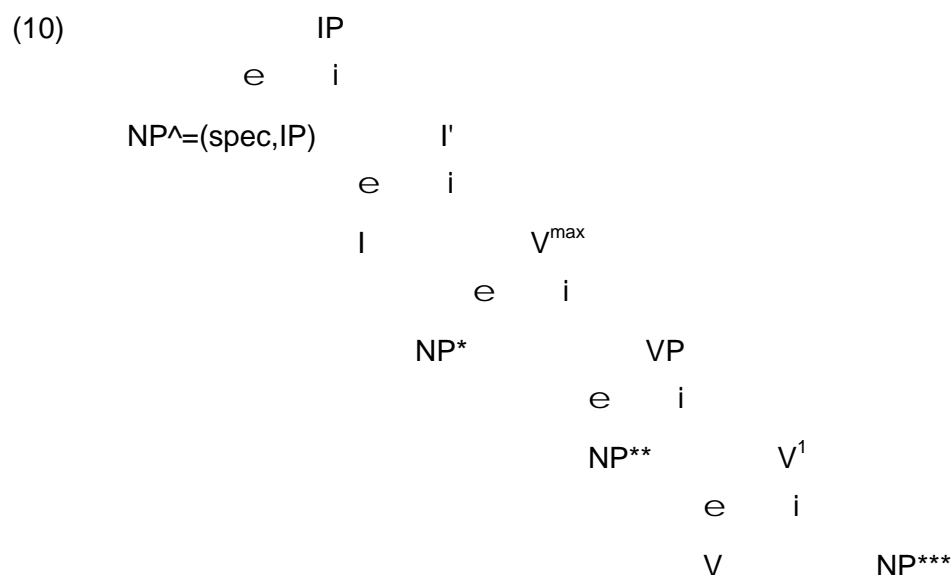
## 2.4 Case theory

I assume the standard version of Case theory including the Case Filter or perhaps -- cf. Sportiche (1983) -- its reduction to theta assignment through the visibility requirement as it applies to non silent NP's and wh-traces and perhaps certain other silent categories as well.

The major modification I introduce regards Case assignment.

Current theories distinguish between two kinds of Case assignment: Structural Case and Inherent Case. Structural Case is a configurational property: a tensed I assigns Case to its specifier in English regardless of the semantic or thematic relation of this specifier to the rest of the sentence. Nominative Case is typically a structural Case. Inherent Case on the other hand is lexically dependent or thematically dependent. Its assignment depends both the lexical choice of the Case assigner and on the thematic relation between the Case assigner and the category receiving Case.

There is however another difference: The structural configuration in which Nominative Case assignment occurs is different from the configuration in which an object is inherently Case-marked. Nominative Case assignment is a relation between a head, namely I, and its specifier. Inherent Case assignment is a relation between a head and a complement. This seems to be a priori ground for distinguishing the two. Furthermore, Koopman and Sportiche (1988) argue that INFL varies in its Case assigning properties across languages. Consider again the structure of a clause:



In languages in which INFL cannot Case mark the position NP\* (e.g. French or English or Vata), an NP in this position must raise to the position NP^ to get Case from INFL. In

languages where INFL can Case mark NP\*, raising is not necessary (and perhaps impossible): this gives rise to AuxSVO languages or, after V to I, VSO languages for example.

Now, consider a language like English: if INFL can case mark NP<sup>^</sup>, why can it not Case mark NP\* as well? It seems again that we need to distinguish between a head assigning Case to a complement or the specifier of a complement and a head assigning Case to its own specifier.

We can meet these desiderata if we postulate that Case is assigned to an NP either under government by a Case assigner or by agreement of the NP with a Case assigning head.

To summarize, we distinguish between Structural Case assignment and Inherent Case assignment. Furthermore, we distinguish between Case by agreement and governed Case.

Nominative is both structural Case and Case by agreement, while Inherent Case is always governed Case. Where does objective Case fit in this picture? Objective Case is a structural Case as shown by the fact that it occurs in Exceptional Case marking structures or on subject of small clauses, when it bears no thematic relation with its Case assigner. Is objective Case a governed Case or is it a Case by agreement? Given the assumption we made about X-bar theory and the distribution of direct objects of X<sup>0</sup> as sister to X<sup>0</sup> inside X<sup>1</sup>, it looks like objective Case is a governed Case. This is what I will assume until we return to this issue in section 5.

Governed Case is assigned under government where government is provisionally defined in terms of X-command and in terms of barrier in the spirit of Chomsky (1986):

(29) a. Government

A governs B if A X-commands B and no barrier for B intervenes between A and B.

b. X-Command

A X-Commands B if the minimal constituent meeting property X containing A contains B

We return below to what barrier and intervene mean; we can provisionally take X-command to be M-command, i.e. where property X is the property of being a phrasal (or maximal) projection. We return to a discussion of which command notion is relevant, i.e. how X should be understood.

The second option is Case assignment by agreement.

Let H be a Case assigning head. Then, if it is a Case assigner by agreement, it may assign Case to an NP in its specifier position, as a reflex of the general process of specifier head agreement that was discussed in the previous section.

Which of these two Case assigning options is realized depends on the particular category HP, the lexical content of the head H it contains, and the language L. A priori, we want to minimize possible inter and intra language variations. Given that there is cross linguistic variation, the strongest position would be one asserting that languages choose once and for all one and/or the other option, regardless of the head and its content. A priori, this seems too strong. In English, I only assigns Case by agreement, while it seems that V only assigns governed Case (structurally or inherently). Koopman (1988) shows that in Dutch, certain P's are governed Case assigners, while some others are agreement Case assigners. Koopman (1990) also presents an analysis of Particle constructions in English discussed by Kayne (1986) based on the idea that Particles can be agreement Case assigners. We will return to this issue in general terms when we discuss structural Case again in section 5.2. Finally, given the existence of the Case Filter or the visibility requirement, I suppose that Case assignment (or checking) is optional.

## 2.5 Movement

Following Chomsky (1986) we allow movement of lowest projections ( $X^0$ ) and phrasal projections (XP).<sup>12</sup> Only substitution and adjunction are available. Adopting Chomsky's formulation, itself derived from a proposal in Baltin (1981), we postulate that Substitution or Adjunction of  $X^p$  can only be into or to some  $Y^p$ .<sup>13</sup>

A given projection can be substituted only in an empty slot of the same projection level; a given projection can only be adjoined to a projection of the same level.

There are some further restrictions on adjunctions. We stipulate that adjunction is restricted to VP, AP and IP, and impossible to other phrasal projections.

Note we cannot "justify" this stipulation the way Chomsky does: he uses the idea that adjunction can only be to non argument types. Since NP, PP, and CP can count as canonical

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<sup>12</sup>Or possibly maximal projection instead, to prevent a VP part of a layered VP a la Larson to move.

<sup>13</sup>Possibly, as Chomsky suggests, because X-bar theory holds of derived structures.

argument (i.e. they can get theta marked in D-structure), adjunction to NP, PP, or CP is prohibited. As VP, AP and IP are not canonical arguments, they qualify as targets of adjunctions. The reason is that VP or AP count both as arguments (say an AP small clause can be theta marked complement of a verb) but also allow adjunction. The situation of ECM IP complements is similar.

## 2.6 Barrierhood

We now define barrierhood and intervention. The crucial ingredient is of course the characterization of barrierhood. The basic idea is the following: when an  $X^n$  is inside a projection  $Y^p$  which lacks some proper relationship with an outside head (e.g. is not a theta or L-marked position) movement of  $X^n$  is confined to within  $Y^p$ , except of course if  $X$  is also a projection of this particular  $Y$ . Formally, this will be expressed as in the following way (we will modify this definition later in section 3.4.5 and section 5.4.3.2):

(30) Barrierhood<sup>14</sup>

Given **B** some constituent, and  $Y$  some category with  $\mathbf{B} \neq Y^{n15}$ :  
 if for some  $p$ ,  $Y^p$  is not a L-marked position and includes **B**  
 then  $Y^p$  is a barrier for **B**

The intuitive idea here is that core cases of extraction can only be out of complements. When looking outside from inside some projection  $P$  which is not a complement, the highest projection of  $P$  is opaque. So in a sense, the exterior can be reached only when mediated through a strong binary relation with something in the vicinity outside such as theta marker or an L-marker. Notice that L-marking is a property of positions, not of content of positions. The exclusion clause stating that  $\mathbf{B} \neq Y^n$  will allow the head of  $P$  to look outside. This is basically to permit the existence of head movement. This clause means that the projections of a particular head can never count as barrier for that head.

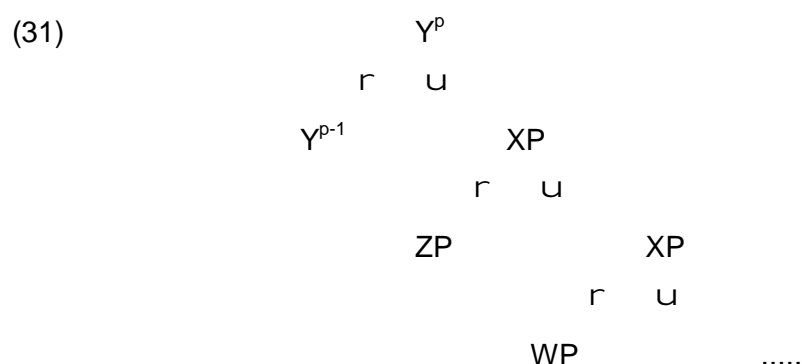
The notion of barrier is relevant only when a barrier intervenes between two items, thus blocking some relation between the two. e.g. a movement relation. The notion intervention is

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<sup>14</sup>thanks to E. Stabler for his input here.

<sup>15</sup>That is  $B$  is not a projection of  $Y$ .

defined following Chomsky's (1986) and May (1985) notions of inclusion and exclusion. It can basically be understood as domination in the usual sense. If A dominates B but not C, A intervenes between B and C. The only exception arises in adjunction structures. What we want to achieve is the following. In a structure where some ZP is adjoined to XP, with WP inside (i.e. not adjoined to) XP:



we want to say that XP intervenes between  $Y^{p-1}$  and WP. But XP does not intervene between  $Y^{p-1}$  and ZP, nor does it between ZP and WP. In a sense, then, ZP is neither dominated nor not dominated by XP. Chomsky (1986) or May (1985) achieve this result by introducing the notions of segment, inclusion and exclusion.<sup>16</sup> More specifically, we define intervention as below:

(32) Intervention

A projection  $Y^p$  **intervenes** between **a** and **b** if  
**a** is excluded by  $Y^p$  and **b** is included in  $Y^p$

Let us apply these definitions to governed Case assignment assuming as mentioned earlier that both inherent Case and structural objective Case are assigned under Government.

Under what circumstances are such cases assigned? There are two main configurations:

(i) NP to be assigned Case by  $X^0$  is an immediate complement of  $X^0$  (this is the normal case of a direct object or indirect object).

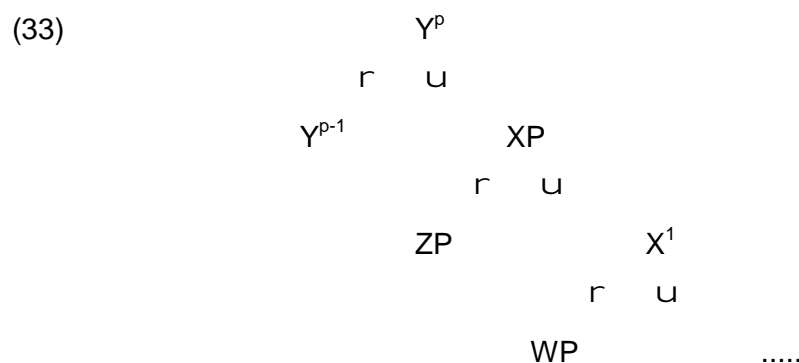
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<sup>16</sup>I will assume the following: A includes B iff every segment of A contains B, where contain is the usual inclusion relation between node. A excludes B iff no segment of A contains B. From now on I distinguish the notion of inclusion, or being inside of from the notion contain, which is the pre-Barrier notion of inclusion or domination.



(ii) NP to be assigned Case by  $X^0$  is the specifier of an immediate complement of  $X^0$  (this configuration arises in ECM constructions or small clause constructions).

Let us then check that our definition of barrierhood allows Case to be assigned properly in these instances:



$Y^{p-1}$  can Case mark XP as long as it is a governed Case assigner, since no barrier for XP intervenes between XP and  $Y^{p-1}$ . Can  $Y^{p-1}$  case mark ZP. if XP is not an L-marked position, it will count as a barrier for ZP since it includes ZP. Furthermore this barrier will intervene since XP excludes  $Y^{p-1}$ . Now if XP is an L-marked position, it means that  $Y^{p-1}$  is a  $Y^0$  and L-marking XP (which means that  $Y^p$  is  $Y^1$ ). In this case, XP is the only projection of X containing ZP and is a theta position so it is not a barrier to government by  $Y^{p-1} = Y^0$ .

Now note that  $Y^{p-1}$  cannot case mark WP: WP is included in  $X^1$ , which is not an L-marked position. XP is therefore a barrier for WP and it intervenes since it includes WP but excludes  $Y^{p-1}$ .

Generalizing somewhat, we see that the core prediction of this notion of government is that a head can govern its complement, and the specifier of its complement. It can also govern the head of its complement since no projection of the head of a complement can count as barrier for that head by definition (the clause I called the exclusion clause above).<sup>17</sup>

In the following section, we turn to a somewhat more exhaustive discussion.

<sup>17</sup>Note also that in (10),  $Y^{p-1}$  which is head should be able to govern an adjunct to  $X^1$  if such adjuncts exist. Note however that it should not be able to govern the specifier of ZP since it does not L-mark ZP, but it should be able to govern an adjunct to ZP (if ZP allows adjuncts to it).

### 3. Syntactic Movement

#### 3.1 The General Case of Movement

In this section, I am going to show that the notion of government introduced earlier plays a crucial role in explaining the constraints on Movement, thus reducing movement theory to or unifying movement theory with Government theory. The unification is two fold: first, it unifies the constraints on various kinds of movement (head movement, NP movement, wh-movement) to the single condition below. Second, it formulates this condition in terms of the notion Government, thereby reducing it to Government Theory.

Beginning with syntactic movement (as opposed to LF movement), suppose that we require traces to obey the following condition that we call **The Condition on Chain Links** (henceforth CCL):

(34) Condition On Chain Links

Traces must be governed by an antecedent at S-structure

Before examining concrete consequences of the CCL on movement, let us reason on hypothetical cases:

We are trying to move some A out of some  $XP = X^2$ .

First Subcase:

Suppose first that A is only included in XP. This can mean one of three possibilities:

- (i) A is the specifier of XP
- (ii) A is  $X^1$
- (iii) A is dominated by  $X^1$  but not included in it (which means A is adjoined to  $X^1$ )

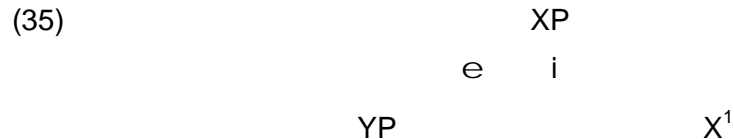
Case (ii) is irrelevant since A, as an intermediate projection, cannot be subject to movement.

Case (iii) should be excluded in principle as an adjoined structure to a non phrasal projection.<sup>18</sup>

We are left with case (i) A is YP.

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<sup>18</sup>Cases of base generated adjuncts to intermediate projections if any, can now be reanalyzed as Cases of adjunction to some intermediate XP in a layered XP a la Larson, or as inner complements, as he suggests.



Two situations can occur:

1. If XP is L-marked, it is transparent and A can move out of XP without further assumptions: even though XP intervenes between A and the outside, its L-marked character makes it crossable; this is for example what happens with VP (always L-marked by I), or with complement NPs or CPs. For A=YP, this means that extraction of their specifiers is always permitted.
2. If XP is not L-marked. It counts as a barrier for A since, by assumption, it includes A. The only way A can move out is by moving out in such a way that XP does not intervene between A and the outside position it moves to. The only way this can be achieved is by adjoining A to XP if possible, and then escape. In order to be able to adjoin to XP (i) A must be a YP itself, and (ii) XP must be a possible adjunction site. In other words, extraction out of XP will be possible only if XP is neither NP, CP nor PP, since adjunction to NP, CP and PP is barred. In particular extraction out of NP, CP and PP in this way is impossible when they are not L-marked position. In order to permit extraction out of them, they must be in a L-marked position.

Second Subcase:

Suppose now that A is included in  $X^n$  with n not a phrasal projection of X in that particular structure. We are going to deduce two consequences. Except for movement of  $X^0$ , movement directly to a position excluded by XP is impossible. Second, it is (sometimes) possible to move from A's position to a position included in only one projection of X, namely XP (that is, it possible to reduce this case to the previous subcase.)



X<sup>n</sup> with n not maximal is never L-marked. Again, two situations may occur.

- If  $A = X^0$ , it can escape XP by stipulation: a head can always escape its maximal projection.
- If  $A \neq X^0$ , then XP always counts as barrier intervening between it and the outside of XP: by assumption, some non phrasal X<sup>n</sup> includes A. So XP includes A and is a barrier for A since X<sup>n</sup> is not an L-marked position. Then, A cannot move to a position such that XP excludes it without violating the CCL. If A did, XP a barrier for A would intervene.

There are at most two ways out:

- ♦ The first is to move to a position neither included in nor excluded by XP. This means adjoin A to XP. This is a way to move up the tree to a position not excluded by XP. Again, this is possible only if A is a YP and XP is a possible adjunction site.
- ♦ The second is to move to a position within XP included in only one projection of X, namely XP. This brings us back to the first subcase discussed above because the only option is to move to the specifier position of XP. This will be possible if this specifier position can be a landing site for movement, e.g. it is not a theta position, and if A is the kind of category that can appear in the specifier position of XP.

### Summary of Conclusions

Let us summarize the implications of this discussion.

When computing extraction out of some XP, we need to know the following parameters:

Is adjunction to XP allowed?

Is XP in an L-marked position?

What kind of movement are we dealing with (A, A-bar, head)?

In the general case, extraction from inside some XP is either through its specifier if it is L-marked or through adjunction (or a combination of both). If the kind of movement permits adjunction, (i.e. A-bar movement) it is always going to be possible to escape categories that can be adjoined to, i.e. AP, VP and IP, by adjoining to them. In other words, A-bar movement out of IP, AP, or VP and possibly others is free. A-bar movement out of categories that cannot be adjoined to must be through their specifiers. A-bar movement out of NP, CP and PP and possibly other categories must proceed through their specifier and these categories must be in L-marked positions.

If we are dealing with A-movement, escape through adjunction is impossible. By definition, A-movement is movement from an initial A-position to a final A-position. Intermediate positions cannot be A-bar positions (or improper movement would result). Thus NP movement behaves like wh-movement out of NP and other such categories: Movement can only be through successive specifiers of categories in L-marked positions.

We see that we derive the description of possible extraction paths given in the introduction. In the following sections, we go through a case by case analysis of possible movements.

## 3.2 Head movement

### 3.2.1 The General Case of Head Movement

We begin with head movement. Let Y head of YP the head that is under consideration. Suppose YP is immediately dominated by some projection of a head X. There are basically two kind of cases to consider:

First question: Can Y be moved to some head position Z different from X.

Second question: Can Y be moved to X?

In the following configuration:

(37)            Z ... [<sub>XP</sub>...[X<sup>n</sup>...X...[<sub>YP</sub>...Y...]]]

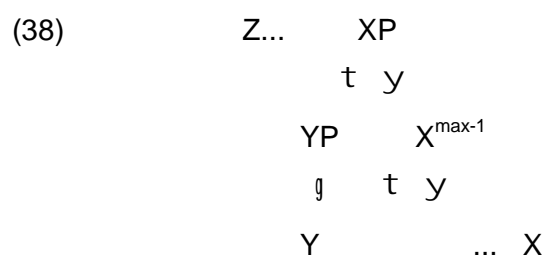
Y is the head of YP. XP is the first phrasal projection containing YP, X its head and X<sup>n</sup> some projection containing YP.

The principle we want to derive is the Head Movement Constraint (Travis, 1984). We basically want to reduce to general constraints on movement very much like Koopman (1984) did (who

did not name the constraint but ascribed its effects to the Empty Category Principle). The HMC basically states that a head can only move to the next head up the tree, where we understand next head up the tree as the closest m-commanding head (or i-commanding head, see section 3.2.2).

Consider the first question first. The constraint on moving Y out of XP are in fact identical to the constraints on moving YP out of XP: the reason is that Y is included in all the same projections YP is, except for the projections of Y itself. Given that the projections of Y cannot count as barriers for Y's movement, the set of barriers for Y is identical to the set of barriers for YP. In other words, just as for YP, Y cannot be moved beyond the specifier position of XP or a position adjoined to XP. In particular Y cannot be moved directly to the Z position. Basically, this derives the effects of the HMC, with the following qualification:

The above reasoning fails in precisely one case: if the only projection of X including YP is XP, that is if in fact YP already is the specifier of XP. In other words if we are dealing with the following configuration:



In this case, Y can move to Z directly if XP is in a L-marked position. Alternatively, if adjunction to XP is allowed, YP can adjoin to XP, from where Y can be moved to the Z position.

These are the predictions then:

movement in one step of a head Y out of the XP containing YP (more precisely: movement in one step of the head Y of YP contained in XP to a position excluded by XP) is possible if:

- (i) XP is in a L-marked position and YP is the specifier of XP, or
- (ii) XP is not a L-marked position, adjunction to XP is allowed and YP is adjoined to XP.

For example, this allows incorporation into the verb of the head of the specifier of a direct object of this verb. It also allows the incorporation of the subject of a clause embedded under an ECM verb. This also allows I to C movement, or incorporation of a VP level adjunct into I.

### 3.2.2 Incorporation of adjuncts and complements: i-command

(39) a.  $X^1$   
 $t$   $y$   
 $X^0$       ZP  
 $t$   $y$   
YP      ZP  
 $g$   
 $Y^0$

b.  $X^p$   
 $t$   $y$   
 $X^1$       YP  
 $g$        $g$   
 $X^0$        $Y^0$

For the b case, it is more difficult to decide. Although there are cases that look like such cases (say manner adverbs incorporating into their selecting V) this could also arise as a result of X raising up to the next head up, YP adjoining to XP and incorporating into the X from there, that

is as in the a case (e.g. aspectual adverbs incorporating into ASP that has raised to T..). So we need to look at cases of heads which do not move at all and see whether they can incorporate some adjunct they select. One such case might be temporal adverbs like *yesterday*, *tomorrow*... which are selected by Tense. If Tense does not raise, we can get an answer from whether or not these adverbs can incorporate into T. Here, I will tentatively assume that this is not possible.

In order to exclude incorporation of the head of an adjunct into its selecting head as in the b case, we need to restrict movement possibilities.

One possibility is to modify the notion of barrier so that the phrasal projection HP of a head H is a barrier for movement of H out of HP if HP is not in a L-marked position.

The alternative is to make the notion of government more restrictive by making the notion of X-command more restrictive. At the moment, Government is defined in terms of m-command. If this is too lax, the possibility to explore is to replace m-command by c-command or rather i-command. These notions are defined as follows:

(40) C-command

A c-commands B if A m-commands B and the minimal constituent containing A and something else than A contains B.

I-command

A i-commands (immediately commands) B if the first constituent (distinct from A and) containing A contains B.

Clearly, c-command would give the wrong result because, it would allow incorporation of the head of an adjunct into its selecting head X, if this head does not have any complement, i.e. if  $X^1$  does not branch. Aoun and Sportiche (1981) provide further reasons why this conception of c-command is both empirically inadequate and conceptually undesirable. I-command on the other hand, coupled with the assumption that L-marked complements of X appear under  $X^1$  will have the desired effects. This will basically have the effect of restricting head movement towards some head H to the heads contained in the constituents that are sisters to H. Given the assumption that L-marked complements of a head H are under  $H^1$ , these two possibilities are almost equivalent: If HP is in a L-marked position L-marked by another head  $K^0$ , it will be i-commanded by  $K^0$ . The converse however is not true. At least in the case of C,



the complement of C, IP, is i-commanded by C but not L-marked by it: the first alternative seems to be predicting the impossibility of I to C. The second predicts that it is possible as we know it is. Cases like (39a) can help us decide: the i-command alternative straightforwardly allows incorporation of Y into X. Making the non L-marked boundary of a constituent a barrier even for the head of this constituent seems to be predicting that such incorporation is impossible since YP in (39a) is not L-marked by X.<sup>19</sup> Let us therefore adopt the i-command alternative.

From now on we adopt the following definition of Government:

(41) a. Government

A governs B iff A I-commands B and no barrier for B intervenes between A and B.

b. I-command

A I-commands B iff a sister of A contains B

Naturally, we want this modified notion of government to be used everywhere government is relevant, this move will have far reaching consequences in all areas of grammar using government (e.g. Case, Binding...). We will not pursue the questions concerning Binding here. We merely note that this conclusion accords with the conclusions reached by Saito (1984) concerning Binding theory.<sup>20</sup> Furthermore, no adverse effect seem to arise concerning Case theory: as we have seen, only governed Case assignment relies on Government, and governed Case assignment by some head H does seem to be restricted to complements of H and to specifiers of complements of H (as in small clause structures, or ECM structures): previous cases of Case assignment to a specifiers of some XP by its head X must now be uniformly analyzed as cases of agreement Case assignment. One positive consequence follows: a head assigning governed Case to some complement will not be able to assign it to its specifier, since a head does not govern its own specifier.

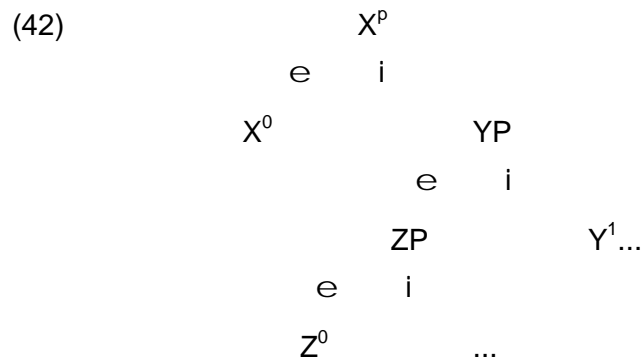
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<sup>19</sup>Even if, as we do later, we extend L-marking to the specifier of an L-marked category, we do not want an adjunct to inherit L-marking in this way.

<sup>20</sup>Saito defends c-command, but his arguments are consistent with adopting i-command instead.

### 3.2.3 Incorporation of Specifiers of Complements

Let us now turn to the former question. In the following configuration:



Is it possible to incorporate  $Z^0$  into  $X^0$  if  $YP$  is L-marked by  $X^0$ , i.e. if  $X^p$  is  $X^1$ . Is it impossible to incorporate  $Z^0$  otherwise.

Examples of structures (42) with  $p=1$  are found in small clause constructions:

- (43)
- a. de considérer [ Pierre malade] /to consider Peter sick
  - b. de le considérer [ t malade] / him-consider sick

Again, if clitic placement is analyzed as head movement, the second sentence above shows that head movement in such contexts is possible in principle. This is simply a consequence of the fact that the subject of a small clause is governed from the outside (for purposes of structural Case assignment by the verb.<sup>21</sup>

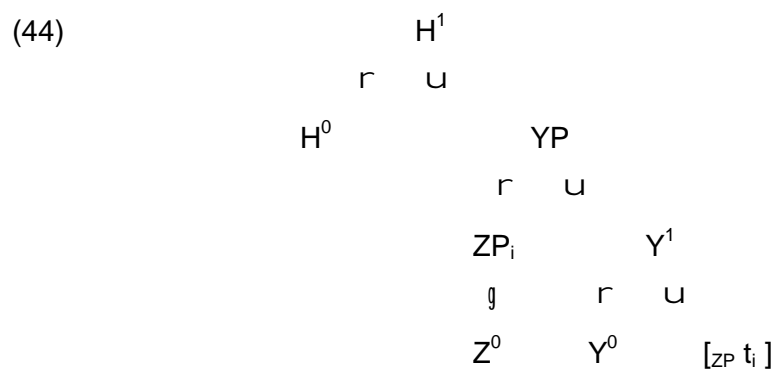
The same kind of structure is illustrated by a verb taking a direct object which has a nominal specifier (i.e.  $V [_{NP} NP N^1]$ ). We predict that the head of the specifier should, in principle be incorporable into the verb. We will see that this is indeed the case when we discuss the syntax of en and of dont.

<sup>21</sup>I am glossing over an inconsequential complication here. It is natural to assume that infinitive morphology in French has its own projection, say  $InfIP$ , with  $INFL$  taking a  $VP$  complement whose head  $V$  raises to  $Inf$ . In this case, the pronominal subject of the small clause in (43) incorporates to  $INFL$  and not to  $V$  as shown by the morphological structure of the result ( $le+[considér[er]]$ ). The only way this could happen is if the  $NP$  subject of the small clause first adjoined to  $VP$ . Then its head -the clitic- incorporates in  $INFL$ , as allowed by the CCL: this derivation also illustrates a case of incorporation as in (42).

The following generalization then seems to emerge from our discussion: given a head H, a head can be incorporated into H only if it is the head of a complement of H or the head of the specifier of a complement of H.

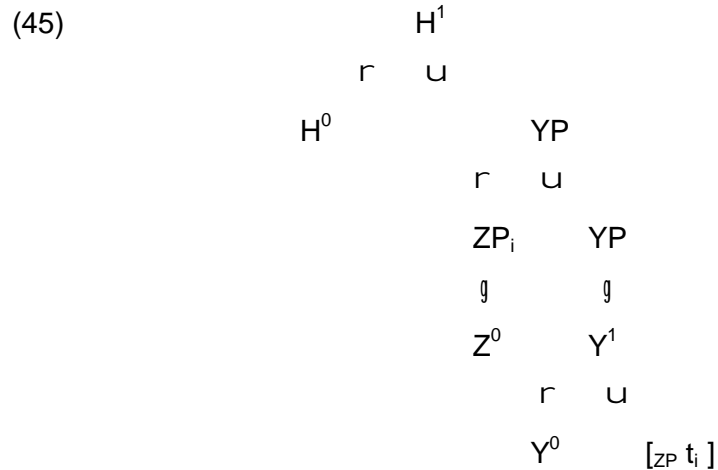
As last remark, notice that the illusion that this principle can be violated can be found in the following scenario. Suppose H takes a YP complement and that Y takes a ZP complement. Can Z be incorporated into H. According to the above conclusion, the answer should be negative. Suppose however that this incorporation takes place in two steps: this two steps derivation can occur in two different ways:

The first way is summarized in the following structure:



first ZP moves to spec of YP, then incorporation of Z into H. Each step can be allowed, given the right circumstances, resulting in an apparent violation of our conclusion. We will show in section 4.1.3 that such apparent counterexamples do exist but there is always good grounds for assuming the existence of the necessary intermediate step through a specifier position.

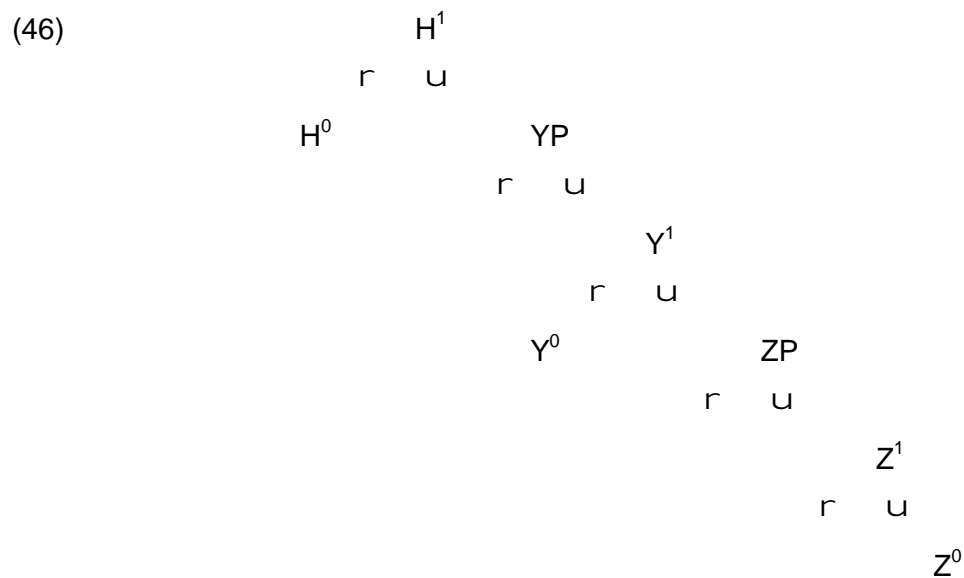
The second way is summarized by the following structure:



Here, ZP first adjoins to YP, then movement of Z to H takes place. Note again that no barrier is crossed. Naturally, YP must be the kind of category that allows adjunction. Again, we will show in section 4.1.3 that such derivations exist.

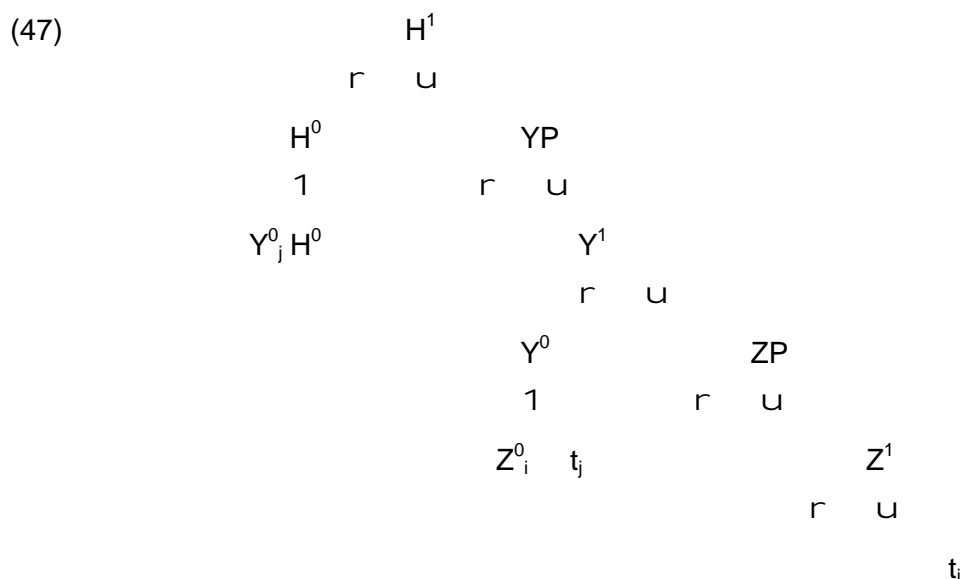
### 3.2.4 Successive Head Movement: Excorporation

Recall that one principle we want to derive is the Head Movement Constraint. Limiting movement of a head to the next head up will not be sufficient to derive this result, in particular if successive movement of the same head is allowed. Thus, in the following structure:



If  $Z^0$  is allowed to move to  $Y^0$ , and then to  $H^0$ , movement is always only one head up but becomes essentially unbounded. this type of successive cyclic head adjunction is ruled out by our formulation. Thus moving  $Z^0$  to  $Y^0$  creates the structure  $[_{Y^0} Z^0 + Y^0]$ . Since  $Y^1$  is not a projection of  $Z^0$ , it does count as a non L-marked projection containing  $Z^0$  and thus induces YP to be a barrier for  $Z^0$ : moving  $Z^0$  out of YP is excluded.

Once the structure has been formed, two types of further movement can take place. Since  $Y^0$  is the head of  $[_{Y^0} Z^0 + Y^0]$ , it is possible to move  $[_{Y^0} Z^0 + Y^0]$  freely out of YP. Note however the existence of a second option, that we might call excorporation. None of the projections of  $Y^0$  can induce YP to be a barrier for movement of  $Y^0$ . Since  $Y^0$  is the head of  $[_{Y^0} Z^0 + Y^0]$ , this includes  $[_{Y^0} Z^0 + Y^0]$  itself. As a result, movement of  $Y^0$  from inside  $[_{Y^0} Z^0 + Y^0]$  to  $H^0$  is possible creating the following structure:



This is the only type of excorporation that is allowed.

### 3.3 Wh-movement

We next consider the properties of syntactic wh-movement. In subsequent sections we will turn to NP-movement.

### 3.3.1 The grammatical cases

We begin by making sure that the CCL as it stands allows the grammatical cases of wh-extraction, that is extraction in simple clauses or from embedded declaratives. Consider the following sentences (remember we adopt modified Larsonian VPs):

- (48)    a.    I wonder [<sub>CP</sub> who<sub>i</sub> [<sub>C'</sub> e [<sub>IP</sub> t<sub>i</sub> [<sub>I'</sub> I [<sub>VP</sub> t<sub>i</sub> left]]]]]  
      b.    I wonder [<sub>CP</sub> who<sub>i</sub> [<sub>C'</sub> e [<sub>IP</sub> you<sub>j</sub> [<sub>I'</sub> I [<sub>VP</sub> t<sub>j</sub> saw [<sub>VP</sub> t<sub>i</sub>]]]]]]]

Consider first wh-extraction from subject position (48a). The subject presumably originates in the most deeply embedded t<sub>i</sub> position and then raise to specifier of IP. This is NP-movement and need not concern us here. The wh-phrase is inside IP. IP is not L-marked. The only escape is through adjunction to IP. From there, the wh-phrase is no longer inside IP in the relevant sense, but is inside C'. C' is not L-marked: so CP is a barrier. But the wh-phrase moves to specifier of CP position and thus crosses no barrier. Consider next the case of (48b) which exemplifies extraction out of VP. The wh-phrase NP originates in the position t<sub>i</sub>. It is inside V', which is not L-marked, so VP is a barrier. But the NP can adjoin to VP. There, it is no longer inside VP. Looking up the tree, we see that it is also inside IP. IP not being L-marked, it must escape by adjunction and so on: we find ourselves in the previous case. So we see that these acceptable cases are predicted grammatical.

Clearly, we could also extract some VP or clausal adjunct instead of a complement of V without problems.

Consider next cases involving two (or more) clauses:

- (49)            I wonder who<sub>i</sub> you think that John saw t<sub>i</sub>

Obviously, movement from the position t<sub>i</sub> to the specifier position of its CP is exactly as the previous case. From the specifier position of CP, the wh-phrase can adjoin to the next VP up: CP is L-marked and therefore no barrier. VP is a barrier (since extraction is from inside V') but can be gotten around by adjunction to VP. Again, we find ourselves in the previous case.

### 3.3.2 Subjacency and the CED

We now turn to ungrammatical cases. As we have shown, extraction out of AP, IP and VP is always possible. However, since adjunction to NP, CP and PP is barred, the only way a phrase can escape these categories is through their specifier, if it is possible. However this will not be sufficient if they are not L-marked. If they are not L-marked, they will be barrier to movement. From this we derive the usual constraints on syntactic movement. Let us examine them in turn.

### 3.3.2.1 The Adjunct Condition

Begin with the Adjunct Condition. It states that no extraction is possible out of adjunct clauses. Adjunct clauses are usually PPs. By definition the adjunct boundary is not L-marked. It is always going to count as a barrier for extraction. As example, consider the case of French. In French, adjunct adverbials clauses are PPs introduced by prepositions such as *avant*, *après*, *sans*.. taking clausal complements *avant de partir/avant qu'il (ne) parte*, *après être parti/après qu'il est parti*, *sans partir/sans qu'il (ne) parte*... Suppose we try to extract some complement XP out of such an adjunct as indicated:

(50)                    [PP [P' sans [CP [C' que [IP... XP... ]]

Because adjunction to CP and adjunction to PP are excluded, the only way to escape is to move successively through the specifiers of CP and of PP. Suppose that this is possible. Then XP is in the position specifier of PP. Applying the definition of barrier, we see that because we are trying to extract out a projection of P, namely PP, and because this projection is, by assumption not in a L-marked position, it counts as a barrier. Extraction is therefore impossible: the adjunct clause condition follows.

### 3.3.2.2 P-stranding

Exactly the same reasoning applies to the core cases of P-stranding. The central generalization states that it not possible to strand non subcategorized Ps. A non subcategorized PP is not in a L-marked position. Accordingly, the PP boundary will count as a barrier and stranding is prohibited:

(51)  $[_{NP^*} \text{ Which meeting}]_i \text{ did you sleep } [_{PP} t_i [_{P'} \text{ during } t_i ]]$

In the best case, extraction of NP\* will proceed through the [spec,PP] position. From there the next possible landing site is out of the PP. The PP boundary will intervene between the two successive positions and it is not L-marked: it is a barrier.<sup>22</sup>

### 3.3.2.3 The Sentential Subject Condition and the Subject Condition

The Subject Condition and the Sentential Subject Condition state the impossibility of extracting out of NP subjects or clausal subjects. In languages like English, the subject does not occur in a L-marked position. NP subjects occur in [spec,IP]. Clausal subjects seem to occur higher up in the tree, as suggested by Koster (1978), perhaps adjoined to IP. Consequently the NP or the CP boundary of these subjects is always a barrier and will prevent extraction, since the adjunction option (to NP or CP) is excluded. We will return to languages different from French or English concerning the position of subject NPs.

### 3.3.2.4 The complex NP constraint

The complex NP constraint comprises two cases: the Relative Clause case and the adnominal clause case. Let us begin with the prohibition of extraction out of a relative clause. Again the crucial property of a relative clause is that it is an adjunct CP, adjoined to some nominal projection (which one exactly does not matter).

(52)  $[_{NP} \dots [_{N^P} \dots N^1 \dots] [_{CP} \text{ wh } [_{C^1} C] [_{IP} \dots XP \dots]]]$

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<sup>22</sup>As is known, there is no perfect match between the property of being a PP in a L-marked position, and strandability of the P. What is at stake here is the correct characterization of the notion that makes a boundary create a barrier. Here we adopt "being in a L-marked position". The P-stranding pattern might suggest that this should be replaced by whatever the right structural characterization is, say K. For consistency, it must be the case that K will entail "being in a L-marked position". This looks correct. We expect other correlations, e.g. if a PP bears property K to some verb V, the PP will be strandable and the head P of this PP will be incorporable in the V. I will leave this question pending at this point.



Trying to extract XP out of CP, we see that the CP boundary will again always count as a barrier. Furthermore, extraction is actually from inside  $C^1$  since the specifier of CP is not available, being filled by the relative pronoun. So at least one barrier is crossed, namely CP.

Consider next the other complex NP case, e.g. *the assumption that...* Here, the structure is that of a CP complement of a head noun:

(53)  $[_{NP} \dots [_{N^1} N^0 [_{CP} [_{C^1} C [_{IP} \dots XP \dots ]]]]$

The specifier of CP is available and it is not clear that CP is not in a L-marked position. If it is not (as Stowell, 1981, argues, in which case the CP is not under  $N^1$ ), CP is a barrier and the constraint follows, just as in the relative clause case, from the adjunct island condition.

Suppose on the other hand that it is, i.e. that the structure (53) is correct. Then moving out of CP from [spec,CP] is allowed. It must be that the next moving step is out, i.e. getting out of the NP. In order to escape from NP, XP must go through [spec,NP] since by assumption, the CP is dominated by  $N^1$ . But this is an instance of improper movement: according to (10a), the specifier of a L-marking lexical category such as N is always an A-position, while the specifier of a non L-marking category is not: [spec,CP] is an A'-position, then. It follows that this escape hatch is closed. If extraction takes place, at least one barrier is crossed, namely NP.

Let us now compare the two cases of Complex NP violation.

Begin with the relative clause case. Trying to minimize the number of barriers crossed, we would be extracting XP from a position adjoined to IP (otherwise, IP not being L-marked, another barrier -IP- would be crossed). From there, as seen earlier, we cannot move to [spec,CP]. CP, a barrier, will be crossed. Next, we need to extract out of the NP containing the CP. Again, [spec,NP], the obligatory intermediate site is unavailable, as an A-position. Therefore, either we violate improper movement restrictions, or extraction yet crosses another barrier, at least. In sum, This movement either crosses three barriers, or crosses two and violates improper movement.

Turn now to the other Complex NP case, as in (53). Here the reasoning is exactly the same except that the CP boundary does not count as a barrier. So fewer barriers are crossed than in the previous case. Judgments on Complex NP violations usually put the relative clause case as worse than the adnominal clause case. We have a simple explanation of this if we

hypothesize, as is plausible, that compounding violations has an additive detrimental effect on judgments. In other words, assume:

(54) Everything else equal, crossing  $n+1$  barriers is worse than crossing  $n$  barriers.

### 3.3.2.5 The wh-island Condition

Finally, consider the wh-island Condition, which prohibits wh-extraction out of indirect questions, and more generally, out of CP headed by a wh-element. Here the situation is slightly different:

(55) ...<sub>[CP wh [C<sup>1</sup> C [IP ...XP..</sub>

Extraction out of CP must take place but, except perhaps in *whether* wh-islands, its specifier position is unavailable: it is already filled by a wh-phrase. Since extraction is from inside C' to outside CP, CP is a barrier. If we are dealing with *whether*-islands, the conclusion depends on the position of *whether*. Although it is more commonly assumed to be a complementizer, the evidence presented in Larson (1985) and in Kayne (1990) suggests that *whether* is a wh-phrase in specifier of CP position corresponding to *either*. If *whether* is in the specifier position, the prediction is that violations of *whether*-islands should be on a par with other wh-island violations.

Violations of *whether*-islands are sometimes considered better than other wh-island violations but worse than regular extraction out of complement clauses. One possibility is that *whether* is in C, but disallow movement of other wh-elements to or through [spec,CP] of the CP it heads due to some spec/head agreement in C that would be violated. The violation then, would be a weak agreement violation, rather than a stronger violation of the CCL.

If we take into account linguistic variation, we face the inverse problem from that of Chomsky's (1986) book: our treatment is too strong for Italian or French or more generally for languages allowing wh-island violations, rather than too weak for English. This proposal disallows wh-island violations throughout, Chomsky's (1986) proposal allows them throughout. Our problem a priori seems more manageable from a learnability point of view, granting the absence of negative evidence. I have no useful proposal at this point. It is perhaps worth

noticing that, if there is indeed linguistic variation, it occurs in a case of extraction out of a complement structure.

### **3.4 Some further Remarks on extraction**

From the above discussions, we see that the CCL derives the effects of the CED and of the Subjacency condition. In other words, the CCL subsumes the Subjacency condition and the CED for syntactic movement.

Let us now consider some particular cases of extraction. Remember that wh-extraction out of VPs, IPs and APs is always possible because these are phrases that can be adjoined to. Such is not the case for CPs, NPs and PPs. We have already discussed extraction out of CP. Let us now consider the others.

As we have shown, it follows from the CCL that extraction of  $X^n$  out of NP or PP must go through the specifier position of NP. Furthermore, the NP or the PP must itself be in a L-marked position. From this, it follows that extraction requires at least three conditions to be met:

1.  $X^n$  must be allowed in principle to appear as [spec,NP] or [spec,PP]
2. The position [spec,NP] or [spec,PP] must be available
3. The NP or the PP must be in a L-marked position

Clause #3 is simply the CED already derived. Concerning clause #1, remember, as discussed in (8) and in (21), that only NPs can appear as specifiers of NP or of PP. From this it follows that only NPs can be successfully extracted out of NPs or PPs.

#### **3.4.1 Extraction out of PP in Dutch**

Let us examine extraction out of PPs. As we have seen, the way barriers are defined combined with the requirement that traces be governed by an antecedent forces movement

out of PPs to go through the [spec,PP] position, and furthermore that this PP be in a L-marked position. In what follows, we limit ourselves to complement PPs throughout.

Direct evidence supporting this conclusion comes from the analysis of extraction out of PPs in Dutch. In fact, this is basically the insight of van Riemsdijk's very detailed and convincing (1978) analysis of P-stranding. We now summarize it.

Dutch allows preposition stranding of certain prepositions. These prepositions all have the following properties:

- (i) they take an NP complement
- (ii) this NP can be pronominalized
- (iii) when this NP is pronominalized, if it is *er*, it appears in front of the P; otherwise, it appears in the same position as the full NP.

Some examples are: *op de tafel/er op/ \*op er/ op Jan /op hem /\*hem op (on the table/ on it/ on John/ on him...)*

Van Riemsdijk's crucial observation is the following:

- (iv) when and only when an NP complement of a Preposition can be pronominalized as *er* can it be extracted out the PP, thus stranding the P.

In that case, the P can be stranded either by movement of this pronoun, which is a clitic, out of the PP, or by wh-movement. In the wh-movement case, the wh-word is the wh-*er* word, namely *waer*. This paradigm is illustrated below:<sup>23</sup>.

- (56)
- a. Jan heeft de krant met zijn hand op de tafel gelegd  
John has the paper with his hand on the table put  
John put the paper on the table with his hand
  - b. Jan heeft de krant er mee op de tafel gelegd
  - c. Jan heeft er de krant mee op de tafel gelegd
  - d. Waer heeft Jan de krant mee op de tafel gelegd

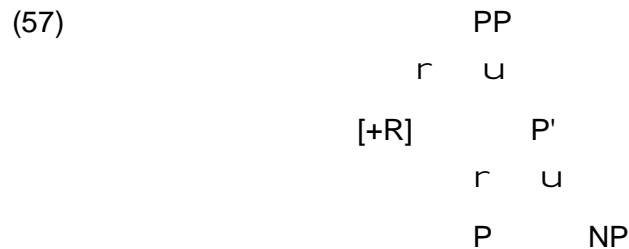
Of course, the main question is: why does the correlation stated in (iv) hold? Van Riemsdijk's analysis states that there is a [+R] position PP initially and that P-stranding either under clitic movement or under wh-movement must transit through this [+R] position. Naturally, this claim is extremely strongly supported by the fact that the intermediate step is actually directly

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<sup>23</sup>Note that prepositions are not incorporated in the verb, as is shown by the fact that they cannot be pied piped under verb raising

observable in Dutch (we will see a similar pattern in French extraction out of NP below) at least in the case of clitic (er-)movement.

It is immediately apparent that the network of assumptions we have developed provides a general theoretical reason for why van Riemsdijk's analysis should be correct; it derives van Riemsdijk's analysis, provided we take van Riemsdijk [+R] position to be the [spec,PP] position:

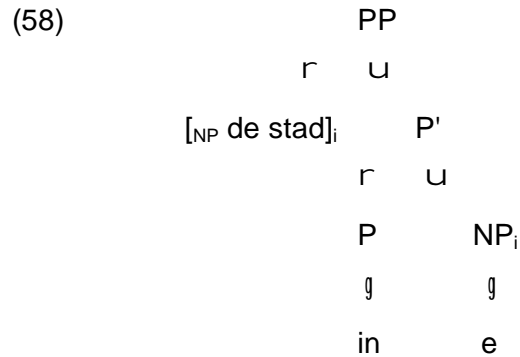


Stranding of a P by extraction of its complement NP is limited to NPs pronominalizable by *er* because only this kind of NP is allowed to occur in [spec,PP], and [spec,PP] is an obligatory intermediate step.

Koopman (in preparation) shows that this analysis can be extended even further. Dutch does not only have prepositions. It also has postpositions (usually locative prepositions with a directional reading) e.g. *de stad in/ into the city*. It turns out that these postpositions can always be stranded.<sup>24</sup> Two questions arise that can be answered in one stroke: Why does Dutch have both prepositions and postpositions? Why do prepositions and postpositions differ regarding stranding possibilities. Koopman argues that postpositions are in fact prepositions that, for Case theoretic reasons (postpositions are agreement Case assigners, prepositions are governed Case assigners), force their complement to move to their specifier positions. In other words, the object of a postposition is forced to occur in the position in which *er* occurs with prepositions:

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<sup>24</sup>Postpositions can be incorporated into the verb, but incorporation is not a precondition on strandability - see Koopman, op.cit.



If this is so, it follows that stranding of postpositions should be allowed, since the only restriction operating on P-stranding of complement Ps is due to whether or not the specifier position of the complement of the PP is accessible. Obviously, with postpositions, this specifier position is always accessible.

Note that we have not addressed the question of what permits or forces movement of the NP complement of a P to the specifier of that P. The generalization we have explained is the following: if, and only if movement to specifier is allowed can movement out of PP occur.

### 3.4.2 Extraction out of PP in English

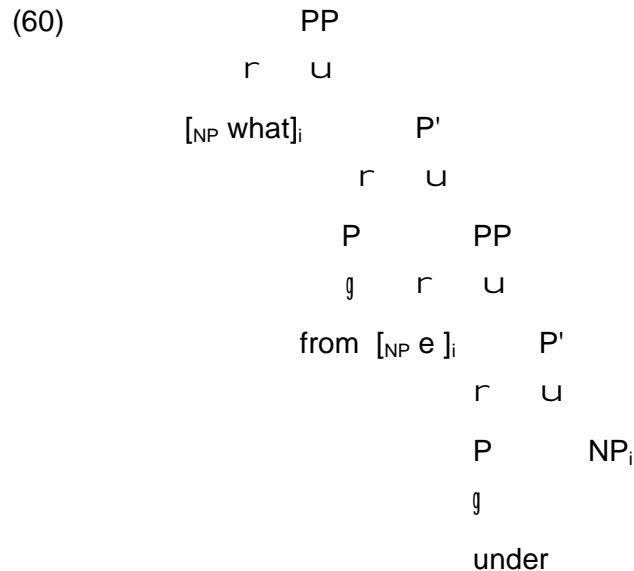
The analysis of extraction out of PPs in Dutch essentially carries over to English with two differences: first, movement of a L-marked NP complement of a P to [spec,PP] is unrestricted; second, no phrase can overtly appear in [spec,PP] with prepositions.<sup>25</sup> We predict the following paradigm:

- (59)
- a. Who did you talk to t
  - b.\* What did you sleep during t
  - c. What did he pull a rabbit from under t
  - d. Where did he pull a rabbit from t
  - e.\* Under what did he pull a rabbit from

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<sup>25</sup>Except if we analyze sluicing constructions *but I don't know who with...* the same way van Riemsdijk does, i.e. with the wh-phrase in the [+R] position. Furthermore, particles do allow a filled specifier as Koopman (1990) shows.

The difference between a and b illustrates the CED: extraction out of a complement is permitted, extraction out of an adjunct is not.<sup>26</sup> This pattern is certainly the core fact. In c, an NP has been extracted from inside a PP (*under what*) itself complement of a P *from*, itself complement of the verb *pull*. This is simply a case of iterated movement to specifier:



movement of the wh-NP is to the specifier of the first PP complement of *from*, followed by movement to the specifier of the second PP, followed by movement out of this higher PP. In the e sentence, the extraction is excluded because a PP cannot appear as specifier of a P. In the d sentence, the NP *where* (=wh-*there*) has been extracted, corresponding to the sentence *He pulled a rabbit from there*. This case is similar to (59a).

The predictions are clear: Extraction of the NP complement of a P is possible if the PP is in a L-marked position. This prediction extends to structure of multiply embedded PPs [P[P[P...[NP]]]], as long as each PP is L-marked by the preceding one.

One question raised is: why is P-stranding not possible in all languages. Obviously, there is an arbitrary property distinguishing P-stranding languages from non-P-stranding languages. One possibility is the following. We qualify the statements made about what can appear in specifier position by the following markedness principle:

<sup>26</sup>Notice incidentally that the CED, and consequently the CCL predicts that stranding of P in [spec,CP] is impossible: If a PP has been moved to [spec,CP], the PP in Comp is not L-marked: the P cannot be stranded there. More on this in section 3.4.5.

- (61) Specifier positions are available only if forced by principles of grammar or by the data available to the language learner.

The existence of these specifier positions do not follow from the Projection Principle: by assumption, since they serve as escape hatch, they are A-bar positions. In English or Dutch or Vata (which also allows P-stranding - cf. Koopman, 1984), learners postulate the possibility of the specifier position in PPs upon hearing P-stranding or upon hearing both NP P and P NP order as in Dutch. In French, no such data is available: P-stranding is impossible. Note further that in English (or presumably Dutch or Vata), there is another kind of direct evidence that specifiers of P can be used, namely particle constructions: as mentioned earlier, Koopman (1990) shows that Particle constructions involve filled specifiers of P. In put John up or put it up, she argues that the NP is in the specifier position of the P(article). The fact that these constructions are extremely frequent and Emonds (1976)'s showing that Particles and Prepositions are the same category provides the evidence needed by the language learner.<sup>27</sup>

### 3.4.3 Extraction out of NP in English

Let us now turn to NPs.<sup>28</sup> The same considerations apply and the same general conclusions follow: movement out of an NP must go through its specifier, and the NP itself must be in a L-marked position.<sup>29</sup>

Consider English first. Clearly, an NP position as specifier is available as shown by *John's book*. Consequently, extraction out of NPs is possible:

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<sup>27</sup>Note that this proposal must be supplemented by a diachronic story: how does P-stranding ever get in a language? We could conjecture that it can arise only in languages undergoing word order changes e.g. from head final to head initial, and in which an intermediate stage has NPs complement of Ps appearing on either side of the P: one of the order becomes analyzed as reflecting a specifier head order.

<sup>28</sup>See Giorgi and Longobardi (1991) who have arrived to conclusions similar to that of this section concerning the fact that extraction from NP in English must proceed through its specifier position. We will argue later on in section 6.2 that this position is not quite correct.

<sup>29</sup>Everything we say could be straightforwardly translated in an analysis postulating the existence of DPs: if it were the case, we would need to assume (i) that D L-marks NP, (ii) that everything we say is in [spec,NP] is either in [spec,NP] or in [spec,DP], See later section 6.2.



- (62)
- a. Who did you see a picture of t
  - b.? Of whom did you see a picture
  - c.?\*Who did you see a picture of a portrait of t
  - d. Who did you talk about t
  - e.?\*Who did you talk about a picture of t

First remember that we do not analyze articles as being in the position specifier of NP. Only NPs can be. The grammaticality of the a and the b sentences suggests that [whom] and [of whom] can be NPs, i.e. that *of* can either be analyzed as a P or marginally, as a Case marker on a NP. In the a sentence the stranding of the P *of* takes place first by movement through its specifier position. From there, movement proceeds to the specifier of NP and then out of the NP. The b sentence is derived the same way by successive movement of the NP [of whom]. The c sentence is an iteration of the same derivation found in the a sentence, and is predicted grammatical, although it is judged worse than the a sentence. The d sentence is a case of P-stranding. The e sentence is an iteration of a different sort: first P-stranding, then extraction out of NP, then P-stranding again. Again, this is predicted grammatical even though it is judged worse than the d sentence. If for some reason, the specifier is unavailable, extraction should be blocked. One reason why the specifier could be unavailable is if it is lexically filled.<sup>30</sup> This prediction is correct:

- (63)
- a.\* Who did you see John's picture of t
  - b.\* Who did you see my pictures of t
  - c.\* Who did you see these pictures of t

In each the specifier position is already occupied, blocking extraction. In the a sentence, it is occupied by a proper name, in the b sentence by a pronominal NP, in the c sentence by a demonstrative NP: the fact that demonstratives block extraction suggests that they should be analyzed as NPs, which they essentially have the distribution of. This is consistent with the fact that they cannot cooccur with full NPs specifiers or possessive pronouns in English.<sup>31</sup> The fact

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<sup>30</sup>There are other reasons to which we will return in some detail later.

<sup>31</sup>We would probably want to relate the change of morphology of demonstratives to the same kind of considerations applied to NPs, i.e. Case.

that demonstratives can cooccur with numerals (these three..) coupled with the fact that there is only one specifier of NP per NP shows that numerals do not occur in the specifier of NP:<sup>32</sup> they should not prevent extraction from NP. The contrast noted in Chomsky (1986) between examples (63) and the examples below follows:

- (64)    a. Who did you see three picture of  
           b. who did you see more pictures of (John or Bill)

Movement of APs in general can only be through successive adjunction as in *How angry did John make his friends* (adjunction to VP, then to IP; then movement to [spec,CP], since movement through specifier is prohibited, except of course for [spec,CP]. Extraction of APs out of NPs should be impossible: from *I met [a man proud of Bill]* we cannot derive *How proud of Bill did you see [ a man t]*.

Finally, we predict again that PP extraction out of NPs should not be possible. Roughly this seems correct (see the discussions in Huang, 1982, Chomsky, 1986, p.80, examples (181)). One case of PP extraction that seems allowed is pied-piping of *of*. As we mentioned above, we can propose that *of* is ambiguously analyzed as a P or marginally as a Case marking affix on the following NP. In the latter case, it is an NP that is in fact extracted.

We are left with the problem illustrated by examples (62c and e): They are predicted fully grammatical but appear deviant: it looks like extraction from an NP inside an NP is deviant (example (62c)) (Chomsky (1973) discusses this paradigm and some possible counterexamples) as well as extraction from an NP inside a PP (example (62e)). However, extraction from a PP inside a PP is possible (example (59c) discussed earlier), as well as extraction from a PP inside an NP (example (62a) or similar examples: *who did you read a book about*). Clearly, this system must be somehow tightened . Call this Problem #1. We leave it unresolved until section 6.

### 3.4.4 Extraction out of NP in French

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<sup>32</sup>Our reanalysis of the extraction out of NP facts in section 6.2 will contradict this. The conclusion will stand, as numerals are not in specifier position but rather heads taking NP complements.

Let now turn to French. In French the facts concerning the availability of [spec,NP] are more complicated and more interesting. The basic facts are well known. They have been discussed in Ruwet (1972), Milner (1978), and Zubizarreta (1979). Preanalytically, they can be described as follows:

- (i) Only pronominal or demonstrative NPs can occur overtly as specifier of NP.<sup>33</sup>
- (ii) A pronominal specifier must correspond to a *de* NP.
- (iii) This *de* NP is either a possessive, an "external" argument or an "internal" argument of the N. Correspondingly we can have:

- (65)     a. Le portrait de ce collectionneur / son portrait (=appartenant a ...)  
           b. Le portrait de Rembrandt / son portrait (=par Rembrandt)  
           c. Le portrait d'Aristote / son portrait (= le dépeignant)

(iv) This correspondence obeys the following rule: the possessive determiner corresponding to the *de* NP can be a possessive if there is one, then an "external" argument if there is no possessive, then an internal argument if there is neither possessive nor external argument. Thus although *son portrait/ his portrait* is three way ambiguous: the portrait I own, the portrait by me and the portrait of me, *son portrait de Jean* is only three ways ambiguous instead of the a priori possible six ways: the portrait I own by Jean, the portrait I own of Jean, the portrait by me of Jean. Given a thematic hierarchy ordered Possessor>External argument>Internal Argument, we have the following generalization:

- (66)     In a structure: [<sub>NP</sub> specifier [<sub>N</sub><sup>1</sup> N [*de*-NP]]] the role of the specifier must always be higher than that of the [*de*-NP].

We offer no account for observation (66) until section 6. Let call the problem of accounting for it problem #2. Instead, let us concentrate on the following observations:

- (67) (i) The possible interpretations of nominal elements extracted out an NP faithfully reflect that of nominal specifiers, and consequently

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<sup>33</sup>This is an informal description: these elements are claimed to occur in specifier position because they are in complementary distribution with articles.

(ii) the presence of a nominal specifier blocks extraction.

This second observation is similar to that found in English: the presence of an overt specifier blocks extraction. The first observation states that in a structure like:

(68)  $NP_i \dots [_{NP} [N \dots [de-NP] \dots t_i \dots]]$

The thematic role of  $NP_i$  must be higher on the hierarchy than the  $[de-NP]$ . This exemplified by two sorts of extraction: *wh*-movement and clitic placement. Concerning *wh*-movement, we observe that the a sentence below:

- (69) a. L'homme dont<sub>i</sub> j'ai vu le portrait t<sub>i</sub>  
the man of whom I saw the portrait  
b. L'homme dont<sub>i</sub> j'ai vu le portrait de Jean t<sub>i</sub>  
The man of whom I saw the portrait of John

is three ways ambiguous. While the b sentence is only three ways ambiguous in exactly the same way as above, instead of the a priori possible six. An explanation of this correlation follows if *wh*-extraction out of NP is through the specifier of the NP: movement to specifier is, for some reason, restricted in the way it is and influence the interpretation of whatever has moved to the specifier position. Naturally, if movement to specifier is blocked, say by the presence of a demonstrative NP, *wh*-extraction out of NP is ruled out. As Longobardi (1987) and especially Giorgi and Longobardi (1991) discuss, the same reasoning applies to Italian.

This account of *wh*-extraction out of NPs extends to the extraction of genitive *en* out of NPs. The facts are exactly the same as in the *wh*-extraction case:

- (70) a. Pierre en<sub>i</sub> a vu le portrait t<sub>i</sub>  
Peter of him saw the portrait  
b. Pierre en<sub>i</sub> a vu le portrait de Jean t<sub>i</sub>  
Peter of him saw the portrait of John

The a sentence is three way ambiguous. The b sentence is also three way ambiguous instead of the a priori possible six. Granting the property (66), the observations in (67) are exactly what we predict: extraction out of NPs must proceed through its specifier position, mirroring the restrictions found on movement to specifier NP internally.

There is however a number of questions that are left unresolved by this account.

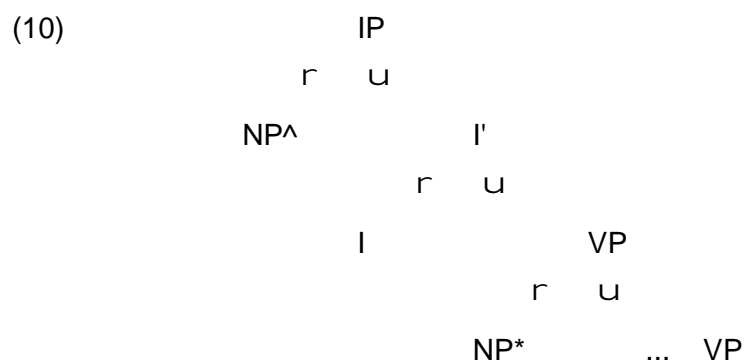
Why is movement to specifier NP-internally incompatible with certain determiners (e.g. a possessive or demonstrative determiner cannot cooccur with it), suggesting they occur in the same position, but movement of the clitic *en* or of a *wh*-phrase allow the article to appear as in (70)? If extraction is through the article position, it should not be able to appear?

How does the movement of the clitic *en* exactly take place?

If *en* extraction proceed as we claim it does, what kind of movement is the movement from its base generated position to the specifier of the NP? We have claimed that this specifier position, as specifier of a lexical category, is an A-position but we will see later in that this conclusion is due to an oversimplification. We will return to these questions in sections 6.

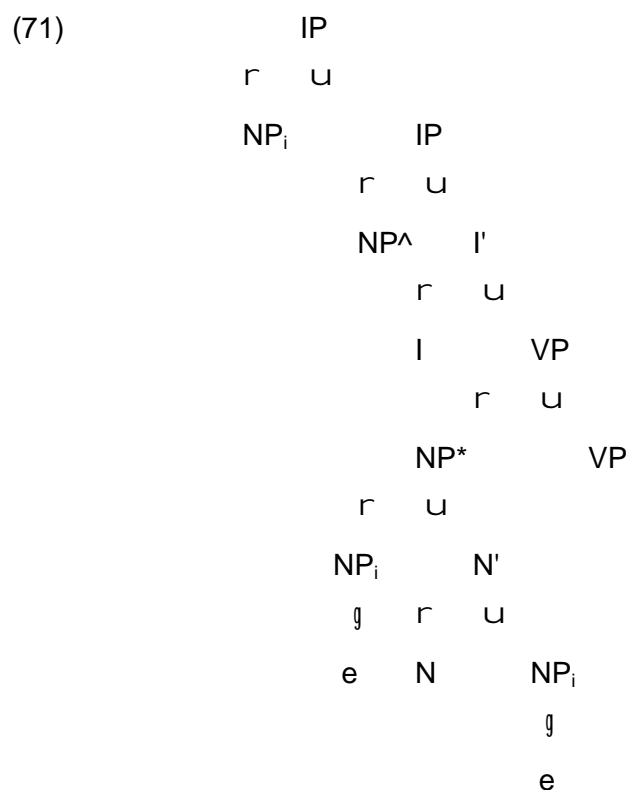
### 3.4.5 Extraction out of Subjects

Consider now the special case of extraction out of subjects. Subjects can be NPs or clausal. Clausal subjects can never occur in an A-position, since A-positions can only be NPs. In particular a clausal subject can never occur in the position specifier of VP, i.e. NP\* of (10) below:



Consequently, a clausal subject is never in a L-marked position and its CP boundary is always a barrier. The sentential subject constraint should be an absolute constraint, i.e. should not be

subject to cross linguistic variation. Consider next the case of NP subject. In English, an NP subject must raise to NP<sup>^</sup> of (10). Call languages requiring such movement Class 1 languages. The same reasoning applies here as the one deriving the subject condition: the subject NP always being in a non L-marked position, the NP boundary will act as barrier blocking extraction. Consider however languages, call them class 2 languages, in which raising from NP\* to NP<sup>^</sup> is not obligatory. Consider further a sentence in which the external argument appears in NP\* (or partly raised out of NP\* but not to NP<sup>^</sup>). Extraction from inside NP\* is not permitted by the system of principles developed thus far:



Some complement NP<sub>i</sub> of the head noun of NP\* can move to [spec,NP\*], then adjoin to IP. However the NP\* boundary is a barrier since NP\* is not an L-marked position. The prediction then is this class of languages should obey the subject condition. Extraction out of subjects is ruled out in all cases.

For English, these conclusions seem correct. For French, another Class 1 language they are not since extraction out of subjects is possible. Conversely, for Class 2 languages, these conclusions seem incorrect regarding the Subject Condition. Extraction from subject in a VSO like Welsh is possible (with the indirect strategy). Extraction from subject in Chinese, plausibly

a class 2 language, seems possible (cf. Huang, 1982). Extraction from preverbal subject in Italian is marginally possible, while extraction from postverbal subject (a Class 2 situation) is possible (Cinque, 1980).

In order to accommodate these facts we need to revise our notion of barrier to permit the specifier of an L-marked category to sometimes count as L-marked. This would remove the barrier status of NP\* in (71) but would not affect that of NP<sup>Λ</sup>, since IP is not L-marked.<sup>34</sup> To accommodate the Welsh/Chinese-like facts, we modify barrierhood:

(72) Barrierhood

Given **B** some constituent, and Y some category with  $B \neq Y^n$ :  
if for some p, YP is not a L-dependent position and includes **B**  
then YP is a barrier for B

where we tentatively define L-dependence as:

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<sup>34</sup>This modification actually permits a slightly different account of the difference between Class 2 languages and Class 1 languages. We no longer need to attribute the different behavior of subjects in Class 2 languages to total lack of raising from the Position NP\*. There is mounting evidence that the structure of clauses is more complex than had been previously thought. There might be projections to phrasal level for C, Neg, AGR-S, Tense, Aspect,... each taking the following as complement (for concreteness, let us say in this order). Assuming each L-marks its complement except for C, all the specifiers will count as L-dependent, except the specifier of the category complement of C: call this position NP&. We can now change the characterization of the difference between Class 1 and Class 2 languages from (i) to (ii):

(i) Old version: In Class 2 languages raising from NP\* is optional, In class 1 languages, raising is obligatory.

(ii) Modified version: In Class 1 languages, raising to NP<sup>Λ</sup> is obligatory, in class 2 languages, it is optional.

In other words, we are no longer committed to the view that Class 2 characteristics are found whenever NP\* does not raise at all. It may raise, but not all the way to NP&. Further discussion of these issues can be found in Koopman and Sportiche (1990).

(73) L-dependence:

An XP is L-dependent if it is L-marked, or if it is  
[spec,XP]<sub>P</sub> of a L-marked XP<sup>35</sup>

Where a [specifier]<sub>P</sub> is a specifier with property P. The need for requiring an additional property P arises from the following type of examples. Consider P-stranding in [spec,CP] as in:

(74) \*Who<sub>i</sub> do you think [<sub>CP</sub> [<sub>PP</sub> with t<sub>j</sub>]<sub>k</sub> [John talked t<sub>k</sub>]]

The PP is preposed in the embedded clause. There, as specifier of CP, it is L-dependent. P should be strandable. It might be argued that some sort of necessary reanalysis is involved in P-stranding, which is possible with *talk-with* but not with *think-with*. However, the same point can be made with the clitic *en* in French:

- (75) a. Tu as vu quel film d'Almodovar  
you saw which movie by Almodovar  
b. Tu en<sub>i</sub> as vu [quel film t<sub>j</sub>]  
you by-him-saw which movie  
c. \*Tu en<sub>i</sub> demandes [ [quel film t<sub>j</sub>]<sub>k</sub> [il a vu t<sub>k</sub>]]

The object NP is preposed by wh-movement in the embedded clause. The NP is L-dependent, so no barrier intervenes between t<sub>j</sub> and the verb: clitic placement should be possible, contrary to fact. The same point can be made in NPs.

- (76) a. Who did you visit [friends of t]  
b. \*Who did you visit [ [friends of t] parents]

If any specifier of an L-marked specifier can count as L-dependent, unacceptable extractions will be allowed. Some qualification then must be added, that restricts the kind of specifiers that can become L-dependent. Assuming that NP\* in (71) has property P, the Welsh facts are

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<sup>35</sup>Notice that this definition is not recursive, so that it rules out extraction from the specifier of the specifier of a L-marked category. Recursivity can be introduced, if necessary, by changing "specifier of XP" to "specifier of an L-dependent XP".



accommodated. So we need to distinguish such cases as NP\* in (71) from [spec,CP] as in (74) and (75c) and [spec,NP] as in (76). One obvious candidate is the A/A-bar distinction. If we take P to mean that the position must be an A-position, we draw the required distinction. Of course, this means that [spec,NP] has to count as an A-bar position.<sup>36</sup> This is what we will assume now so that we can define L-dependence as:

(77) L-dependence:

An XP is L-dependent if it is L-marked, or if it is  
[spec,XP] of a L-marked XP and an A-position<sup>37</sup>

The prediction that the subject condition should hold in languages in which NP\* must raise to NP<sup>Λ</sup> holds in English. In French, the subject condition should hold as well. But it seems it does not:

- (78) a. La ville dont le général a ordonné [la destruction t ]  
The city of which the general ordered the destruction  
b. La ville dont [la destruction t ] serait entreprise  
The city of which the destruction would be undertaken

The relative pronoun *dont* is interpreted as a genitive complement of the head noun destruction. In the a sentence, this relative pronoun has been extracted from inside a direct object NP. In the b sentence, it has been successfully extracted from a subject NP, thus violating the subject condition. *Dont* can only be used as a relative pronoun. In direct or indirect questions, the extraction of the genitive complement of noun can take place by using *de*

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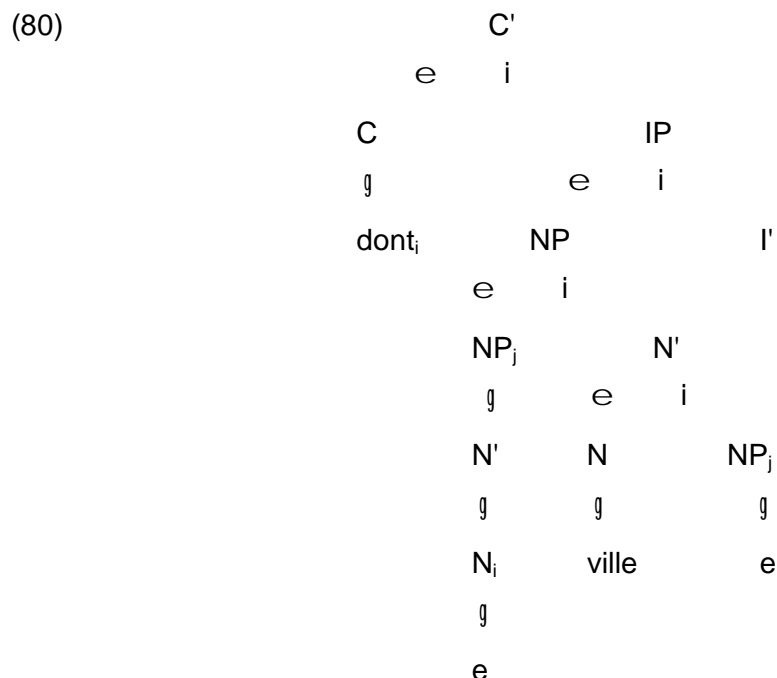
<sup>36</sup>Szabolcsi (1983) suggests that nominal constituents have a [spec,CP] escape hatch similar to that found in clauses which then makes sense of the idea that the highest specifier position within NP is an A-bar position. Probably, this can be made sense of more readily if we were talking about DPs throughout. cf. section 6. Note that this in general will not have adverse effects since A-movement from within NPs is usually impossible (unless some head movement takes place that makes the highest NP boundary transparent, cf. the discussion in 5.4.3.2).

<sup>37</sup>Notice that this definition is not recursive, so that it rules out extraction from the specifier of the specifier of a L-marked category. Recursivity can be introduced, if necessary, by changing "specifier of XP" to "specifier of an L-dependent XP".

*wh-NP*, i.e. a *wh-NP* preceded by the Case marker *de*. The surprising fact, however, is that the subject condition cannot be violated in that case:

- (79) a. La ville de laquelle le général avait ordonné la destruction  
           the city of which the general had ordered the destruction  
       b. \* La ville de laquelle la destruction serait entreprise  
           the city of which the destruction would be undertaken

The second example is deviant. We now have a double problem: why can the subject condition be violated in French; what is the difference between (78b) and (79b). The unacceptability of the latter follows if the subject condition does hold in French as expected, because the subject condition is intended to prohibit phrasal movement only from inside a subject. Remark that in (78b), the extracted *wh*-element is monomorphemic. I want to suggest that *wh*-movement of *dont* involves movement of *dont* to C, instead of (or in addition to) movement of a *wh*-phrase to [spec,CP]. Suppose that *dont* is a clitic and, as such must cliticize locally on a superordinate functional category, here C. The derivation would proceed as:



the genitive object NP<sub>j</sub> moves to the specifier of the subject NP. There, the head N<sub>i</sub> of this derived specifier cliticizes to C (alternatively NP<sub>j</sub> first adjoins to IP, crossing a barrier, whence

*dont* cliticizes to C). This should be blocked however because IP and the subject NP are barriers. *Dont* being a N, now governs IP. If this counts as L-marking, it will remove the barrier status of IP, and by L-dependence, of the subject NP: this will, a posteriori, license the cliticization (or the adjunction to IP).

This analysis predicts that *dont* constructions should be excluded from contexts in which a wh-operator is actually selected, e.g. in direct or indirect questions, since *dont* constructions involve none. It is permitted in relative clauses precisely because they are modifiers. However, it is also predicted that *dont* constructions can license violations of the subject condition only locally:

(81) Un homme dont on croit que [<sub>NP\*</sub> le fils] réussira

*dont* raises to the upper C first by wh-movement ending in adjunction to the upper IP, followed by cliticization: the lower IP, hence the lower subject is not L-dependent and should not be able to contain a trace. Extraction in (81) should not be from NP\*. This is precisely what is shown by Tellier (1990), who argues for a similar idea for *dont* extraction.

A more serious problem arises in English sentences like (76a). It must be assumed that I to C of *do* or any other auxiliary verb is not able to induce L-dependency of the subject of IP in the same *dont* does. Otherwise, (76a) should be good.

### 3.5 NP-movement

We now examine NP-movement. By definition, NP-movement is movement from an A-position to an A-position. Consequently, intermediate adjunctions are excluded. Recall the characterization of barrierhood and intervention we have adopted:

(82) Barrierhood

Given **B** some constituent, and Y some category with  $\mathbf{B} \neq Y^n$ :

if for some p, YP is not a L-dependent and includes **B**

then YP is a barrier for B

(32) Intervention

A projection  $Y^P$  **intervenes** between **a** and **b** if  
**a** is excluded by  $Y^P$  and **b** is included in  $Y^P$

This implies that the only way to escape an XP by NP-movement is to move through its specifier position and to have XP L-dependent.

For example, in order to escape VP, movement must proceed through its specifier, i.e. through NP\*. The general rule we derive for NP-movement, then, is this:

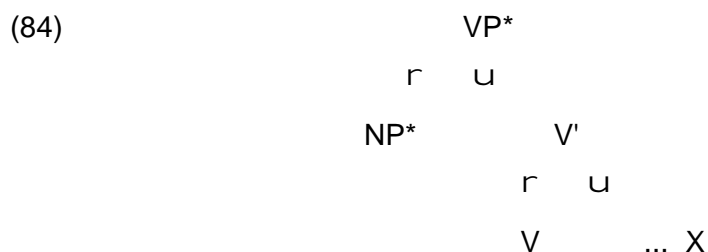
(83) NP movement out of the highest projection of X present in a structure  
must transit through the specifier of this highest projection

Naturally there are other conditions on NP-movement (distribution of the Case positions and theta positions in the chain - cf. Sportiche, 1983 for example, perhaps the Uniformity Condition of Chomsky, 1986a).

Let us examine the consequences of (83) for passive and raising constructions.

### 3.5.1 Passive

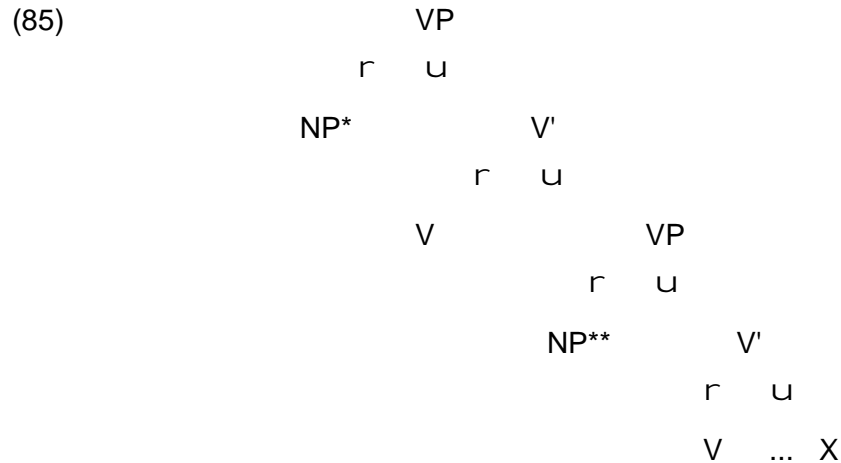
Assume X is an NP<sup>38</sup> governed by a verb V with passive morphology. X must move for reasons of Case. Where can it move to? In order to get Case, it must escape the V projection. The only way it can do so is by moving through all the specifiers of the phrasal projections containing it:



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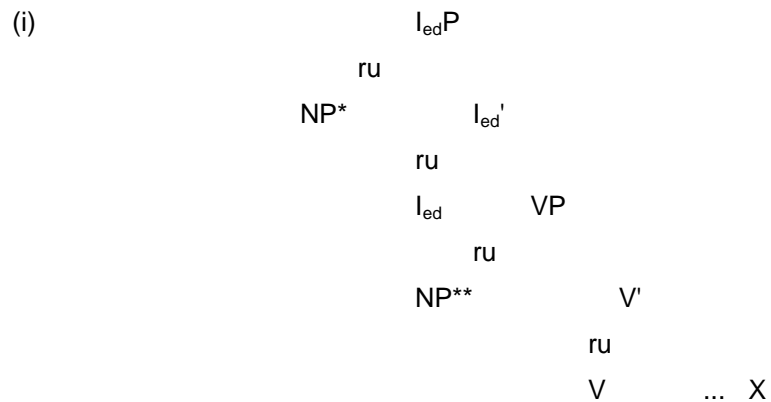
<sup>38</sup>Assume X is distinct from PRO. PRO works the same way but for government reasons instead of Case reasons.

Since V is passive, ( I will assume here that) it projects no external argument so that VP\* is the maximal projection of V and X must move through NP\*. If this position receives Case, nothing further need take place. Otherwise, raising must proceed to the specifier of IP.<sup>39</sup> Can an object NP be passivized over a subject? Suppose VP has an external argument: the structure in (84) would be changed to contain the substructure:




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<sup>39</sup>Probably, the internal structure of a passive VP is more complicated:



with I<sub>ed</sub> the passive morphology. To simplify the exposition, I assume the verb V projects no external argument and raise to I<sub>ed</sub>, (which absorbs the external theta role of V as suggested by Jaeggli (1986), Baker, Johnson and Roberts (1989)).

As above, movement must proceed through NP\*. However, NP\* is a theta position and NP movement to a theta position is excluded (by the projection principle and the theta criterion). Basically, this derives the effects of Principle A of the Binding theory as it applies to NP-movement traces created by passive (and similar constructions: unaccusatives...). In effect, it reduces these binding theoretic effects to theta theoretic effects.

There is one particular case to examine in more detail: NP-movement with ECM verbs.

Consider the following sentence:

- (86)
- a. I believe [John to have left]
  - b. John is believed [ t to have left]
  - c. Who do you believe [ John to have seen t]

*John* in [spec,IP] is somehow governed by *believe* since it receives Accusative Case like a direct object. This means that IP is governed by the ECM verb (either because the ECM verb case marks *John* under government, or because *John* raises out of IP to get Case higher in the structure so that IP cannot be a barrier). One way to construe this is to claim that ECM verbs exceptionally take IP complements. In this case, IP is not a barrier for a category moving out of its specifier, as required by the b sentence, since NP-movement does not allow intermediate adjunctions. Wh-movement out of this IP being possible (the c sentence), it proceeds through adjunction to IP. This is necessary because extraction out of this IP comes in fact from within I': IP should count as a barrier. The possibility of adjoining to IP makes the absence of a CP unproblematic.

One alternative is to assume that the exceptional property of ECM verbs is: *The projections of C of a CP complement of an ECM verb are not barriers*. this will have all the desired effects.<sup>40</sup>

From now on, we assume one or the other alternative for the class of "S-bar deletion" verbs.

### 3.5.2 Raising

Basically, the derivation is the same as in the passive case. Movement proceeds from the embedded NP\* to the embedded NP^, that is from the highest specifier of VP to the specifier

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<sup>40</sup>Note the difficulty of claiming that *John* is in fact specifier of CP: if present, the specifier of CP must be available for wh-movement.

of IP. From there, it must move to the matrix NP\*, which is possible only if the matrix VP does not have an external argument and the embedded CP boundary is transparent or absent. The case of raising adjectives is very similar:

- (87)
- a. I consider [John likely to leave]
  - b. John is likely to leave
  - c. [<sub>AP</sub> John<sub>i</sub> [<sub>A'</sub> likely [<sub>IP</sub> t<sub>i</sub> to leave]]]]

Inside the embedded IP, *John* raises as usual. From there it escapes IP in a way similar to that of ECM verbs and must move to [spec,AP]. This is the derivation of the a sentence. For the b sentence, the last step above might be replaced by movement to [spec,AP] (If AP do not necessarily have a subject). From there movement proceeds like in the passive case. Note that it is crucial to assume that the verb *be* L-marks its complement just like INFL does it's.

### 3.5.3 Super raising and Lasnik's examples

The impossibility of super raising, or of Lasnik's (1985) examples illustrated in (88) minimally falls out from the CCL:

- (88)
- a. John<sub>i</sub> seems [that it was killed t<sub>i</sub>]
  - b. John<sub>i</sub> seems [that it appeared [t<sub>i</sub> to be intelligent]]
  - c. A man<sub>i</sub> seems [there to be killed t<sub>i</sub>]
  - d. John<sub>i</sub> is believed [ that he<sub>i</sub> likes t<sub>i</sub>]

The first three examples are examples of super raising (the last two discussed in Chomsky, 1986). In each case, movement is blocked by CCL: in the a and b sentences, the presence of the C projection forces movement through [spec,CP], an A-bar position: they reduce to a case of improper movement. In the c sentence, movement is blocked by the presence of *there* in [spec,IP], which is an obligatory intermediate position.

Example d is due to Lasnik (op. cit.). As formulated so far, the CCL does not require that the antecedent governor of a trace is actually the moved phrase or one of its traces. This example requires some modification. One possibility is to strictly restrict antecedent government

satisfaction to the members of a single chain. As *he* in d does not belong to the same chain as *t<sub>i</sub>*, it does qualify. Another possibility is to allow *he* to act as antecedent governor but to require that it too be somehow antecedent governed. Since the only possible antecedent governor for *he* would be *John*, sentence d would be excluded. At this point, either alternative would work. The former is conceptually simpler and more natural. We return to further discussion in section 5.4.3.

The solution explored by Lasnik in terms of a condition requiring adjacent elements in a chain to be in a local binding relation (discussed in Chomsky, 1981, Rizzi, 1986 and Sportiche, 1983) is stronger than the CCL. The CCL construed as a condition on chain formation, does not require anything beyond what is necessary to handle the usual constraints on movement. Secondly, it does not require the relation of antecedent government to be a relation of local binding. As noted by Lasnik, the local binding condition creates problems precisely when an intervening local binder is not a subject (the *seem* cases, possibly the *strike* cases, cf. Lasnik, op. cit.). Our approach does not have these problems. Given the result of the text, chains can be formed freely subject to the CCL.<sup>41</sup>

#### 4. Specifiers, Clitics and Agreement

We now turn to the syntax of Clitics in French and its relation to participle agreement. The basic investigation tool we use is the theory of movement rules we have developed and justified so far. This will force an analysis of Clitic placement in terms of a combination of NP-movement, wh-movement and head movement. This view of movement interacts with participle agreement, in that it basically derives the analysis of clitic-participle agreement that Kayne (1985,1989) originally suggested and that we adopt: the theory of movement outlined so far thus provides a reason why Kayne's approach is correct. Not all of the participle agreement pattern is immediately derived. We extend this analysis to cases of subject/participle agreement found in passive, unaccusative and *se* constructions, leaving a number of problems unsolved which we address in the next section.

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<sup>41</sup>The motivations provided by Rizzi (1982a) for a Locality Condition on chain formation can probably be gotten around. Rizzi's central motivation is discussed later in 4.3.3, where we return to these issues.



## 4.1 Movement of Clitics

### 4.1.1 background

There are three fundamental assumptions I make about the analysis of the clitic element I discuss here.<sup>42</sup>

The first assumption is that a Clitic element in French syntactically binds a silent category in argument position. The main reason is that constructions in which clitics appear are also constructions in which a lexical NP can appear instead of the clitic. But the clitic appear on a category that may have no lexical relation with the category assigning the full NP its semantic function. There are two clear cases: (i) Clitic climbing in causatives: a clitic may appear on the causative verb while it is an argument of some embedded verb. (ii) Small clause constructions: A clitic may appear on a verb even though it is the argument of a predicate embedded under that verb. The most obvious case and the least controversial case is a third case: in a simple clause with (aspectual auxiliaries) a clitic argument of some verb always appear on the highest auxiliary verb in that clause. Consequently, the distribution of clitics could not be construed solely as the result of some intransitivization process.

The second assumption I am making is that this relation between the clitic and its associated silent category is a movement relation. Here, reasons are more complex. The strongest empirical argument I know in favor of this position is based on the agreement facts we will discuss later.

The third assumption I am making, which I hinted at earlier on, is that, following Kayne (1989a), clitics are heads adjoined to their hosts. I find the reasons Kayne gives compelling (and the analysis of clitics as moved heads is the only one making sense of the otherwise desirable movement analysis of clitic placement). Let me repeat these reasons:

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<sup>42</sup>which excludes ethical dative clitic constructions and inalienable clitic constructions, cf. Kayne, 1975.

- (89)
- i. a clitic is one word long
  - ii. a clitic never bears stress
  - iii. a clitic cannot be coordinated
  - iv. Nothing can intervene between a clitic and its host (except other clitics)
  - v. Syntactic processes affecting heads (movement, ...) can affect the host and the clitic as well.

For example, this last point is illustrated by the complex inversion construction. The complex inversion construction illustrated below in (90) is only available in root clauses, and has therefore been analyzed by Kayne (1984) and Rizzi and Roberts (1989) as involving Verb movement to Comp. The a example illustrates this construction without object clitic, the b example with object clitic:

- (90)
- a. [<sub>CP</sub> Jean<sub>i</sub> [ aurait<sub>j</sub>-il [<sub>IP</sub> t<sub>i</sub> [ t<sub>j</sub> [<sub>VP</sub> connu Pierre ]]]]]  
 Would John have known Peter?
  - b. [<sub>CP</sub> Jean<sub>i</sub> [ l'<sub>k</sub> aurait<sub>j</sub>-il [<sub>IP</sub> t<sub>i</sub> [ t<sub>j</sub> [<sub>VP</sub> connu t<sub>k</sub> ]]]]]  
 Would John have known him?

In the a sentence, the aspectual verb has raised from I to C. In the b sentence, the derivation is similar except for the fact that the direct object clitic must appear in C.

As a final preliminary note on clitics, I will follow Kayne (1990) in assuming that clitics in French must adjoin to some functional category. As far as we are concerned this category will always be I(inflection) (i.e. either Tense, or some other inflectional affix the verb has raised to).

#### 4.1.2 Clitics object of verbs

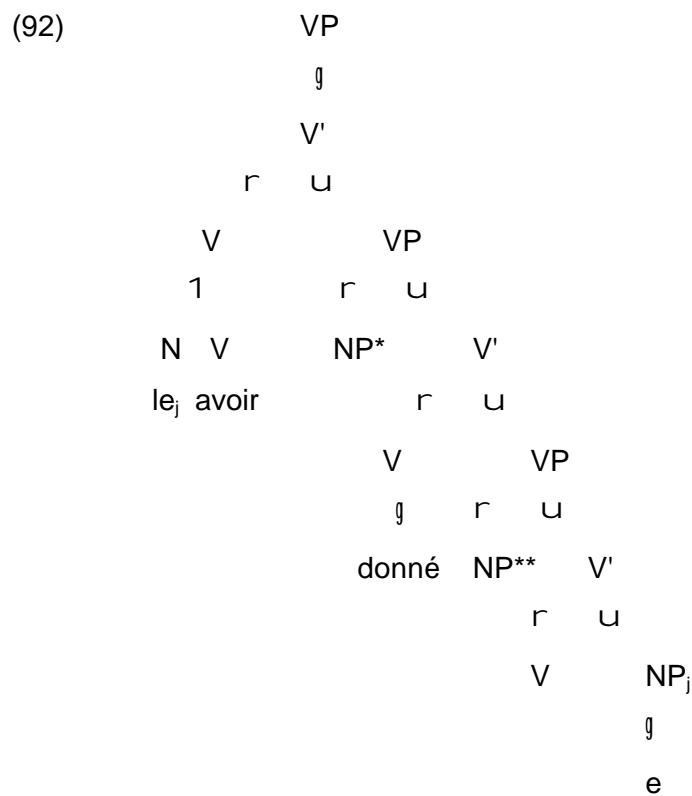
Begin with objects of verbs. An object of a verb can cliticize onto INFL. What kind of derivation is permitted by the theory of movement presented so far?

Consider the following examples:

- (91)
- a. avoir donné le chapeau à la femme  
have given the hat to the woman
  - b.  $l_i$ ' avoir donné  $t_i$  à la femme  
it-have given to the woman
  - c.  $lui_j$  avoir donné le chapeau  $t_j$   
her have given the hat
  - d.  $le_i$   $lui_j$  avoir donné  $t_i$   $t_j$   
it-her-have given

They exemplify the case of a direct object (accusative) pronoun and of an indirect object (dative) pronoun cliticizing on the aspectual auxiliary.

Consider the derived structure of (91b) for example.<sup>43</sup>



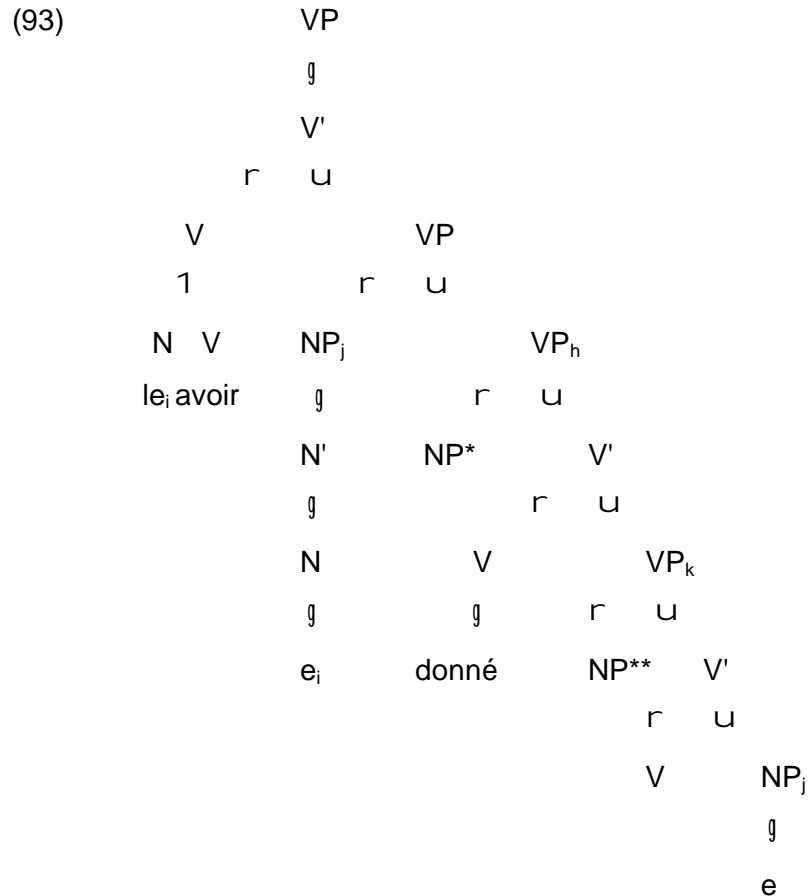
<sup>43</sup>I am ignoring here the fact that the aspectual auxiliary and the verb might each be raising to their affix. so that the derivation has the same properties but is in fact deeper than we represent it.

The clitic ends up adjoined to the aspectual V, coming from the object position of the main V. We are not trying to derive why the clitic ends up there but rather given that it does how the derivation proceeds. Recall that there are exactly three ways to escape an XP: (i) by being the head of XP, (ii) by adjoining to XP if possible, (iii) by moving to [spec,XP] if XP is not a barrier. We observe that the clitic escapes VP. Can the clitic count as the head of VP? One possibility might to first adjoin the Clitic N to the main V, and then to adjoin it to the aspectual V, i.e. proceed by successive head adjunction. This is ruled out: after having adjoined to the main V, the clitic is part of the structure [<sub>V</sub> [<sub>N</sub> CL ] [<sub>V</sub> V ]]. The clitic N cannot count as the head of VP: the CCL rules this kind of derivation out.<sup>44</sup>

We are lead to conclude that the clitic therefore escapes either by adjunction to VP or through [spec,VP] as shown below:

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<sup>44</sup>Clearly, the adjoined structure N+V does count as the head of VP and should be able to move out. This is exemplified in V to I picking up Tense. The inflected V can then move on to C. In the structure N+V, does V also count as the head of VP? The answer would seem to be positive. Given that heads can freely move out of their projections, it should be able to move out of VP, leaving N stranded behind. Of course, in the case of clitics, this derivation would not yield the required result. A complete theory should explain why this option is not exercised. Here we are trying to account for the path of movement, given the result. In other cases of X+V, it can be shown that V can move leaving some head X that had adjoined to it behind. Such cases arise in the Dutch verbal complex (*...op te willen bellen..*), Koopman, class lectures, 1990.



The object either raises to NP\*\* or /and adjoins to VP<sub>k</sub>. Then it must adjoin to VP<sub>h</sub> since NP\*, being a theta position, is not available. From there the clitic N adjoins to the aspectual V. Thus Clitic placement is seen as a combination of head movement, wh-movement (adjunction to VP) and NP-movement (movement to [spec,VP]). This kind of derivation is of course available for any kind of clitic dependent on a verb originating in VP: accusative objects, dative indirect objects, locatives...

### 4.1.3 Clitic object of a Noun

#### 4.1.3.1 General Considerations

Nouns can take the whole range of categories as complements, and as far as NP's are concerned, NPs with varying Cases. Clitics can only correspond to a genitive dependent of the

head noun and take the form of *en*.<sup>45</sup> As we have seen in sections 3.4.3 and 3.4.4, extraction out of an NP must proceed through [Spec,NP]. The fact that only genitive dependent can cliticize outside will follow from:

(94) Only genitives can move to [spec,NP]

Let us call the problem of accounting for it problem #3 to which we will return in section 6. Turn now to the properties of clitic *en*. As pointed out, the fact that *en* extractions out of NP's follow the pattern of wh-extraction out of NP's confirms that extraction of *en* out of NP must proceed through the specifier of this NP. We get the pattern:

- (95) a. Pierre  $en_i$  a vu le portrait  $t_i$   
           Peter of him saw the portrait  
       b. Pierre  $en_i$  a vu le portrait de Jean  $t_i$   
           Peter of him saw the portrait of John  
       c. \*Pierre  $en_i$  a vu mon portrait  $t_i$

The a sentence is three way ambiguous. The b sentence is also three way ambiguous instead of the a priori possible six. The c sentence is impossible. Just as in the case of wh-movement out of NP, the only extractable item is the one that can be possessivized, i.e. moved to specifier position. Remember that a noun can take as complement several *de*-NP. If it takes only one, this *de*-NP can be possessivized. If it takes several, only one of them can according to the hierarchy discussed in section 3.4.4.

#### 4.1.3.2 Genitive *en*

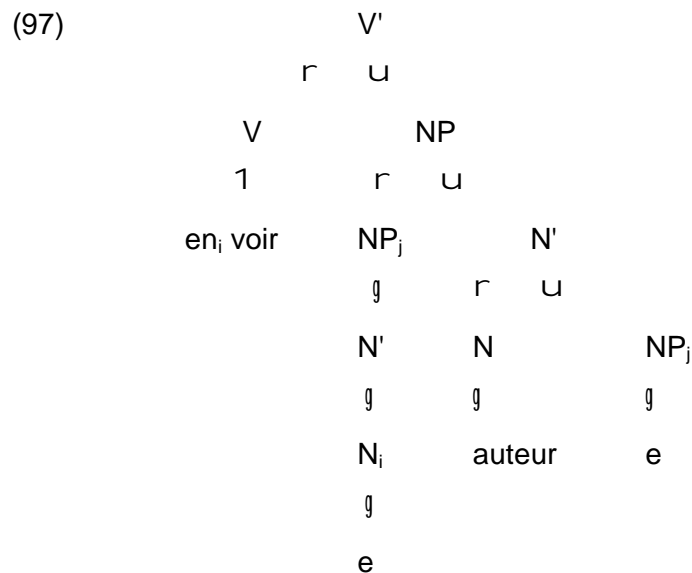
Since *en* is a clitic, cliticizing on a verb, we are forced to analyze it as a head. This means that, at some point, movement of *en* is head movement. Consider first the concrete case of *en* clitic on an infinitive verb:

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<sup>45</sup>A dative of inalienable possession is not placed by movement from within the NP as it does not obey the constraints on movement.

- (96) a. voir [l'auteur de ce livre]  
           see the author of this book  
       b. en<sub>i</sub> voir [l'auteur t<sub>i</sub>]  
           it-see the author (of)

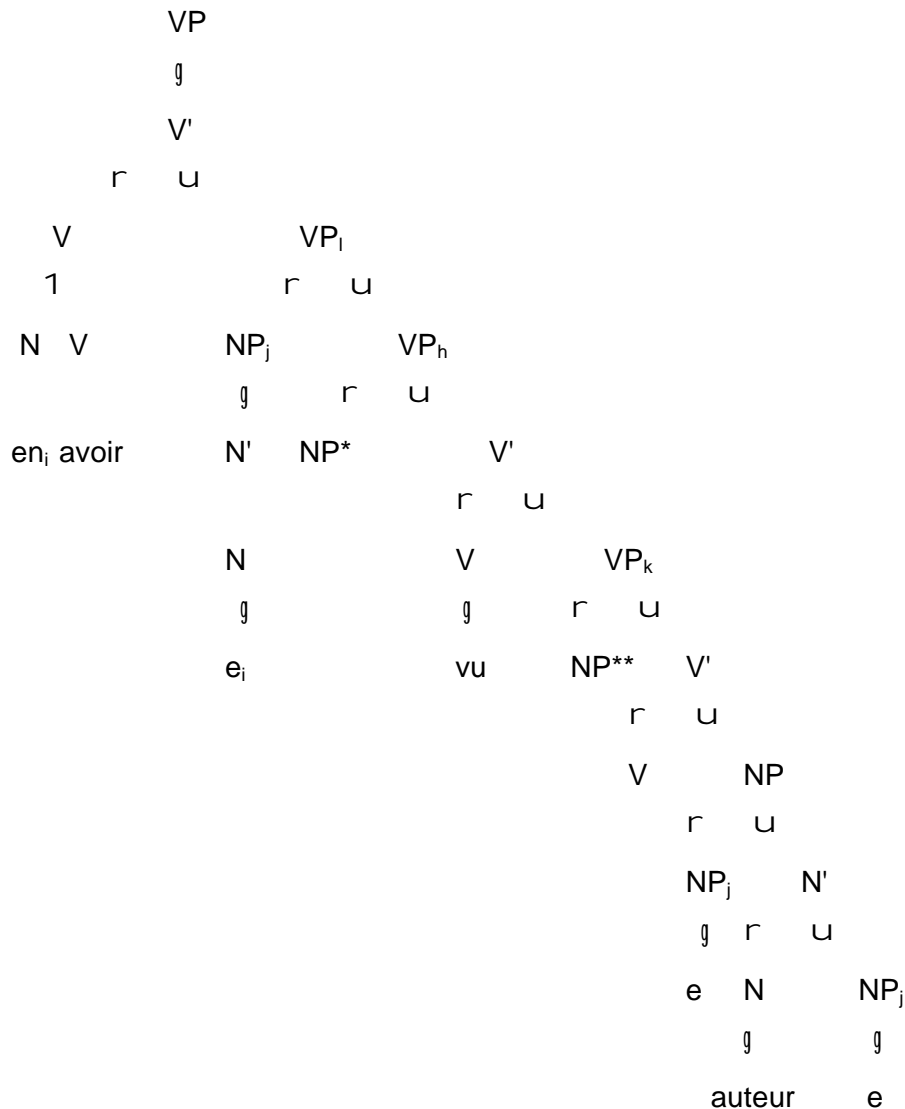
We see that the only possible derivation is similar to the one we have for extraction of *dont* out of subject position in section 3.4.5 and similar to the one we discussed for clitics object of verbs. Ignoring verb raising to its infinitive morphology, we have:



The pronominal object moves first to [spec,NP]. From there, the head *en* of the derived specifier adjoins to the verb. If we take into account the raising of V to its morphology (*I*<sub>inf</sub> taking VP complement), an additional step would be involved moving NP<sub>i</sub> from [spec,NP] to a position adjoined to the VP, where it would incorporate to V+*I*<sub>inf</sub>.

Consider now a more complicated case:

(98)  $en_i$  avoir vu [ $l'$ auteur  $t_i$ ]



French clitics cliticize onto the highest verb of their clause. The derivation must proceed as follows. NP<sub>j</sub>, the object of the N, moves to [spec,NP] just as above. From there, the derivation proceeds as in (93). Remark that this derivation, the only one possible, is possible only under the assumption that head movement of some head H is not blocked by HP if HP is not L-marked, since head movement in (98) is from the head position of an NP adjoined to VP, i.e. from an NP position which is not L-marked. This goes back to the discussion about how to properly constrain head movement in section: i-command is, of course, compatible with this derivation. Here the noun incorporates from the position adjoined to VP<sub>i</sub>, which is not L-marked.



Notice incidentally, and this will become relevant when we discuss agreement that  $NP_j$  could in principle have moved through the  $[spec, VP_k]$  position.

## 4.2 Object Agreement

In this section, we discuss French object agreement. Basically, I adopt Kayne's (1985, 1989) central insight that object/participle agreement obtains in the same structural configuration as, *mutatis mutandis*, subject/verb agreement. I show that Kayne's analysis follows from the assumptions made so far, lending further support for the theory of movement presented in earlier sections.

Some facts, for which no explanatory account has ever been provided, will not however. In particular we will propose an account of the restrictions on the kind of object that can trigger agreement, and will suggest that the consequent theoretical elaboration concerning the syntax of VP is totally paralleled in the internal syntax of NP and the syntax of extraction out of NP.

### 4.2.1 Analysis: First Pass

#### 4.2.1.1 The Pattern of Agreement

Consider the following examples of participle Object Agreement in French:

- (99)
- a. ...avoir décrit / (\*décrite) la robe à la femme  
to have given the dress to the woman
  - b. ...l<sub>i</sub>'avoir décrit/décrite t<sub>i</sub> à la femme
  - c. ...lui<sub>j</sub> avoir décrit /(\*décrite) la robe t<sub>j</sub>
  - d. ...la<sub>i</sub> lui<sub>j</sub> avoir décrite/décrit t<sub>i</sub> t<sub>j</sub>

The relevant facts are as follows. Objects following the participle do not trigger agreement. . French spelling records gender and number agreement on the participle, but never person agreement. Here and after, we only investigate object agreement in gender with feminine objects. This agreement is indicated in the spelling with the feminine affix **e** and is audible only with well chosen participles. Both a direct object (accusative) pronoun and an indirect object

(dative) pronoun can cliticize cliticization of the direct object can (in my judgment, does not have to) trigger agreement on the past participle. The indirect object on the other hand cannot trigger agreement.

The same facts hold with other object preposing processes such as wh-movement with similar properties:

- (100) L'écharpe que tu as offert(e) t....  
The scarf(fem) that you have given(fem) t...

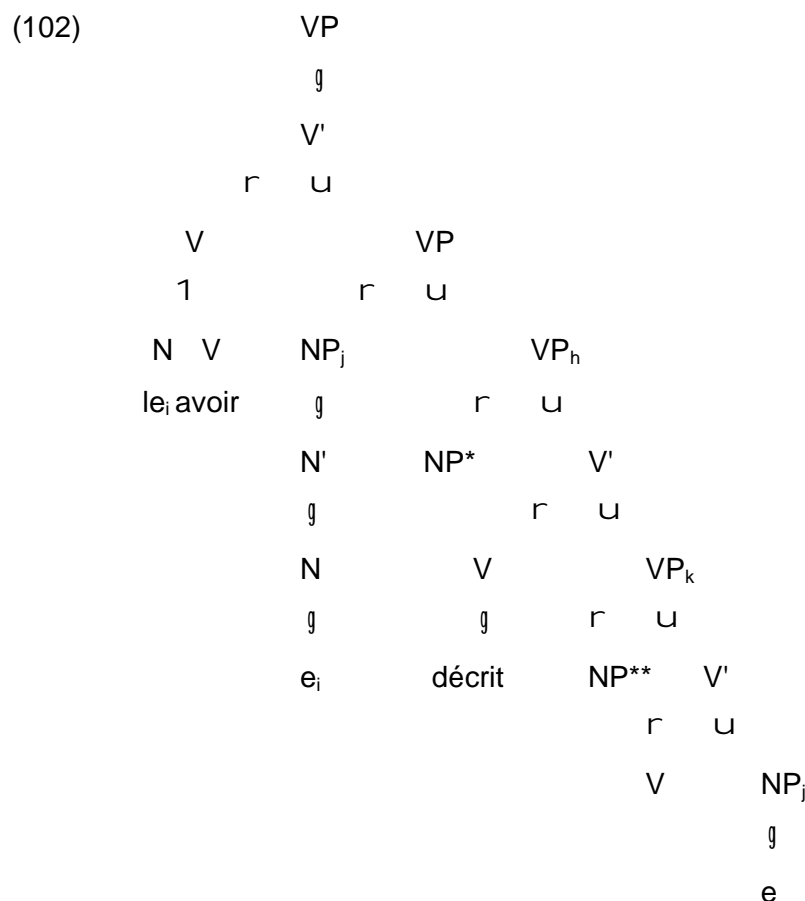
These properties of participle agreement raise the following questions:

- (101) a. Why is Participle agreement only possible with certain objects  
b. Why must objects triggering agreement precede the participle  
c. Why is agreement optional.

The answer to the last two questions is fairly straightforward as we will see below. The answer to the first one however, will require some substantial modification of our view of the internal structure of VPs, NPs and other argument taking heads.

#### 4.2.1.2 Preliminary Analysis

We now go through a first rough analysis of object agreement, which we will refine later. We have discussed earlier how clitic placement must proceed. Consider for example the derivation of (99b):



Consider the movement of the direct object NP<sub>j</sub>. There are two possible derivations in order to escape VP<sub>k</sub>: (i) it can adjoin to VP<sub>k</sub> then move out. (ii) it can first move to the position [spec,VP<sub>k</sub>] then move out (perhaps by adjoining to VP<sub>k</sub>).

This provides answers to the questions (101b,c). First, only objects preceding the participle can trigger agreement with it because they must have a chance to be in [spec,VP] position in order to trigger agreement with V. This is the spirit, if not the letter of Kayne's (1989) answer to question (101b). Secondly, agreement is optional because the [Spec,VP<sub>k</sub>] position is not an obligatory intermediate position for object preposing. If the first derivation is chosen, no agreement will occur. Naturally the same account extends to the wh-movement case exemplified in (100).

A number of further questions arise: first, the account of the optionality of agreement holds only if we can show that an adjunction to VP<sub>k</sub> cannot trigger agreement. Otherwise, given that agreement is obligatory in the structural configurations in which it can hold, we would lose our account. We show that participle cannot agree with adjoined positions below in section 4.2.1.3.

Secondly, nothing so far prevents the same exact derivations to be applied to the cliticization of the indirect object. If both derivations are available, we would expect it to be able to trigger agreement. This is the problem raised by question (101a). One way to answer it is to somehow prevent the indirect object from transiting through [spec,VP]. Then, only the adjunction derivation is available, which as we will see, does not trigger agreement.

#### 4.2.1.3 The A/A-bar status of the Object Agreement Position

The following facts, attributed by Kayne (1989) to N. Ruwet show that adjunction to VP cannot trigger agreement:

- (103)
- a. une femme<sub>i</sub> qu'on a dit(**e**) [<sub>AP</sub> t<sub>i</sub> belle ]  
a woman that we said beautiful
  - b. une femme<sub>i</sub> qu'on a dit(**\*e**) [<sub>CP</sub> être belle  
a woman that we said to be beautiful
  - c. une femme qu'on a dit(**\*e**) [<sub>CP</sub> que tu a vu(**e**)  
a woman that we said that you saw

In the a sentence, the subject of the AP receives accusative Case from the verb *dire*. Consequently, it must count as governed by V. No barrier prevents it from moving to the specifier position of the VP headed by *dire* thus triggering agreement. In the b sentence, the subject of the embedded infinitive can only get Case by moving to the specifier position of the embedded CP, as discussed by Kayne (1984). Consequently movement to the specifier position of the VP headed by *dire* is prohibited, as it would be movement from an A-bar position to an A-position, that is, improper movement. In the c sentence, extraction of the direct object from the embedded clause must proceed through the embedded [spec,CP], an A-bar position. Subsequent movement to [spec,VP] is excluded again as a case of improper movement.

Of course, if adjunction to VP was able to trigger participle agreement, we would expect agreement to be possible in the b and c sentences, contrary to fact: agreement cannot be with an adjoined position.

Note further that if the specifier position triggering agreement could be an A-bar position - contrary to what we have assumed - we would also expect agreement to be possible in the b and c sentences: nothing would prevent the wh-phrase from moving from the embedded [spec,CP] to [spec,VP]. (103b,c) thus also show that [spec,VP] can only be an A-position, as we have assumed.

#### 4.2.2 Problems

The analysis of participle agreement that we have presented above derives the agreement facts for direct objects without any stipulation. The agreement facts follow from the combination of the theory of agreement (a spec/head relation) and the theory of movement. However, it is far from being complete and without problems.<sup>46</sup> There are two general complications:

First participle agreement appears not to always be with a direct object. There are cases in which agreement is with a subject. Traditional grammars states that "in sentences where the auxiliary verb is *être/be*, participle agreement is with the subject and is obligatory".

Secondly, contrary to expectations not all complement clitics can trigger agreement. We have already mentioned the case of Dative objects: they cannot trigger agreement. The problem is much more general: only a direct object of a V can trigger agreement on this V: Datives cannot, locatives cannot, genitives cannot even though we would expect them to. Furthermore not all direct objects can trigger agreement.

#### 4.3 Subject participle Agreement

Traditional grammars state that "in sentences where the auxiliary verb is *être/be*, participle agreement is with the subject and is obligatory". French, like other Romance languages (e.g. Italian) has two auxiliaries: *être/be* and *avoir/have*. The auxiliary *avoir* always expresses perfective aspect. The auxiliary *être* also expresses perfective aspect except in passive clauses, where it is simply the passive auxiliary.

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<sup>46</sup>One minor problem that will disappear under the more exhaustive analysis presented in next section is the fact that agreement is triggered on V even though V raises up out of VP<sub>k</sub>.

The auxiliary *be* is used in Passive constructions (104a), with unaccusative verbs (104b) and with verbs used with the clitic *se*, whatever the function of this clitic (104c,d,e,f). *Se* can signal a reflexive construction (104c), a middle construction (104d), a neutral construction (104e) or an inherent construction (104f):

- (104) a. Jean a été vu / John has been seen  
b. Jean est arrivé / John has arrived  
c. Jean s'est rasé / John shaved himself  
d. Ces maisons se sont construites rapidement / These houses built quickly  
e. Ils se sont réunis / they got together  
f. Il s'est évanoui / He passed out

The middle construction and the neutral construction differ from the inherent construction in that they have a causative counterpart without the morpheme *se*, e.g. here *construire/build* and *réunir/gather*. There is no verb *évanouir/ to cause to pass out*. The Middle construction and the neutral construction differ in a number of ways as discussed in Ruwet (1972) and Keyser and Roeper (1984). One prominent difference is that the middle has an implicit agent argument. The neutral does not.

In what follows, we will analyze all these cases of apparent subject agreement as cases of covert object agreement, thus reducing them to the pattern already encountered with the object clitics.

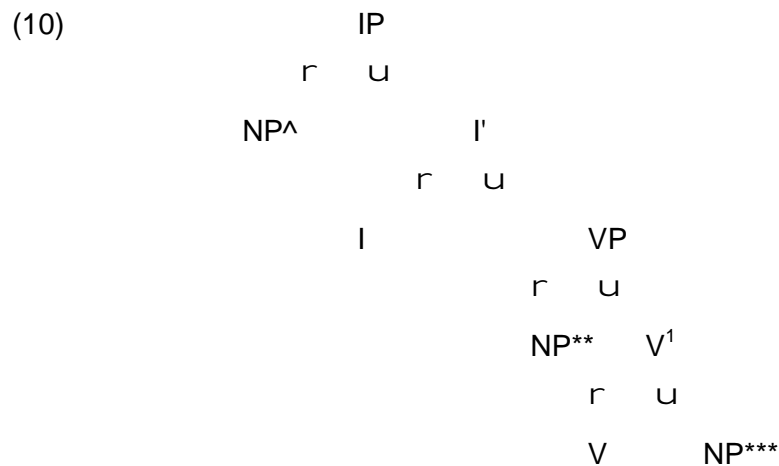
### 4.3.1 Agreement in Passive and Unaccusatives

#### 4.3.1.1 Agreement in Passive

Let us begin with the passive construction. Agreement of the passive participle with a subject is obligatory in the case of Passive:

- (105) La robe est faite /\*fait (par Cardin)  
The dress was made (by Cardin)

The surface subject is an underlying object. If the passivized direct object must move through the position [spec,VP] to reach [spec,IP], agreement will be both obligatory and superficially with the subject. Passivization is NP-movement. In order to escape its VP, the object cannot adjoin to VP. It must move up by substitution. Whatever their correct structure, passive verbs end up behaving as if they were not projecting their external argument as an intervening specifier. To simplify, let us assume they simply do not project it. The object will be moving to [spec,IP] by NP-movement in a clausal structure as below:



where NP\*\* is not a theta position. The object will thus have to move from NP\*\*\* through NP\*\*=[spec,VP], triggering agreement as required.

#### 4.3.1.2 Agreement in Unaccusatives

The case of participle agreement in unaccusative constructions can be treated in exactly the same fashion we treated agreement in passive constructions. The superficial subject of an unaccusative verb is an underlying object moved to [spec,IP] by NP-movement. It must move through the [spec,VP] position triggering agreement.

Not all verbs that may a priori qualify as unaccusative verbs are restricted to the auxiliary *être*. Take for example the verb *cuire/cook*:

- (106) a. Ils ont cuit les tomates / They cooked the tomatoes  
 b. Les tomates ont été cuit\*(es) par../ The tomatoes were cooked by..  
 c. Les tomates ont cuit(\*es) / The tomatoes (have) are cooked

As the b sentence shows, the passive participle must show agreement with the subject. The c sentence shows no agreement with the superficial subject is possible with the auxiliary *avoir*. If the verb in c was unaccusative, agreement on the participle should be obligatory.

Of course, we need to be able to determine unaccusativity independently of agreement.

Surely, the strongest stand we could take on unaccusativity is one of maximal uniformity of theta assignment such as Baker's (1988) Universal Theta Assignment Hypothesis, or similar approaches reviving assumptions from the mid sixties. I adopt the strongest construal possible: If a particular theta role is demonstrably linked to a particular grammatical function in some case, it always is across constructions and across languages. Because the object in (106a) and the subjects in (106b and c) receive the same theta role, and given that this theta role is assigned to an object in (106a), it is also in the other sentences so that their subjects are derived. This would force an unaccusative analysis of the c sentence with the associated agreement problem.

There is direct evidence supporting this conclusion. Verbs like *cuire/cook*, *couler/sink*.. selecting the auxiliary verb *avoir* behave like unaccusative verbs and unlike intransitive verbs in the impersonal construction:

- (107) a. ?Il a dormi plusieurs enfants / \*Il en a dormi plusieurs  
 There slept several children / There of-them slept several  
 b. Il est arrivé plusieurs enfants / Il en est arrivé plusieurs  
 There arrived several children / there of-them arrived several  
 c. Il a cuit beaucoup de tomates / Il en a cuit beaucoup  
 There cooked many tomatoes / there of-them have cooked many

(107b) illustrates that an unaccusative verb like *arrive* allows its single argument to appear postverbally and allows cliticization of quantitative *en* from this postverbal position. This last



property is a property characteristic of underlying objects.<sup>47</sup> (107a) shows that an intransitive verb, even though it might marginally allow its argument to appear postverbally in an impersonal construction, disallows *en*-cliticization from the postverbal position. This suggests that this postverbal NP is not an object, but rather an inverted subject. (107c) shows the class of verbs under consideration behave like unaccusatives and unlike intransitives.

### 4.3.2 Auxiliary Selection and Agreement

The description of agreement given by traditional grammar is the following:

- (108) (i) In sentences with the auxiliary verb *être/be*, the participle agrees with the subject and is obligatory  
 (ii) In sentences with the auxiliary verb *avoir*, the participle agrees with the direct object if the object precedes the participle<sup>48</sup>

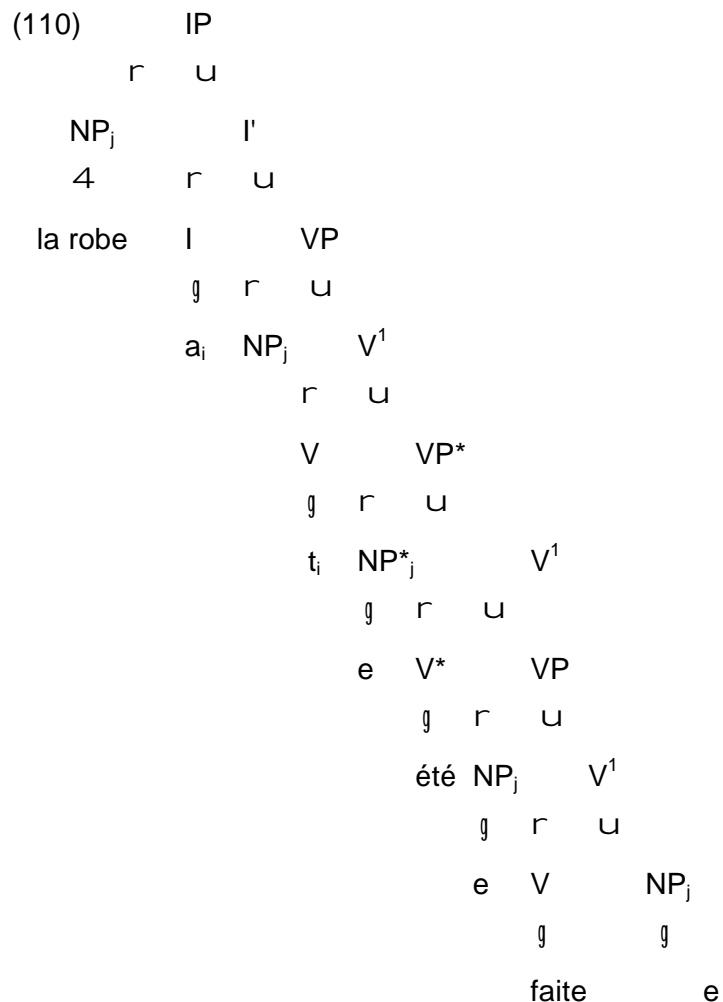
In view of the conclusion of the previous section, (ii) must be modified since unaccusative participles do not agree with their underlying object/derived subject when they select *avoir*. This observation seems to extend to other cases of derived subjects with auxiliary verbs *avoir*. The passive auxiliary verb *être* selects *avoir* as perfective auxiliary. When this aspectual auxiliary is present, *être* appears in its participial form and does not show agreement:

- (109) La robe a été(\*E) faite par Cardin  
 The dress was made by Cardin

<sup>47</sup>In fact, as Belletti (1988) shows, the impersonal construction with a postverbal NP is possible only if the postverbal NP is an argument of the verb. *En* cliticization in these cases shows something stronger, namely that the postverbal verbal NP is a direct object and an internal argument of the verb.

<sup>48</sup>Traditional grammars state that agreement is obligatory here too. I have already mentioned that other speakers and myself disagree with this statement. We feel that agreement is preferred with a preceding clitic, but not obligatory, and a little freer with a preceding *wh*-object. Italian, however, requires participle agreement with a preceding 3rd person clitic object, but disallows it with a preceding *wh*-object.

This occurs despite the fact that the agreement configuration is met. Raising of the object to the subject position must transit through the [spec,VP] position of the passive auxiliary as illustrated below:



In order to escape VP\* under a-movement, NP\* must move through its specifier. We should expect obligatory agreement between NP<sub>j</sub>\* and V\* but it seems we do not observe it.

Another case is found with raising verbs. In a raising construction, the surface subject has raised from inside the main VP to subject position and thus has moved through the [Spec,VP] position. If the raising verb is in its participial form, we would expect agreement. Agreement does not seem to occur:

- (111) Les filles ont semblé(\*ES)/ paru(\*ES) malades  
 The girls seemed/appeared sick

Note that both for (110) and (111), the absence of agreement is based on spelling convention. This is why I write that it seems that agreement is lacking. There is no way to check otherwise for the passive auxiliary and I know of no raising verb whose participle masculine and feminine (or singular and plural) forms would display phonological differences.<sup>49</sup> I will provisionally suppose that spelling is a reliable indicator of agreement possibilities because the emerging pattern is one in which "subject"/participle agreement must occur with auxiliary verb *être*, and cannot occur with auxiliary *avoir* and this configuration is found in Spanish and Catalan. Catalan is discussed below in section 4.3.3.2. In Spanish, participles agree with their object only in case the auxiliary *be* is selected. This only occurs in passive constructions. In principle, this assumption could be directly checked in those dialects of French which realize phonetically the feminine agreement when it follows a vowel.

We need to reformulate the descriptive statements (108). In traditional grammar terms, the subject of an unaccusative verb does not count as an object. No agreement is expected if the unaccusative verb takes auxiliary *avoir*. We claim however that participle agreement is always with the object. Let us replace (108) with the following descriptive statement:

- (112) (i) With participle selected by the auxiliary verb *être/be*, participle agreement is with the underlying direct object (when it precedes the participle) and is obligatory
- (ii) With participles selected by the auxiliary verb *avoir*, participle agreement is with the direct object is possible if the object precedes and if the participle has an external argument subject.

(112ii) makes participle agreement with *avoir* contingent on the existence of an external argument for the verb. This is meant to permit agreement with object clitics when the verb has an external argument, and to exclude agreement with underlying objects/superficial subjects in unaccusative constructions, since the subject is not an external argument. When we discuss agreement in *se* constructions, we will see that (108) is not tenable.

This data raise several questions: What governs auxiliary selection? Why is participle agreement with *avoir* possible with preposed direct objects unless they are preposed to subject by NP-movement?

I will not try to provide any answer to the first question. The fact that there is so much linguistic variation amongst closely related languages such as Spanish, French, Italian or Catalan suggests that no general answer can be given (see Kayne, 1993, for recent discussion). I will briefly address the second question in section 5.5.5. Given our treatment of participle agreement so far, agreement is determined purely on the basis of what happens in the XP projection of the participle. The influence of the auxiliary verb on agreement suggests that more than this is involved.

### 4.3.3 *Se Constructions*

We now turn to constructions involving the clitic *se*. As mentioned earlier, the clitic *se* appears in a variety of constructions: *se* can signal a reflexive construction (113a), a middle construction (113b), a neutral construction (113c) or an inherent construction (113d):

- (113)
- a. Ils se sont rasés / They shaved themselves
  - b. Ces maisons se sont construites rapidement / These houses built quickly
  - c. Ils se sont réunis / they got together
  - d. Elle s'est évanouie / She passed out

All these constructions select the auxiliary *être*. The middle, the neutral and the Inherent constructions behave exactly as expected under (108i) or (112i): the auxiliary verb being *être*, agreement with the subject is obligatory. The analysis we have provided for passives and unaccusatives will extend straightforwardly to these cases if we analyze them as unaccusatives: the superficial subject is an embedded object raising to subject through [spec,VP], and thus triggering agreement. The *en* cliticization test discussed earlier in (107) applied to the impersonal construction supports an unaccusative analysis:

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<sup>49</sup>Liaison can in principle reveal a final /z/ plural morpheme. Unfortunately, it cannot be used conclusively in the context in which these participles appear.

- (114) a. Il se construit beaucoup de maisons / Il s'en construit beaucoup  
Many houses/of them are being built
- b. Il s'est réuni plusieurs personnes / Il s'en est réuni plusieurs  
Several persons/them gathered
- c. Il s'est évanoui trois touristes / Il s'en est évanoui trois  
Three tourists/of them passed out.

Many authors have already suggested an unaccusative analysis for these constructions (cf. Burzio (1986), Zubizarreta (1982) ...). Strictly speaking, the facts of (114) supports the idea that the superficial subjects in (113) is an underlying object. It says nothing about whether or not the objects in (114) receive accusative Case or not. The two properties are usually linked as a consequence of Burzio's generalization and also because the Definiteness Effect found in (114) - the objects must be indefinite - is taken to be an indication that the Case assigned to the object is not accusative (cf. Belletti, 1988).

The analysis of agreement and the agreement facts supports the raising analysis. We have not discussed the status or the role of the reflexive morpheme in these constructions. Let us delay this question until it becomes relevant in reflexive constructions.

The reflexive construction is more complicated. Consider the following sentences:

- (115) a. Marie a décrit la robe aux enfants  
Mary(fem) described the dress(fem) to the children
- b. Marie s'est décrit\*(E) \_ aux enfants  
Marie described herself to the children
- c. Marie s'est décrit(\*E) la robe  
Marie described the dress to herself
- d. \*Marie s'est décrite \_ \_ (par Jean)  
Marie was described to herself (by John)

Informally speaking, the reflexive *se* stands for the direct object in (115b), and for the indirect object in (115c). Notice that the traditional description (108) is inconsistent with (115c): even though the auxiliary verb is *être*, agreement with the subject is impossible.

#### 4.3.3.1 Reflexive Constructions

The informal description given above corresponds closely to the standard analysis of the reflexive construction (Kayne, 1975, Burzio, 1986). Let us call it the theory of *se* as internal argument (henceforth TIA). It asserts that the reflexive Clitic stands for a direct object and is subject to the same kind of clitic placement rules as non reflexive clitics. If this were correct, we would, given our analysis of participle agreement, expect the agreement facts to be different. We would expect agreement in (115b) to be optional rather than obligatory.

Our description in (112) will give the right result if the superficial subject in (115b) is an underlying object. If this is the case, the presence of *se* somehow affects the expression of the external argument just like passive: The external argument is no longer assigned to the subject, allowing the object to raise to subject position. This approach has been proposed by Marantz (1984) and Bouchard (1982) and adopted by Kayne (1988). Call this the theory of *se* as external argument (henceforth TEA).

Before comparing the two analyses, let us list the properties of the reflexive constructions that must be accounted for:

- (116)
- a. It uses the morpheme *SE*
  - b. The same morpheme is also used in the middle and the neutral
  - c. The reflexive interpretation arises
  - d. The NP being attributed a reflexive property must be a deep subject

The first three properties are self explanatory. The fourth one states first that "the antecedent of the reflexive" must be a subject. Secondly, it cannot be a derived subject, i.e. subject of a passivized verb or of a raising verb. This is illustrated below:

- (117) a. Marie décrit la robe aux enfants  
Mary(fem) describes the dress(fem) to the children
- b. Marie se décrit(\*E) la robe  
Marie describes the dress to herself
- c. \*Marie<sub>j</sub> s<sub>k</sub>'est décrite t<sub>j</sub> [<sub>NP!</sub> e] (par Jean)  
Marie was described to herself (by John)
- d. Marie<sub>j</sub> lui paraissait \_ [ t<sub>j</sub> malade]  
Mary appeared sick to him
- e. \*Marie<sub>j</sub> se<sub>k</sub> paraissait [<sub>NP!</sub> e] [ t<sub>j</sub> malade]  
Marie appeared sick to herself
- f. Marie ne paraît malade qu' à elle-même  
Marie appears sick only to herself

(117c) shows that an indirect object reflexive is incompatible with a passivized object as antecedent. (117e) shows that an indirect object reflexive is incompatible with a raised subject. (117f) shows that this restriction is not due to the anaphoric interpretation of the dative object. If it is modified by *only*, it cannot cliticize and an emphatic reflexive is used instead.

For the TIA these facts are unexpected. If reflexives are like object clitics, they should be able to appear in raising or passive constructions the way other object clitics do. It is necessary to introduce some further assumption to accommodate them. Burzio (1986) suggests that the reflexive clitic is an anaphor which must be bound at D-structure. Rizzi (1986) suggests that the resulting configuration in the ungrammatical sentences violates a well formedness Condition On Chains (COC) requiring successive position in a chain to be in a local binding relationship. In (117e), for example, NP! is the trace of the clitic. Because of its anaphoric properties the clitic bears the same index as the subject so that we have two chains (Marie<sub>j</sub>, t<sub>j</sub>) and (se<sub>j</sub>, NP!<sub>j</sub>). The local binder of t<sub>j</sub> should, according to this condition, be Marie<sub>j</sub>. It is not. The local binder of t<sub>j</sub> is NP!<sub>j</sub>. The same reasoning excludes (117c).

Compare this with the TEA's treatment. As Bouchard (1984) noticed, the ungrammaticality of these examples falls out: If the reflexive is or affects the external argument, it will not occur with verbs lacking an external argument altogether, or with verbs whose external argument has been locked by another process. This is the case of Passive: as Jaeggli (1986) has shown, the characteristic property of the passive morphology is its absorption (or redirection) of the external theta-role, which is thus no longer available for the reflexive morpheme.

The COC also faces some problems already mentioned in section 3.5.3 in connection with our discussion of Lasnik's (1985) examples. Consider the following examples:<sup>50</sup>

- (118) a. \*It appeared to him<sub>k</sub> that John<sub>k</sub> is sick  
 b. ?John<sub>k</sub> appeared to himself<sub>k</sub> [ t<sub>k</sub> to be sick]  
 c. \*John<sub>k</sub> struck him<sub>j</sub> [as t<sub>k</sub> proud of Bill<sub>j</sub>]  
 d. John<sub>k</sub> struck everybody<sub>j</sub> [as t<sub>k</sub> angry at him<sub>j</sub>]  
 e. John<sub>k</sub> struck himself<sub>k</sub> [as t<sub>k</sub> tired]

The ungrammaticality of the a and c sentences shows that the object can trigger a principle C violation, and thus can potentially bind something in the complement clause.<sup>51</sup> The grammaticality of the d sentence shows the same thing, with the quantifier able to bind the pronoun in the embedded clause. The b and d sentences thus seem to violate the COC: in each, the local binder of t<sub>k</sub> is *himself<sub>k</sub>*, which belongs to a different chain. In conclusion, then, the TEA is clearly superior to the TIA concerning the treatment of property (116d).

Turn now to (116c). In order to account for the reflexive interpretation, any approach will have to treat the theta role of the missing argument as anaphorically bound by the superficial subject.

As usual, this process cannot be lexical, given that it may involve an NP which is not an argument of the reflexivized verb (as in small clauses constructions: *Jean se considère fatigué/John considers himself tired*. For concreteness (we return to this question in section 4.3.3), assume that the missing NP's theta role is assigned to *se* which is also marked as anaphoric: by principle A, it will have to be bound within the domain of the closest subject. This binder will have to be the subject of the reflexivized verb. This is neutral between the TIA and the TEA.

Turn now to (116b). What is the role of the *se* morpheme in the middle and the neutral constructions?

As we discussed earlier, a middle or neutral verb is unaccusative: it lacks an external argument subject and does not assign structural accusative Case to its object, forcing it to move to

<sup>50</sup>It is possible the verb *strike* is not a raising verb, see section 5.4.2 for discussion. In this case, only the a and b sentences are significant.

<sup>51</sup>Same remark for the French example *\*il ne semble qu'a lui<sub>j</sub> que Jean<sub>j</sub> est malade*. It could not be argued that the emphatic reflexive does not command the trace of the raised subject in (117).



subject position.<sup>52</sup> But these verbs can also be used causatively with a subject external argument and an accusative object as internal argument. It looks then like the central role of the morpheme *se* is to modify the normal expression of the external theta role and possibly to remove the verb's ability to assign structural accusative Case.<sup>53</sup>

If the TIA is correct, reflexive *se* has rather different properties: it would be just be an affixal noun that can stand for an internal argument.

If the TEA is correct, the function of reflexive *se* would be identical to that of middle or neutral *se*. This analysis would have the advantage of providing a reason why the same morpheme is used in all these constructions.<sup>54</sup>

Of course, there are also differences between the various constructions that must be explained (see Ruwet, 1972, Keyser and Roeper, 1984):

In the neutral construction, the external theta role is semantically absent (e.g. in (113c) there is no understood agent of the gathering), hence syntactically inactive (cannot act as controller...). In the middle construction, the external theta role is semantically present and syntactically active. For example, we have contrastive judgments between the inherent construction (119a) and middle construction (119b):

- (119) a. \* L'eau s<sub>i</sub>'est renversée [pour PRO<sub>i</sub> mouiller le sol]  
Water spilled to wet the floor  
b. Ces bains se<sub>i</sub> prenaient [pour PRO<sub>i</sub> prendre soin de soi<sub>i</sub>]  
These baths took (=were taken) to take care of oneself

The reflexive construction resembles the middle in that the external role is semantically present, but it differs from it in that it has the added anaphoric property.

Ruwet (1972) argues that the middle construction is syntactically derived while the neutral constructions is the result of lexical process. The main reason is the idiosyncratic composition of the class of verbs entering the neutral construction vs. the predictability of a verb's ability to enter the middle construction.

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<sup>52</sup>Although the object can surface in object position, as in the impersonal constructions (114), it does not bear Structural Accusative Case as shown in Belletti (1988).

<sup>53</sup>If the two aspects are related as stated by Burzio's Generalization: A verb Case-marks an NP it governs iff it theta marks its subject. We return to a discussion of this in section 5.2.3.2

<sup>54</sup>Even the inherent construction could be similarly described assuming the causative version of the verb was lost. This would explain Kayne's (1975) observation that inherent *se* verbs never have both a direct object and an indirect object.

I suggest the following: the central function of the morpheme *se* is to affect the normal expression of the external thematic role of a verb (and possibly, by Burzio's generalization, affect the Case assigning possibilities of the verb). So in all cases, the superficial subject is an underlying object. The morpheme *se* is always nominal, in fact always pronominal. This pronominal element, like other pronouns, can freely be either [+pronominal] (like a regular pronoun) or [+anaphoric] (like a reflexive pronoun). In the second case, we get the reflexive construction. Reflexive *se* is an argument and receives the external theta role. Because of its anaphoric nature, a reflexive *se* will require a local binder to satisfy the binding theory. In particular, it will not be able to occur in the impersonal construction, unlike the middle, the neutral or the inherent *se*:

- (120) *Il s'en rasait beaucoup, de soldats*  
 Soldiers, many of them were being shaved  
 \*Soldiers, many of them shaved themselves

The reflexive interpretation is ruled out because the antecedent of the anaphoric reflexive does not command it.<sup>55</sup>

In the middle this pronoun is interpreted as an indefinite pronoun and the external is syntactically expressed and assigned to *se*.

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<sup>55</sup>Cliticization of *en* shows that the postverbal NP is in object position and therefore not in a position to bind the reflexive *se*. Without cliticization, the position of the postverbal NP is not so clear. Impersonals are possible with intransitives such as in (107a) *Il a dormi plusieurs enfants ici* / *\*il en a dormi plusieurs ici*. The postverbal NP there cannot be an object. Rather it must be an inverted subject, perhaps similar to what is found in Stylistic Inversion *l'endroit où ont dormi plusieurs enfants* / *l'endroit où en ont dormi plusieurs*. My judgment is that without *en* cliticization, the reflexive interpretation is marginally possible in (120), that is *il se rasait beaucoup de soldats* may only marginally be interpreted as “many soldiers shaved themselves”. I would analyze this case as a case of inverted subject, being able to bind the reflexive similarly to cases of stylistic Inversion *l'endroit où se rasaient les soldats* or impersonal constructions with intransitives as in *il dormait beaucoup d'enfants*. Note a problem here with the conjunction of expletive replacement (raising of the object to the expletive subject position at LF) and Belletti and Rizzi's (1988) proposal that Binding principle A can be satisfied anywhere or with any proposal assuming that the Binding Theory can be satisfied at LF: expletive replacement in (120) should be able to provide a binder.

In the neutral (and the inherent) construction this pronominal is an expletive. The difference between the neutral and the middle construction concerns the way in which the external theta role is affected. In the neutral, it is suppressed. Taking Ruwet's conclusions into account, I further suggest that this option is lexically governed. Note that there must be an external theta role for the *se* to “absorb”. Thus unaccusatives can never enter the neutral construction:

- (121) Jean s'est arrivé / Il s'est arrivé plusieurs enfants  
John *se* -is arrived / it *se*-is arrived several children

#### 4.3.3.2 Catalan Agreement

Participle Agreement in Catalan provides independent support for the conclusions reached here, as Cortes (1992) shows and on which I rely for the following discussion.

The agreement facts of Catalan are remarkably similar to the French facts, with one very useful difference: in Catalan, participle agreement is audible. Catalan uses two auxiliary verbs like French: *haver/have* and *ser/be*. The passive auxiliary *ser*. The perfective auxiliary is always *haver*, regardless of the choice of verb or construction: unaccusative, reflexive, transitive, intransitive... In this respect it resembles Spanish.

In the passive, (with auxiliary verb *ser*), participle agreement with the subject is obligatory as in Spanish, Italian and French.

In every other construction, (with auxiliary verb *haver*), there is no participle agreement with a subject or with a postverbal object. If the direct object precedes the participle and is a *wh*-phrase, agreement is impossible (in this respect, Catalan functions like Italian and Spanish and unlike French). If the direct object precedes the participle and is a pronominal clitic, agreement is optional (in this respect, Catalan functions like French, and unlike Spanish -no agreement possible- or Italian -where agreement is obligatory with 3pers clitics). These facts are illustrated below:

- (122) a. Les nenas seran invitades / \*invitat  
the girls will-be invited[fem-pl] / invited[masc-sg]
- b. la Nuria ha arriuat  
Nuria has arrived (no agreement)
- c. el Jordi les ha comprat / comprades  
Jordi them[fem-pl] has bought[masc-sg] / bought[fem-pl]

The crucial facts involve agreement in *es* constructions. *Es* is the Catalan counterpart of French *se*, appears in all the same kind of constructions as *se* and is disallowed in the same contexts:

- (123) a. la Nuria s'ha cremat (\*cremada)  
Nurai burnt herself (REFLEXIVE)
- b. la Nuria s'ha donat (\*donada) un llibre  
Nuria gave herself a book (REFLEXIVE)
- c. la carta s'ha llegit (\*llegida) facilment  
The letter read easily (MIDDLE)
- d. l'aigua s'ha vessat (\*vessada)  
the water spilled (NEUTRAL)
- e. Les nenes s'han desmaiats (\*desmaiades)  
The girls fainted (INHERENT)
- f. \*el Jordi es semblat enfadat  
Jordi seemed angry to himself

First, *es* is incompatible with verbs lacking an external argument as the f example shows. Secondly, examples a to e show that participle agreement is impossible with *es*. In other words, *se* constructions patterns exactly like cases of derived subject constructions with auxiliary *haver* as (122b) and unlike cases of object clitics with auxiliary *haver* as (122c). This is explained if *se* is an external argument, and remains mysterious otherwise.

## 5. Agreement and Case

In this section, I address the problem of object/object asymmetries under agreement. I will suggest that these asymmetries follow from a central asymmetry in Case properties which links certain kinds of Case with agreement.

## 5.1 Lack of Participle Agreement with Objects

Our account predicts that any NP that has access to [spec,VP] should be able to trigger participle agreement. So far access to [spec,VP] is determined solely on the basis of Movement theory: if an NP can move to [spec,VP] without crossing a barrier, it should be able to, and thus should be able to trigger agreement. However, participle agreement fails to occur in four different cases where it should: certain direct objects, dative objects, quantitative objects and genitive objects. Except for genitives, which we will discuss later in connection with our revised views of extraction out of NPs, we will begin by showing why agreement should be able to occur. Then, we will propose reasons why it does not.

### 5.1.1 Why Agreement is expected

#### 5.1.1.1 Datives and Other complements

Of all the complements governed by a participle, only direct objects can trigger agreement. Cliticizable complements that are usually not analyzed as NPs (e.g. locatives, de-complements) cannot trigger agreement when they cliticize (124b). This could follow from the more general stipulation that [spec,VP] is restricted to NPs, a reflection of the more general stipulation that [spec,XP] with X lexical is an A-position. Direct object NPs can trigger agreement, whether they are theta marked by the verb or not (as subjects of small clauses) (124c). Indirect (dative) objects cannot trigger agreement (124d):

- (124)
- a. ...avoir décrit / (\*décrite) la robe à la femme à la ville  
to have given the dress to the woman in the city(fem)
  - b. ...y avoir décrit / (\*décrite) la robe à la femme  
to there have described the dress to the woman
  - c. ...l<sub>i</sub>'avoir décrit /décrite t<sub>i</sub> à la femme

- d. ...lui<sub>j</sub> avoir décrit /(\*décrite<sub>j</sub>) la robe t<sub>j</sub>

Cliticizable complements that are not direct objects all look like PPs introduced by *à* (datives, locatives) which cliticize as *lui* or *y*, or by *de* (genitives in NPs...) which cliticize as *en*.

We could treat indirect objects on a par with locatives (124b) by claiming that datives are PPs rather than NPs, thus unable to appear in [spec,VP]. Surely, it would be preferable to remove the stipulation that certain positions exclude PP and replace it by a system that derives it. I do not know how to achieve this in the general case. In the case of agreement however, I will later make a proposal that derives this property. This seems made even more necessary by the existence of some evidence suggesting the exact opposite, namely that all these cliticizable complements are NPs, rather than PPs. Some such evidence is due to Vergnaud (1974). It is based on the behavior of coordinated XPs modified by a restrictive relative requiring a plural antecedent. The data is as follows:

- (125)
- a. l'homme et la femme qui sont partis ensemble  
the man and the woman who left together
  - b. parler avec l'homme et (\*avec) la femme qui sont partis ensemble  
speak with the man and (with) the woman who left together
  - c. voter contre l'homme et (\*contre) la femme qui sont partis ensemble  
vote against the man and (against) the woman who left together
  - d. le donner à l'homme et ??(à) la femme qui sont partis ensemble  
give it to the man and (to) the woman who left together
  - e. parler de l'homme et ??(de) la femme qui sont partis ensemble  
speak of the man and (of) the woman who left together
  - f. aller à l'exposition et ??(à) la bibliothèque qui sont dans le même musée  
go to the exhibit and (to) the library which are in the same museum
  - g. ce vote contre l'homme et (\*contre) la femme qui sont partis ensemble  
this vote against the man and (against) the woman who left together
  - h. ce portrait de l'homme et ??(de) la femme qui sont partis ensemble  
this portrait of the man and of the woman who left together

(125b,c and g) shows that a restrictive relative cannot modify a coordination of PPs. If the P is repeated, unacceptability results. We make sure that it is the coordination that is modified by

choosing a relative clause requiring a plural antecedent and by making each NP of the coordination singular. The judgments are reversed in (125d,e,f and h) (in which the head of the relative correspond to objects that cliticize respectively as *lui*, *en*, *y* and *en*): there, repetition of the "P" is possible. We conclude that the coordination is an NP coordination behaving like the NP in (125a) and unlike the PPs of (125b,c and g). The repetition is also much preferred, perhaps even required. Vergnaud concludes from this that these particles are really Case markers.

Further evidence for the NP status of locatives comes from the fact that they can pronominalize as *ici/here* or *là/there* which behave as NPs (they can head restrictive relatives (*là où je vais/ there where I go*), can appear as [spec,PP] in restricted environments (*là-dessus/thereon, là-dedans/therein..*). Together with datives (126a-c) and *de*-complements (126c) and unlike NPs in PPs (126e), they trigger principle C violation:<sup>56</sup>

- (126)
- a. \* C'est à lui<sub>j</sub> que tu as dit que Jean<sub>j</sub> était malade  
It is to him that you said that John was sick
  - b. \*?C'est de lui<sub>j</sub> que tu as appris que Jean<sub>j</sub> était malade  
It is from him that you learnt that John was sick
  - c. \* C'est là<sub>j</sub> qu'il a décidé qu'il voulait vivre à l'Ouest<sub>j</sub>  
It is there that he decided that he wanted to live in the west
  - d. C'est à l'Ouest<sub>j</sub> qu'il a décidé qu'il voulait vivre là<sub>j</sub>  
It is in the west that he decided he wanted to live there
  - e. C'est devant lui<sub>j</sub> qu'il a déclaré que Jean<sub>j</sub> avait tort  
It is in front of him that he declared that John was wrong

The problem we face then is more general: Not only datives but also subcategorized locatives and *de*-complements should be able to trigger participle agreement since they seem to be generated within VP in a position i-commanded by [spec,VP], are not separated from it by any barrier and can move to it since they can be analyzed as NPs.

#### 5.1.1.2 Lack of Agreement with Direct Objects

Kayne (1989) notes that not all direct objects trigger participial agreement:

<sup>56</sup>The marginal character of (126b) suggests the *de* complement might be marginally analyzable as a PP.

- (127) a. Il a été repeint(\*ES) des portes  
lit. it has been repainted doors  
Doors were repainted
- b. des portes, il en a été repeint(\*ES)  
lit. Doors, it has been repainted some  
Doors, some were repainted
- c. Combien de portes a-t-il été repeint(\*ES)  
lit. How many doors has there been repainted  
How many doors were repainted

(127a) exemplifies an impersonal (passive) construction. The possibility of *en* cliticization from the postverbal NP shows that this NP is a direct object. The lack of agreement in (127c) is surprising. And, in view of the possibility of agreement with *en* described in section 5.5.3, (127b) is also surprising. Kayne (1989) suggests that the lack of agreement here is correlated to the fact that the subject of the clause is expletive. We will conclude that this correlation is correct<sup>57</sup>, but this cannot be the whole story since it does not extend to all the other cases in which agreement is impossible whether or not the subject of the clause is expletive. Guéron and Hoekstra (1988) suggest that lack of agreement is related to the obligatory indefiniteness of the object because non generic indefinites cannot trigger agreement. They cite *\*une chaise est repeinte/a chair is repainted*. But the data is not so clear. In my judgment, their example is fine. Furthermore, *Dans ce pays, une chaise est repeinte toutes les heures/ In this country, a chair is repainted every hour* with non generic non specific indefinite reading is well formed, and so is *une chaise du Musée d'Orsay qui a été repeinte hier a été décrite dans les journaux / a chair from the Orsay museum which was repainted yesterday was described in*

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<sup>57</sup>We will later argue that (i) lack of agreement correlates with the fact that the postverbal NP does not get structural Case and (ii) Burzio's generalization should be stated as linking lack of external theta role to subject to lack of Structural Accusative assignment as suggested in Belletti and Rizzi (1988). Putting the two together entails Kayne's correlation.



*the newspaper* with non generic specific indefinite reading.<sup>58</sup> Moreover, just like Kayne's proposal, this one also does not account for the whole range of cases lacking agreement.<sup>59</sup> Belletti(1988) remarks that an impersonal constructions with a bare NP complement is possible only when this NP is theta marked by the verb. In particular, impersonal constructions are impossible with NP complements subject of small clauses:

- (128) a. Des étudiants ont été considérés [ t malades]  
           Some students were considered sick  
       b. \*il a été considéré [des étudiants malades]  
           it has been considered some students sick  
       c. \*Il en a été considéré [ t malades]  
           it of-them has been considered some sick

She concludes that the Case of the postverbal NP in (127a) cannot be structural, since it is sensitive to the presence of a direct semantic relation between the verb and the postverbal NP. Assume then that the postverbal NP does not bear Accusative Case.<sup>60</sup>

On that basis, I want to suggest that the crucial factor determining the possibility of Agreement is Case: the direct objects in (127) cannot trigger agreement because they do not receive Structural accusative. More generally, I want to suggest that there is a causal link between getting Structural Case and being able to trigger Agreement. In particular, inherently Case-marked NPs will not trigger participle Agreement. This approach will cover to all the cases so far discussed: datives, locatives, etc.. (and also genitive arguments of Nouns, which we discuss in section 6.1).

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<sup>58</sup>See also the discussion of agreement with indefinite plural *en* in section 5.5.3.

<sup>59</sup>Furthermore, neither position can readily be extended to the different behavior of Complements of NPs discussed in section 6.2.

<sup>60</sup>For reasons that will become clear in the discussion of Genitive Case assignment in section 6.1.3, I do not accept her specific conclusion that the Case assigned here is inherent. It could still be structural, e.g. Nominative, as long as it is not Accusative.

The idea that Agreement and Case are closely linked is extremely rich of consequences. The rest of this section is devoted to the question of how to implement this idea and to an exploration of its intricate consequences for the theory of grammar.

### **5.1.2 Structural Case and Agreement**

I suggest that Case marked complement NPs can trigger agreement only if they get Structural Case. Nothing in the theory presented so far links these two properties. We now turn to the question of how they are related.

Agreement, we have assumed all along and we have argued for, is the reflection of a specifier/head relation. Case, I have suggested in section 2.4, is subdivided between Agreement Case and Governed Case on the one hand, and Inherent Case and Structural Case on the other. How do the two dimensions correlate? It looks like Inherent Case is always Governed Case, while it looks like Agreement Case is always Structural Case. But Governed Case seems not to necessarily be Inherent Case: if direct objects are Case marked in complement position under V', Accusative will be an instance of Governed Case. Similarly, Nominative Case can be Governed Case, e.g. in some VSO languages, as Koopman and Sportiche (1990) argue.

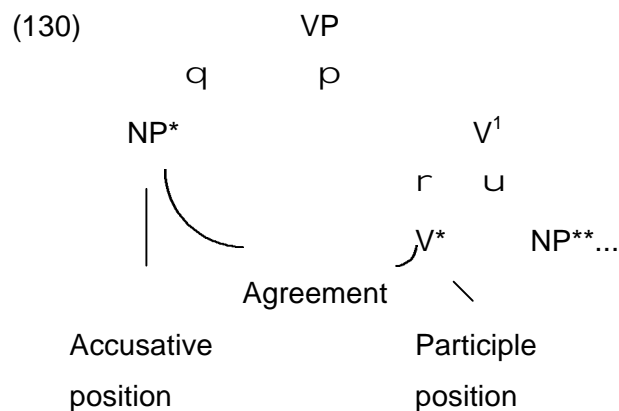
It is tempting to try to correlate Agreement Case and Agreement. Both arise as a consequence of a Spec/Head relation. What we want however is a correlation between Agreement and Structural Accusative Case: By transitivity, this can be achieved if we equate or somehow directly correlate Structural Accusative Case Assignment with Agreement Case. Equating Accusative position with agreement position is a subcase of the more general SCH, which equates structural Case positions and (potential) agreement throughout:

- (129) Strong Correlation Hypothesis (SCH)  
      Structural Case is identical to Agreement Case  
      Inherent Case is identical to Governed Case

Let us now explore whether this is feasible and how to implement it.

### 5.1.2.1 The SCH and Accusative

Agreement arises from a spec/head relation. We can hypothesize that when a NP triggers agreement, it does so because it gets Structural Case in the very position in which it triggers agreement. This is what is usually assumed for Nominative Case in French or English. Koopman and Sportiche (1990) claim that subject verb agreement arises when the Nominative Case assigning head shows agreement and assigns Nominative to its specifier position. In the case of Object agreement, the same approach would lead us to assume that an Accusative object triggering agreement on the verb receives Case in the [spec,VP] position:



Several problems arise immediately:

- (i) if NPs must be Case marked at S-structure, we might expect the order OV.
- (ii) We expect all accusative NPs to trigger agreement, contrary to facts: only preposed NPs trigger agreement.
- (iii) Agreement can be triggered by Caseless object NPs as e.g. in passive or unaccusative constructions. We must somehow allow Caseless NPs to appear in or go through [spec,VP]. This shows that Structural Accusative is a necessary condition for Agreement but not a sufficient condition.
- (iv) We must prevent inherently Case marked NPs to appear in or transit through [spec,VP].

Because of our modified Larsonian VPs, the projection of a particular V can actually be more complex than indicated in (130). We need to examine several cases depending on the properties of the V head of the VP: transitive verb and unaccusative verb each with or without

morphology, transitive participle, unaccusative participle and passive participle in impersonal constructions or with subject, etc.

Before we do so, suppose that (130) is correct. Suppose further that if there is an Accusative position, it is NP\* and that somehow a direct object NP\*\* can receive Structural Case without having to be in the Case position NP\*. This is going to solve problems (ii), and (iii). Let us see why:

First, even though all objects somehow get Case from NP\*, only preposed objects will have a chance to appear in it or transit through it in the course of the preposing. This solves (ii). In case a participle assigns no accusative Case, a direct object raising to subject will have to transit through NP\*, because of the theory of movement, triggering obligatory agreement. This solves (iii).

Finally, suppose that some other complement or internal argument of V with inherent Case (or some Case other than the accusative assigned by V) is moved through NP\*. NP\* is either the Accusative position or a Caseless position but it is an A-position. Such a movement would be from a Case position (inherent Case) to an A-position. This is independently excluded:

Sportiche (1983) argues that Case marked A-chains should be headed by the Case position (or almost equivalently, that a trace is a variable - i.e. locally A-bar bound - iff it is Case marked in an A-position). Since Case assignment is optional, inherent Case does not have to be assigned. If an NP that receives inherent Case can receive Case some other way compatible with moving to [spec,VP], it should be able to trigger agreement. However, we want to block a situation that does not seem to happen. A verb with a syntactically realized external argument and a dative internal argument does not allow this dative to trigger agreement, i.e. to surface as accusative instead of Dative. For example, we do not find systematic alternations *Jean a parlé à Pierre/Jean a parlé Pierre(John spoke to Peter/John spoke Peter)*.<sup>61</sup> In order to prevent this situation, I propose that Accusative Case be considered an elsewhere Case:

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<sup>61</sup>Note that despite the absence of direct object, Burzio's generalization makes Accusative available, given the presence of an external argument. One line of argumentation would make Accusative unavailable because it is in fact always assigned either to an overt object when it is assigned, or to a covert object when it looks unassigned. Although this view is plausible with cases like *speak \*(to) John* (which would then be *speak X<sub>covert</sub> to John*), it appears hard to reconcile with alternating cases like *goûter la soupe / goûter à la soupe (taste the soup/taste at the soup)* where there is no plausible missing object in the second case.

(131) Accusative as Elsewhere Case

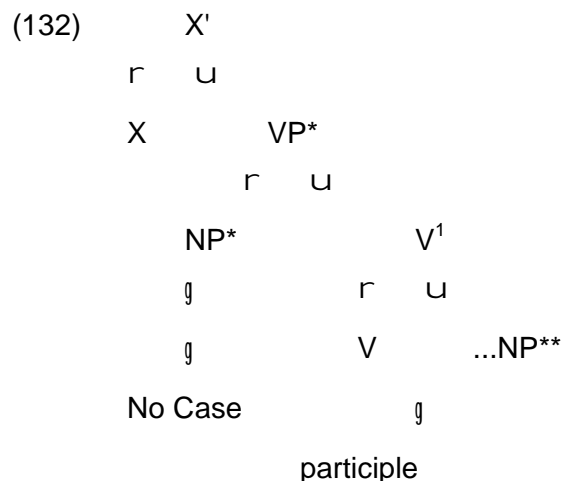
A verb assigns Accusative Case to an NP only if it cannot assign it inherent Case

(131) does not prevent a potential Dative from receiving Nominative, instead of Dative, if this possible.

Provided that we solve problem (i), the word order problem, or equivalently that we can explain how NP\*\* gets Accusative without being in NP\*, we will have a complete account of the lack of participle agreement with non structurally accusative Case marked NPs.

### 5.1.2.2 Passive and Unaccusative Structures

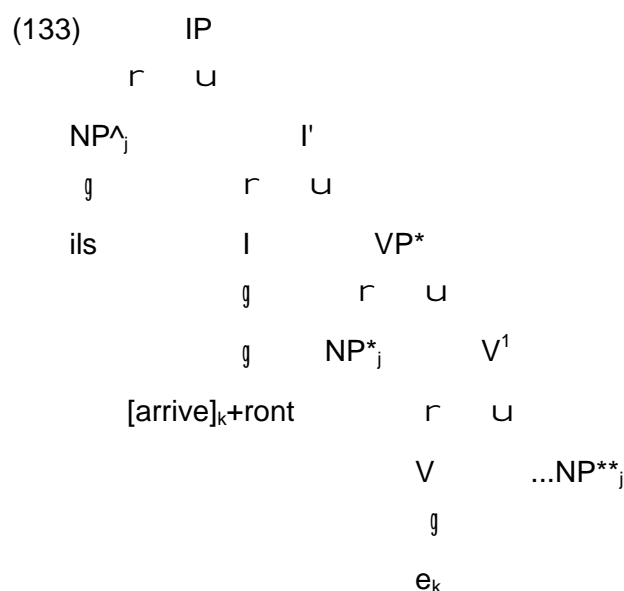
Abstracting away from unaccusative structures with auxiliary *avoir* mentioned earlier in section 4.3.2 and further discussed in section 5.5.5, passive participle structures and unaccusative participle structures are identical and behave in the same manner w.r.t. agreement:



Since the participle V projects no external argument, there is only one VP structure, that is VP\* is the maximal projection of V. Furthermore, no accusative Case is assigned, perhaps because of Burzio's Generalization. If the object NP\*\* preposes to subject position it will have to transit through NP\* triggering agreement on V (as in *Trois portes ont été peintes/three doors(fem.plu.) were painted(fem.plu.)*). If the object NP\*\* does not prepose to subject as in an impersonal construction or in an impersonal passive construction (e.g. *il est arrivé des hommes, il a été vu*

*des hommes/ it is arrived men, it has been seen men*), the object is postverbal, as predicted, and receives some other Case than Accusative. Note that since NP\* is a Caseless A-position, nothing can surface there.

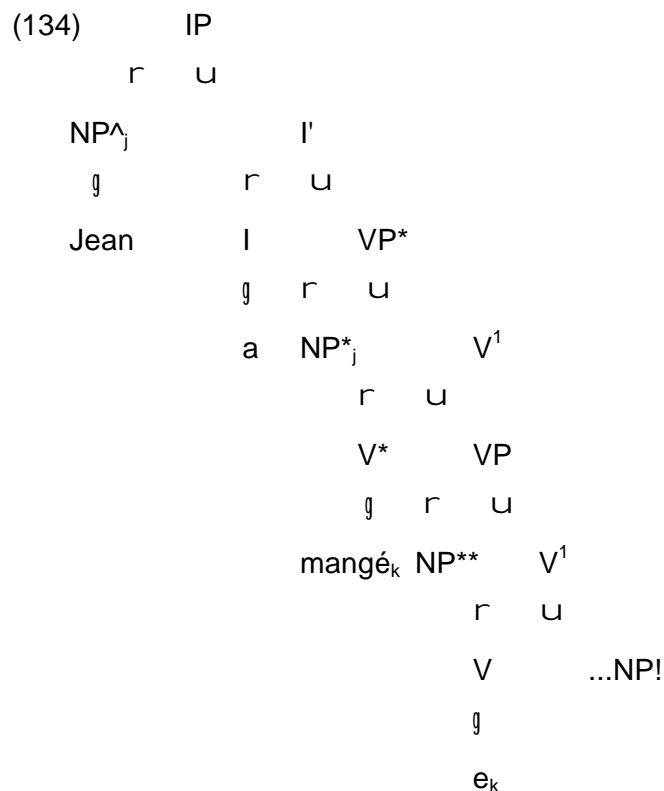
Passive constructions always involve passive participles in French, but unaccusative constructions do not. Consider what happens in a sentence like *Ils arriveront* (*they will come*).



If the object does not prepose (*il arrivera des hommes*) nothing special needs to be said. If the object preposes, it moves through NP\* to NP<sup>Λ</sup>. The verb, on the other hand raises to the future tense morphology. There is no word order problem here but there is an agreement problem. Why does the verb+affix combination agree with NP<sup>Λ</sup>, but the verb does not show any agreement with NP\*. We return to this problem in section 5.3.

### 5.1.2.3 Transitive Verbs

The case of transitive verbs is slightly more complicated. Consider first the case of a transitive participle e.g. *Jean a mangé la soupe* (*John has eaten the soup*), keeping in mind our modified Larsonian position (I am ignoring here the aspectual projection of *avoir*, which raises to Tense):



Because the *V manger* has an external argument, the lower VP is not its maximal projection. This external argument raises from NP\* to NP<sup>Λ</sup>. The verb licenses the second VP projection by raising to V\*. NP\*\* is the accusative position. Even if the direct object NP is in NP\*\* or has raised to NP\*\* from NP!, there is no word order problem VO. Note again an agreement problem appears. Since the participle appears in V\*, why does it not agree with NP\*? In other words, why doesn't the participle exhibit subject agreement rather than or in addition to object agreement if the object agreement conditions are met. We return to this question in section 5.3 Finally consider the case of a transitive verb not in the participial form:

- (135) Jean mangeait la soupe  
John ate the soup

Its syntactic structure is:

IP  
 r u  
 NP^ I'  
 g r u  
 Jean<sub>j</sub> I VP  
 g r u  
 mang<sub>k</sub>-ait NP\* V<sup>1</sup>  
 g r u  
 e<sub>j</sub> V VP  
 g r u  
 e<sub>k</sub> NP\*\* V<sup>1</sup>  
 r u  
 V ...NP!  
 g  
 e<sub>k</sub>

#### 5.1.2.4 Agreement position as an A-position

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- (137) a. Il a été dit que Jean a vu Marie  
b. Quelle fille a-t-il été dit(\*E) que Jean a vu

## 5.2 Structural Case and the Internal Structure of VP

In the preceding section, I proposed that agreement and structural Case assignment are linked in that they are properties of the same position. One problem with this idea is due to the fact that postverbal direct objects of participles in French do not trigger agreement. This means they have a way of acquiring Case without being in the Accusative position. I will now discuss problems related to this proposal. Before listing some of the questions arising from this proposal, it is important to realize that the analysis I suggest for objects has been suggested by several authors for Nominative subjects because, in some cases, it is quite easy to see that the external argument is not in the position subject of clause. The questions arising for objects arise in exactly the same way for subjects:

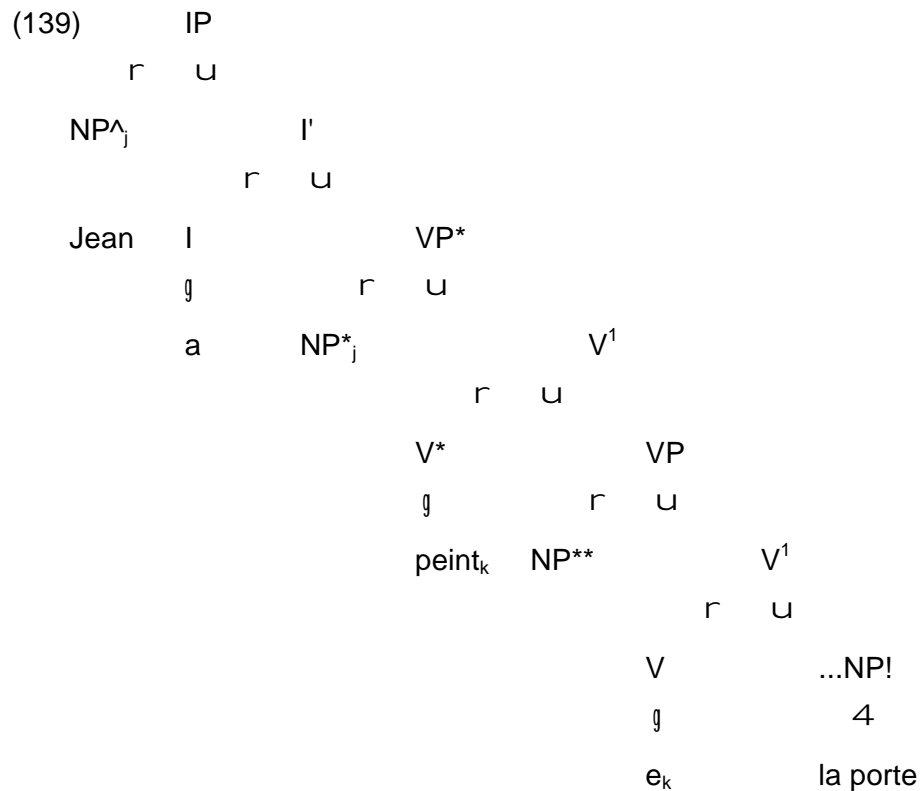
- (138)(i) If Accusative objects are not necessarily in the Accusative position, what is their surface position.  
(ii) If Nominative subjects are not necessarily in the Nominative position, what is their surface position.  
(iii) What is the base position of subjects (external argument) and objects (internal arguments).  
(iv) If in a given language and/or construction, objects or subjects must be in the Accusative or Nominative position, what forces it.  
(v) If in a given language and/or construction, objects or subjects cannot be in the Accusative or Nominative position, what prevents it.  
(vi) In this last case, how is Case assigned.

## 5.2.1 Surface Position of Nominative and Accusative NPs

Let us now examine what we can conclude about the position of subjects and objects in from the syntactic structure, the theory of Agreement and Case that we propose.

### 5.2.1.1 Surface Position of Accusative Objects In French

Consider again the structure of the sentence *Jean a peint la porte*:



In French, the agreement facts show that the direct object cannot be in NP\*\*. It must be lower in the tree, say NP!. Otherwise, it would trigger object agreement. This means that NP! gets Accusative Case without being in the Accusative position. There must be a way for NP! to inherit Case from the position NP\*\*. If our hypothesis that NP\*\* is the Accusative position is correct, NP\*\* must be present. We cannot assume that this position is absent because it is not

required by the Projection Principle.<sup>62</sup> NP\*\* must therefore be a silent expletive. The same conclusion will hold in Italian (dialects) or Catalan which allow or require participle agreement with preverbal Accusative clitic objects, but do not with postverbal objects. There is independent evidence suggesting that expletives are permitted in such a position. French (and Italian) differ from English in the following cases:

- (140) a. \*These kinds of event persuade e [ PRO to leave ]  
 b. I consider \*(it) important [ PRO to arrive on time  
 c. Ce genre d'évènements persuade e de [ PRO partir ]  
 d. Je considère e important de [ PRO venir à l'heure ]

Rizzi (1986a) shows that the a sentence is out because some silent NP e is required to act as controller but is not licensed in this position, as opposed to the French equivalent in c.

Similarly, an expletive cannot be omitted in the b sentence for the same reason, while it may in French. In other words, silent objects are licensed in French but not in English, whether they are thematic or expletives. Plausibly, the grammaticality of the b and d sentences (and of their Italian equivalents) can be related to the existence of pronominal clitics in these languages: in both sentences, objects pronouns must cliticize in these contexts, suggesting the presence of a silent clitic licensing e. It now becomes plausible to suppose that Case on NP! is somehow inherited from the expletive in NP\*\* in these languages.

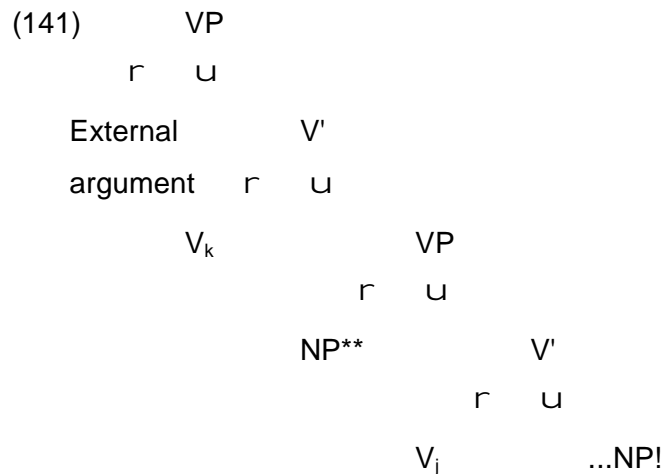
This leaves open the question of why lexical objects cannot raise to NP\*\* in French (or Italian) except in very restricted cases (cf. section 5.5.5).

#### 5.2.1.2 The Surface Position of Accusative Objects in English: Raising to Object

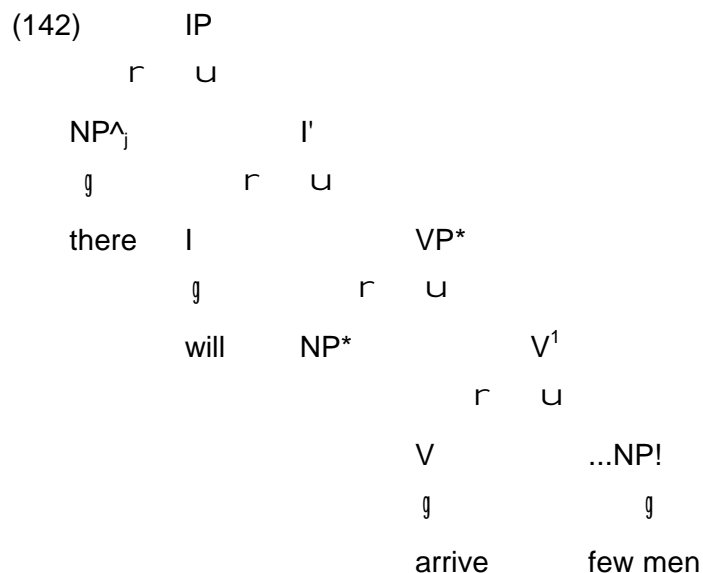
A priori, in an English sentence (*John had painted the door*) equivalent to (139), the object could be either in NP\*\* or some further down position NP! since we cannot rely on agreement to assess the object position. In a sentence like *John will eat soup*. The verb lacks any morphology suggesting it has (overtly) raised to the higher head position as below, where  $V_j$  raised to  $V_k$ :

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<sup>62</sup>Obviously, the Projection Principle must be amended to permit non thematic specifiers in lexical projections.



Accordingly, examples such as *John will eat soup* are not conclusive for the question under discussion: the object could be either in NP\*\* or NP! and still follow the verb. Verbs lacking external argument do not have a V<sub>k</sub>P projection at all. Usually, such verbs (unaccusatives, passives..) do not allow their direct objects in object position, so they are not conclusive either. Sentences such *there will arrive few boys* might be thought to decide the issue in favor of the NP! alternative if the post verbal NP is in object position:



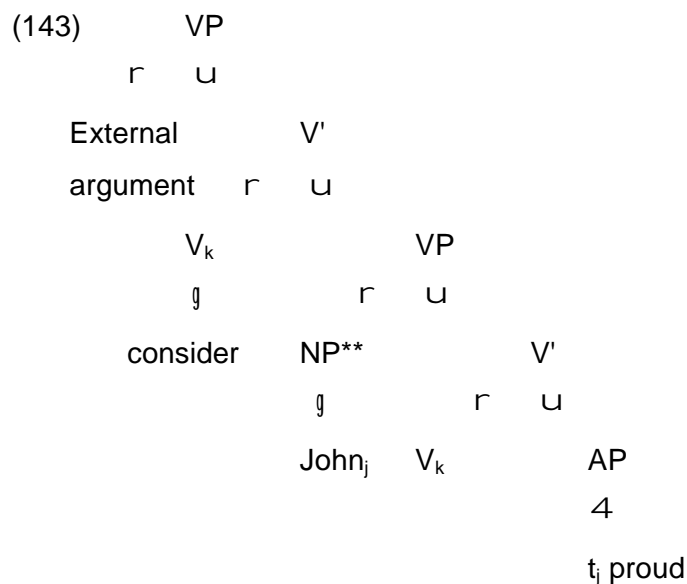
The verb is bare, therefore does not raise for morphological reasons; it lacks an external argument therefore lacks an external argument VP projection; it presumably is in its base

position and is followed by its object. The only problem is that it is plausible that the object in such cases does not get accusative Case at all.

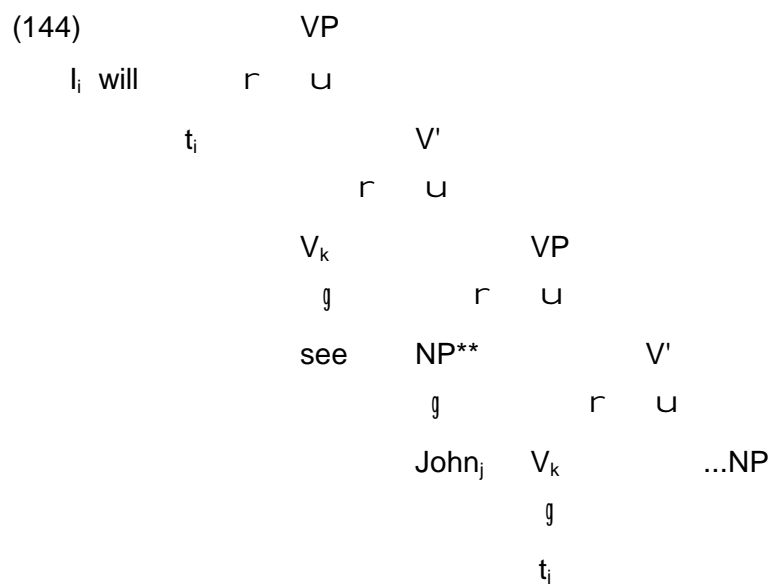
The fact that silent expletives are not licensed in English suggests that Accusative objects in English must surface in NP\*\*. I conclude that English objects always raise to the Accusative position. In fact, one argument to that effect has already been presented in the discussion of small clauses in section 2.2.2 and based on (22b):

- (22) a. \*They consider John<sub>i</sub> [<sub>W</sub> t<sub>i</sub> [proud of each other]]  
 b. \* [<sub>W</sub> t<sub>i</sub> [How proud of each other]] do they consider John<sub>i</sub>

The fact that the lexical anaphor cannot take the matrix subject as antecedent suggests that AP preposing carries along the trace of the subject of the AP, which has therefore raised out of the small clause. We can now interpret this as meaning that the subject of the small clause has raised to the specifier position of the inner VP of *consider* in order to receive Accusative Case.



Naturally, raising to specifier will also take place in simple clauses as in *I will see John*:



The conclusion that raising to specifier can take place in English finds independent support in other constructions such as Particle constructions discussed in Johnson (1990) and Koopman (1990); they show that in the a sentences:

- (145) a. John called Bill up / called him up  
 b. John called up Bill /\*called up him

the NP has raised to specifier (of VP for Johnson, of PP for Koopman) to receive structural Case from V. Furthermore, Koopman argues that the impossibility of the second b sentence follows from a general process of attraction of pronouns to specifier positions also found in:

(i) double object constructions: adopting something of Larson's (1988) analysis, the first object of a second object construction is in [spec,VP] but the second is not: *\*give my friends it /give it to my friends...*

(ii) "Q-movement" constructions: English *I saw all the children/\*I saw all them /I saw [them all]* (or French *[eux tous], [nous tous]..*) which is now analyzed as  $[_{QP} \text{them}_j [_{Q'} \text{all } t_j]]$ .<sup>63</sup>

<sup>63</sup>On that basis, Koopman (1990) also suggests for English and French that Sportiche's (1988) Q-float analysis should be modified accordingly by assuming that NP\* (or more precisely DP\*) moved away from Q actually transits through the specifier position of the Q:

- (i)  $[_{NP^*} \text{the children}]_j [ \text{will} [ [_{QP} t_j [_{Q'} \text{all } t_j]] \text{sleep} ] ]$

### 5.2.1.3 Surface Position of Nominative Subjects

The mechanisms of Case inheritance necessary to handle the French facts described above are similar to mechanisms necessary to handle Nominative Case assignment to subjects. The situation for Accusative Case is much less documented than that of Nominative Case but has all the same properties. Koopman and Sportiche (1990) describe Nominative Case assignment as follows. Calling NP\* the subject in VP, NP^ the subject of clauses and INFL the highest inflectional head of a clause, we see that in English or French, the subject cannot surface as NP\*. This is construed as meaning that NP\* receives no Case. Rather, the subject surfaces as NP^ exhibiting agreement with INFL (in a fairly impoverished way in English). This means that when INFL is a Case assigner, it is a Case assigner by Agreement only.

In Arabic, the external argument can surface in either position NP\* or NP^ (examples from Muhammad, 1989):

- (146) a. idda9a ar-rijaal-u ?anna...  
          claimed 3SM the men-NOM that ...  
      b. al-?awlaad-u katabuu risaalat-an  
          the-boys-NOM wrote-3PM letter-ACC

If the subject is in NP^, the verb obligatorily agrees in Person and Number. Otherwise, the verb gets a default 3rd person singular agreement which Muhammad (1989) analyzes as agreement with a null expletive; he provides evidence showing that when NP^ must be phonetically realized, this expletive appears. Furthermore, only subjects may move to NP^ suggesting that movement to NP^ is A-movement (Cf. Koopman and Sportiche, 1990 for discussion). This is analyzed by Koopman and Sportiche (1990) as arising from INFL being able to assign either Governed Case (in (146a)) or Agreement Case (in (146b)). In Irish, only the order VSO is allowed and the Subject never agrees with the verb or the auxiliary in INFL. The only apparent case of agreement is found with (covert) pronominal subjects but Hale and McCloskey (1984) have argued that these case are best analyzed as involving incorporation of

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This modification is independently proposed in Schlonsky (1990) for Hebrew. All this of course strengthens the movement to specifier analysis.

a postverbal pronoun into INFL. A Case marking INFL in Irish is analyzed as being a Governed Case assigner and never an Agreement Case assigner.

The parallelism with Accusative Case is immediate. French, English and Arabic (with SVO order) Nominative subjects behave like Bambara, Dutch (and possibly English) Accusative objects: they are in the Nominative position at S-structure, receive Nominative Case and trigger agreement. Welsh, Irish or Arabic subjects (with VSO order) on the other hand are not in the Nominative position even though they receive Nominative Case and do not trigger agreement. In this respect, they behave like French objects. Naturally, since we identify Agreement Case and Structural Case, this means that all these subjects somehow inherit Nominative Case from NP<sup>^</sup>. Some Case inheritance mechanism must be invoked here, as well as in the French object Case. Note also that Welsh or Irish subjects further resemble French objects in that they cannot (except perhaps for Welsh pronouns) occur in the Case position NP<sup>^</sup>.

## 5.2.2 Structural Case, Inheritance and Agreement

### 5.2.2.1 Anti Movement Constructions

So far, we have discussed two kinds of situations with respect to Nominative or Accusative NPs summarized below in (147) as (i) and (iv):

(147)

|                                    | In Case Position   | Not in Case position   |
|------------------------------------|--|--|
| Agreement with<br>Case assigner    | (i) French/English Subjects<br>Arabic SVO subjects<br>Portuguese Subjects in infinitives | (iii) Existential There (?)  |
| No Agreement<br>with Case Assigner | (ii) Bambara objects<br>English Objects (?)<br>Subjects of infinitives..                 | (iv) French objects<br>Irish/Welsh subjects<br>Arabic VSO subjects |

The cases in (ii) are all the cases in which the head does not show agreement as English participles, Infinitive verbs (except Portuguese)... There are also many potential cases



illustrating (iii) that have been extensively discussed in the literature: English *There* insertion constructions, Italian inverted subjects, Italian impersonal constructions, postverbal direct objects in certain dialects of Italian, Stylistic Inversion in French. Similarly, further cases potentially illustrating (iv) are impersonal unaccusative constructions, impersonal intransitive constructions in French.

Several relevant factors enter into play in the analyses of these constructions in which an NP, NP\*, is not in the position NP<sup>^</sup> in which it receives Structural Case from a head K, and that I will call Anti-Movement Constructions. Some questions that arise are listed below:

(148)            [ <sub>KP</sub> NP<sup>^</sup> K            ...            NP\* ]

- (i) Is NP\* is in an A-position or not
- (ii) If NP\* in an A-position, is it in its base position or not
- (ii) Does NP\* triggers agreement on the Case assigning Head K or not
- (iii) What are the properties of the expletive element appearing in NP<sup>^</sup> (the specifier position of the Case assigning head).
- (iv) Is there a definiteness effect on NP\* or not
- (v) Is there a and what is the nature of the Case relations between NP<sup>^</sup> and NP\*

In Italian Subject Inversion constructions (149a), Italian impersonal constructions (149b), Italian postverbal object agreement (149c)<sup>64</sup>, English *there* insertion (149d), and French Stylistic Inversion Constructions (149e), French *ce+être* constructions (149f), there is agreement between NP\* and K.

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<sup>64</sup>It is not clear that the structure indicated for agreement with a postparticipial NP is correct. Another option is that NP\* is in the accusative/agreement position and the participle has raised higher. However, I will nevertheless suppose that the structure indicated is correct.

- (149) a. [<sub>NP<sup>Λ</sup></sub> e] hanno telefonato [<sub>NP\*</sub> le persone]  
have telephoned the people
- b. [<sub>NP<sup>Λ</sup></sub> e] sone arrivati [<sub>NP\*</sub> tre persone]  
are arrived three people
- c. ha [<sub>NP<sup>Λ</sup></sub> e] mangiate [<sub>NP\*</sub> le mele]  
he has eaten the apples
- d. [<sub>NP<sup>Λ</sup></sub> There] are [<sub>NP\*</sub> three men] on the roof
- e. Ou [<sub>NP<sup>Λ</sup></sub> e] ont mangé [<sub>NP\*</sub> les enfants]  
where have eaten the children
- f. [<sub>NP<sup>Λ</sup></sub> ce] sont [<sub>NP\*</sub> mes amis]<sup>65</sup>  
this are my friends

In French impersonal unaccusatives (150a), impersonal intransitives (150b)<sup>66</sup>, French (150c) and Italian (150d) postverbal objects, French *ce+être* constructions (150e), there is no agreement between NP\* and K:

- (150) a. [<sub>NP<sup>Λ</sup></sub> Il] est arrivé [<sub>NP\*</sub> trois hommes]  
it has arrived three men
- b. [<sub>NP<sup>Λ</sup></sub> Il] a dansé [<sub>NP\*</sub> plusieurs lions]  
it has danced several lions
- c. Il a [<sub>NP<sup>Λ</sup></sub> e] dit [<sub>NP\*</sub> la vérité]
- d. ha [<sub>NP<sup>Λ</sup></sub> e] mangiato [<sub>NP\*</sub> le mele]  
he has eaten the apples
- f. [<sub>NP<sup>Λ</sup></sub> c'] est [<sub>NP\*</sub> mes amis]  
this is my friends

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<sup>65</sup>This construction is also possible without agreement, cf. (150f) below. *Ce* is restricted to appear as a clitic on the verb *être/be*: \**C'ont été mes amis*, ?*ce seront mes amis*, \**c'auront été mes amis* (*this have been my friends*, *this will be my friends*, *this would have been my friends*).

<sup>66</sup>As mentioned earlier, the two are distinguished by the fact that the inverted NP is an internal argument in object position in the first one, and an external argument in the second one. They are distinguished by a number of syntactic properties, such as *en* cliticization (possible in the first, not in the second, Q-movement (*il est trop venu d'enfants*?/\**il a trop dansé de lions*)).

In both French Stylistic Inversion and Italian Inverted Subjects constructions, it could plausibly be argued that NP\* is in an A-bar position, and therefore has exactly all the properties it would have if it were in NP<sup>^</sup>: it triggers agreement, displays no definiteness effect, and the expletive in NP<sup>^</sup> is silent.

Otherwise, silent expletives cooccur with agreement (149a,b,c) or with lack of agreement (150c,d). Overt expletives cooccur with agreement (149d,f) or with lack of agreement (150a,b).

The Definiteness effect can be defined as the impossibility for NP\* to be a strong NP (where the class of strong NPs must be characterized independently), following Milsark's (1974) terminology. This effect cooccurs with silent expletives (149b) (cf. Belletti, 1988) and agreement, but not necessarily (149c). Definiteness effects also cooccur with overt expletives and agreement (149d) but not necessarily (149f). Definiteness effects cooccur with overt expletives and lack of agreement (150a,b) but not necessarily (150f).

Finally, definiteness effects do not seem to cooccur with silent expletives and lack of agreement.

#### 5.2.2.2 Case and Agreement Inheritance

There is a considerable literature on the properties of these constructions concerning Case assignment and Agreement. How do we handle Case inheritance for the French case (139), the Arabic case (146a) or the Welsh or Irish cases? There are two equivalent ways to achieve this: Case checking or Chain Formation.

Chomsky (1981) argue that NPs are not Case marked but rather are Case checked. They are base generated with Case and Case marking rules are replaced by Case checking rules.<sup>67</sup> If Case is checked rather than assigned, we can handle accusative inheritance as N. Chomsky (p.c.) suggests:

(151) Structural Case is checked either at S-structure or at LF

If structural Case is checked at S-structure, the Case marked NP will to be in the Case position at S-structure. This going to be the situation of Bambara direct objects, which Koopman

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<sup>67</sup>A necessary assumption if theta assignment requires visibility, and visibility requires Case. Otherwise, the theta criterion would be violated at D-structure since no chain would have Case.

(1987,1992) argue surface in [spec,VP] at S-structure, Dutch direct objects as argued in Koopman and Sportiche (1988) and Koopman (1988), and English objects, which we concluded are in the accusative position at LF.

If Structural Case is checked at LF, the Cased NP must be in a position to move to the Case position at LF in accordance with the constraints on movement rules. At LF, the Cased NP is in the Case position and can be appropriately checked.

A second way is to assume that Case inheritance is done through Chain formation as Burzio (1986) (or Borer (1986), albeit with a different execution) suggest. Under the standard view, NPs must be Case marked/checked by S-structure. This can be achieved through chain formation if Case is considered a property of Chains and not of individual NPs. Suppose the accusative object NP! is not in the accusative position NP\*\* or does not have a trace in the accusative position as in French. Chains can be formed freely, subject to the CCL and other principles governing chain formation (location of theta position or of Case position within the chain, etc..). Under this option, we can form a chain (NP\*\*, NP!) as in (139). This chain will be Case marked and well formed as its highest A-position is the Case position, its lowest position is the theta position. This proposal becomes almost equivalent to the preceding proposal if expletives are eliminated at LF by expletive replacement: then at LF, NP! will have to move to NP\*\* to eliminate the silent expletive NP\*\*. As a final note, remark that it is crucial for our account of French agreement that such a chain not transmit Agreement with a head. Otherwise, all Accusative objects would trigger Agreement. This looks like a weakness of this approach as opposed to the LF Case checking approach.

A third way is to assume that NP\* in an anti moved construction receives Case in situ directly from some Case assigner, as Belletti (1988) or Pollock (1984) suggest.

I propose below that the first two approaches are correct.

#### 5.2.2.3 Inheritance in Anti Movement Constructions

I propose the following:

First expletive replacement must occur at LF. The reason is that elements devoid of content must be eliminated at the level at which interpretation is computed. The empirical support for it comes from the local relation that such expletives entertain with the categories (e.g. NPs) that overtly occur in the expletive position in the non expletive counterpart construction. Thus, we

have *il est arrivé trois hommes*, and its non expletive counterpart *Trois hommes sont arrivés* and *il* and *trois hommes* are in a possible NP-movement configuration.

Secondly, structural Case checking is done at S-structure or at LF.

Third, an expletive NP<sup>^</sup> may form an S-structure chain with its “replacing” NP\*. If an S-structure chain is formed, there will be agreement transmission from NP\* to NP<sup>^</sup> if we suppose, as is plausible, that the members of a chain must agree. Adapting a suggestion of Pollock (1984), I conclude that a chain can be formed between NP<sup>^</sup> and NP\* only if the expletive NP<sup>^</sup> is able to agree, i.e. lacks pronominal features of its own.

Fourth, if no S-structure chain is formed, expletive replacement and Case checking both take place at LF.

In English, only overt expletives are allowed<sup>68</sup> and *there* is the only one participating in chains. We expect agreement transmission to be possible, but not necessary in principle (nothing forces S-structure chain formation viz. the colloquial *there's several men in the room*). The same applies to Dutch *er* constructions which also transmits agreement.

In French, the normal overt expletive *il* must be 3rd person singular. Consequently, normal expletives, when allowed must be 3rd person singular and thus cannot enter into S-structure chains: no agreement transmission takes place. The other one, *ce* is featureless but restricted to appearing on the verb *être/be*. This exceptional *ce* lacking features allows both configurations: it may enter in a chain but does not have to. Stylistic inversion will have to be analyzed as not involving an expletive (perhaps a case of NP\* in an A-bar position or a case of predicate raising as Deprez, 1988 has suggested).

In Italian, expletives are all silent.<sup>69</sup> They can freely enter in chains and thus can transmit agreement but not necessarily. We expect dialect split (149c)/(150d) (In fact, we expect a more general dialect or construction split for (149b), although possibly not for inverted subjects for the same reasons as in French. This might be exemplified by the pairs *si mangia le mele/si mangiano le mele*.

The same approach can be extended to the SVO/VSO Arabic examples discussed earlier in (146). Muhammad (1989) shows that in certain contexts (immediately following the complementizer *?anna*) the subject expletive in [spec,IP] in the VSO construction must appear.

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<sup>68</sup>I assume there is no expletive PRO (see for example Sportiche, 1983).

<sup>69</sup>Except presumably *sí*, the Italian counterpart to French *se*, see the discussion in section 5.4.3.3.

In this case, it must be 3rd person singular. This predicts that Arabic is like French w.r.t. agreement transmission: there can be none.

Note that in the cases of chain formation at S-structure, it could be said that the Nominative or Accusative on NP\* is transmitted via the chain. This makes sense only if it is necessary that Case be checked at S-structure in these instances. Otherwise, it is no different from LF Case checking.<sup>70</sup>

Summarizing: in all cases, Structural Case is checked at LF. In certain constructions, structural Case is also checked at S-structure: overt movement to the Case position is obligatory. In others, Structural Case is checked only at LF as a consequence of expletive replacement. Expletive replacement by an NP takes place with or without the NP and the expletive in the same chain at S-structure. Agreement transmission arises as a consequence of chain formation at S-structure, which is only possible if expletives can agree. If non restricted overt expletives cannot agree, such chains may not be formed. If expletives can agree, agreement is possible but not required.

Other mechanisms have been proposed to account for Case and/or Agreement transmission in these constructions. An XP chain or movement account as we have adopted requires nothing that is not independently necessary: existence and properties of NP-movement and/or chains, consistency of chain members w.r.t phi features with Case "transmission" as a by product.<sup>71</sup> Downward feature percolation along successive heads not linked by movement, as suggested in many analyses, does not have the same independent support.

#### 5.2.2.4 Generalized Anti-movement

This analysis of anti-movement constructions could be extended much further than to instances of covert NP-movement. For example, it could be extended to A-bar movement as e.g. cases of covert wh-movement which seems to take place in French wh-in-situ constructions. Similarly, it could be extended to cases of Head movement. We could view English Affix hopping in verbs as the exact counterpart for head movement of what French impersonal constructions are to NP-movement or covert wh-movement is to A-bar movement.

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<sup>70</sup>The conclusion that the Case of NP\* is Structural is at odds with Belletti's (1988) conclusions. We argue in section 6.2 below that lack of Case marking across a small clause boundary or in ECM contexts does not reduce to inherent Case assignment.

<sup>71</sup>A little misleading if, as plausible, Case is a visibility property of chains, not of individual NPs.

This would require developing the analogues of Case checking, covert movement and expletive replacement for morphological affixation and incorporation. This seems to me in principle quite desirable and reasonably straightforward and rich of consequences (basically claiming identity of LF representations in a strong sense across languages), although I will not pursue this matter here.

#### 5.2.2.5 Speculations on Unsolved problems

There are several questions left open. The previous discussion does not address the factors (148ii and iv). The question (148ii) is raised by the following ungrammatical examples:

- (152)
- a. Il semble être arrivé trois hommes
  - b. \*Il semble trois hommes être arrivés t
  - c. Sembrano essere arrivati tre ragazzi
  - d. \*Sembrano tre ragazzi essere arrivati t
  - e. There seems to be a man on the roof
  - f. \*There seems a man to be t on the roof

In situations of LF expletive replacement, NP\* cannot in most cases have been subject to NP-movement in the syntax whether agreement is transmitted or not as shown by the French/Italian pairs. A significant exception to this generalization occurs *there* constructions: *There were three men killed* cannot be analyzed exclusively as adjectival passives as shown by the grammaticality of *There were 3 men given books* or of *There were 3 men considered stupid* suggesting the existence of an NP-trace immediately following the participle. The impossibility (or marginal character) of the English *There were killed three men* as opposed to the French *il a été tué trois hommes* (viz. \**il a été trois hommes tués*) suggests that additional factors are at play. The ungrammatical examples to explain also includes:

- (153)
- a. \*il semble trois hommes être arrivés
  - b. \*il semble trois hommes dormir
  - c. \*there were killed three men
  - d. \*it was/were killed three men
  - e. \*it was/were three men killed
  - f. \*il a été considéré trois hommes malades

We can describe the facts as follows keeping the terminology of (148):

- (154)
- (i) Movement takes place only if necessary.
  - (ii) If NP\* does not have to move, it must be governed by its theta assigner.

Property (ii) is what led Belletti (1988) to propose that NP\*, when it does not move, receives Inherent Case, which excludes (153b,f). (i) is what led Belletti to further suggest that the Case positions in a chain must be the head or the coda, which would exclude (153a,e). These assumptions seem to lead to problems in the *there* construction: The ungrammaticality of (152f) would force the assumption that *be* (inherently) Case marks the following NP in (152f) and (153e), leaving the possibility of agreement and the possibility of partial movement in *there* constructions unexplained. Pollock (1984) suggests that NP\* must be governed by a Case assigner (leaving unexplained (153f) and the difference between French and English passive participles (152a) vs (153d)).

(i) accounts for the impossibility of (153a): the object has moved part way to subject of the embedded clause, suggesting Case is checked at LF, but not all the way to the Case position. Movement then is unnecessary, therefore excluded. With *there* constructions, the situation is different, movement of NP\* goes all the way to the position governed by *be*. I suggest that the classical approach to *there* insertion is correct: Insertion of *there* is licensed in the specifier of *be* when *be* governs an argument. Movement to the position governed by *be* is therefore necessary. No further movement is required (if *there* is present) therefore no further movement is possible. This excludes (152f) and (153c). In the case of (153d,e), we expect lack of chain formation since *it* is marked for phi-features. Without agreement, there is no S-structure chain between the Case position and NP\*. All the evidence so far suggest that English requires S-





in which *there* is licensed to appear, i.e. the VP of *be* and therefore, NP\* can (and must) raise up to *be*.<sup>72</sup>

The covert quantification story would subsume (154ii): NPs do not move because they must remain within the scope of a covert quantifier, and this Q is licensed in different positions in impersonal constructions and *there* constructions. This would exclude examples like (152b,d,f) and (153a,b). (153c) is excluded because *there* is not licensed and (153d,e) are excluded as failure of S-structure nominative Case checking. The ungrammaticality of (153f): if the VP of *considérer* contains a Q, NP\* in this structure is in its scope.<sup>73</sup>

### 5.2.3 the Internal Structure of VP

Let us summarize what we have so far concluded about the internal structure of VP:

- (i) We have adopted the VP internal subject hypothesis
- (ii) We have adopted Larson's construal of it: the external argument of a verb is projected as the specifier of a VP.

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<sup>72</sup>Note that Welsh subjects raise part way as the following sentences illustrate:

- (i) a. Dylai y plant fod wedi bod yn edrych ar y teledu  
Should-3S the children be perf be at watch at the TV  
The children should have been watching television
- b. Agorodd y dynion ddim y drws  
opened-3Sy the men not the door  
The men didn't open the door

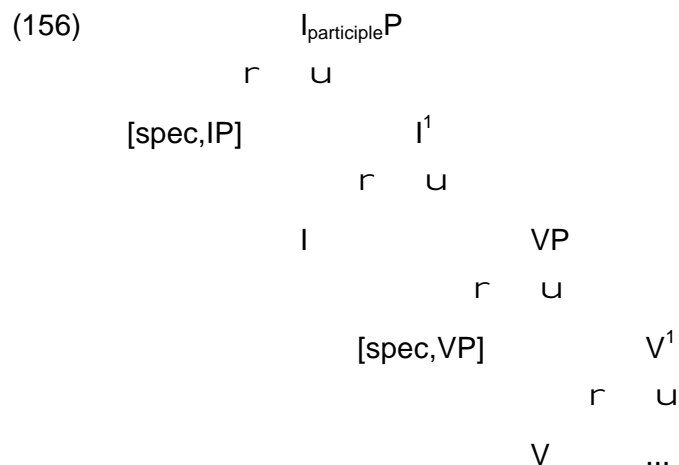
In the a example, the modal in INFL does not agree with the plural subject which immediately follows it. The thematic subject surfaces in a position governed by INFL, preceding all aspects, not in its base generated position, sister to VP, following all aspects. It must therefore have undergone partial raising. The b example shows the same thing with sentence medial negation intervening, instead of aspect. This suggests that Welsh only licenses [spec,IP] as silent expletive. In this respect, this expletive behaves like English *there* forcing raising of NP\* to a position governed by I, with the difference that it does not form a chain, and therefore does not transmit agreement.

<sup>73</sup>One last problem for which we have no account is the impossibility of total raising of non pronominal overt NPs from NP\* to NP<sup>^</sup> with French or Italian direct objects, Welsh or Irish subjects.

- (iii) We have argued that the Accusative position is a specifier position and not a complement position

### 5.2.3.1 Participial Morphology and Morphology Types

In section 2.3, I adopted the assumption that inflectional affixation is reducible to syntactic head movement. In the preceding discussions, I have ignored the morphological complexity of the participle and I have assimilated it to a Verb assigning accusative Case, assigning external theta roles.. If indeed, participial formation is a syntactic process, it is not obvious a priori that external theta role assignment or accusative Case should be a property of participle projection, rather than of projection of the verb itself. Assume the head movement approach. The structure of a participial VP would be:



I am going to argue that Case properties and External thematic properties are not a property of the V but rather a property of the V+I combination in the relevant cases. As a consequence, everything we said earlier remains unchanged except for the fact that there may be an additional VP projection complement of the participle head, which incorporates the V by movement.

Whether a verb assigns accusative Case or not is actually not always a property of the verb alone. Rather, it can be a combined property of the verb and the morphology carried by the verb. If the verb carries passive participle morphology, accusative Case may not be assigned. If it carries the identical past participle morphology or infinitive or tense morphology, accusative

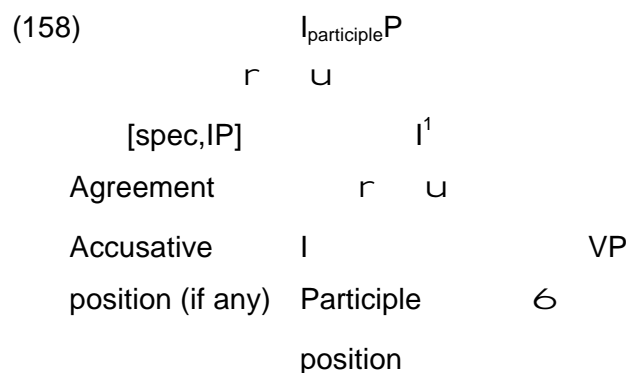
case may be assigned. This seems to suggest that Accusative Case should be a property represented in the projection of the morphology that attaches to the verb, rather than in the projection of the verb. This view is reinforced by a comparison of the Case assigning property of verbs and related nouns. Take a typical triplet verb/gerund/-ing-nominal:

- (157) a. John gave books to Bill  
b. John's giving books to Bill  
c. John's/the giving of books to Bill

Their internal thematic structure is identical: they take exactly all the same internal arguments. Their Case assigning properties are also identical as far as inherent Case is concerned. They differ crucially in Structural Case assignment: where verbs and gerunds assign accusative, -ing nominals assign Genitive (I argue elsewhere e.g. in Sportiche, 1984 that Genitive is a Structural Case). Gerund formation or -ing nominal formation is a completely productive process. If participial inflection is a case of head movement, gerundive formation or nominal -ing affixation should also be (head movement to an -ing inflectional head). This again suggests that the kind of structural Case assigned is not solely a lexical property of the lexical head but rather a property of the word, i.e. in part of the inflectional head. The fact that non derived unaccusative verbs like *arrive* cannot assign Accusative Case regardless of inflectional morphology shows the verbal root does play a role too. The same conclusion is suggested by intransitive verbs which cannot be used with cognate objects, if there are any.<sup>74</sup> Consequently, accusative, if assigned, is assigned as in:

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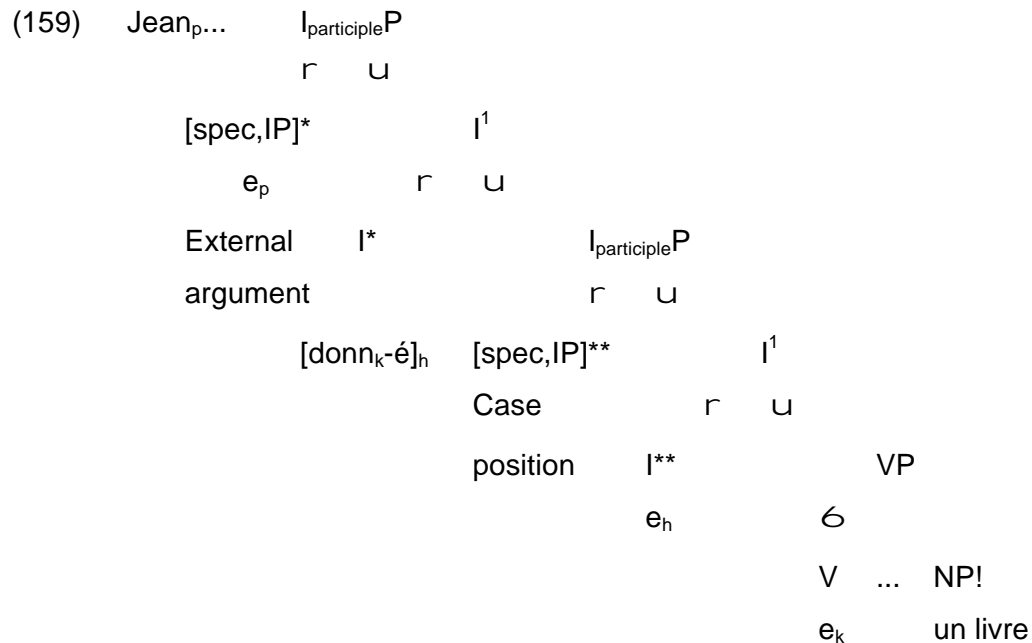
<sup>74</sup>It is possible that there are none: superficially intransitive verbs not allowing cognate objects might all be unaccusatives as a strong construal of Burzio's generalization would suggest.



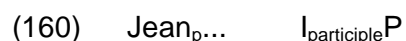
The same question arises concerning the underlying position of the external argument. Whether a verb can have an external role is sometimes determined by the verb alone, as in non derived verbs e.g. *sleep*, *dance*, *give*, sometimes by the morphology alone as in causativization by affixation of an unaccusative verb. Whether or not and how this external role is syntactically expressed as an NP position may be determined by the verb alone if the verb is morphologically simple, but not if it is morphologically complex (in the relevant way). The ability to assign the external theta role of the verb to an NP in the normal way is suppressed with the passive participial morphology, and is suppressed completely in the neutral construction under se-affixation. The past participle morphology allows it. This suggests that it is the combination V+morphology that has an external argument. The same point can be made with nominalizing affix -ing (gerundive nominals). Affixation of -ing to a verb affects the way in which the external theta role of this verb is syntactically expressed: the external argument does not have to be overt any longer viz. *I saw [\*(John) read a book] / I resent [John's reading of books] / I resent [the reading of books]*. In effect, the affix locks or unlocks the external theta role of the head it selects.

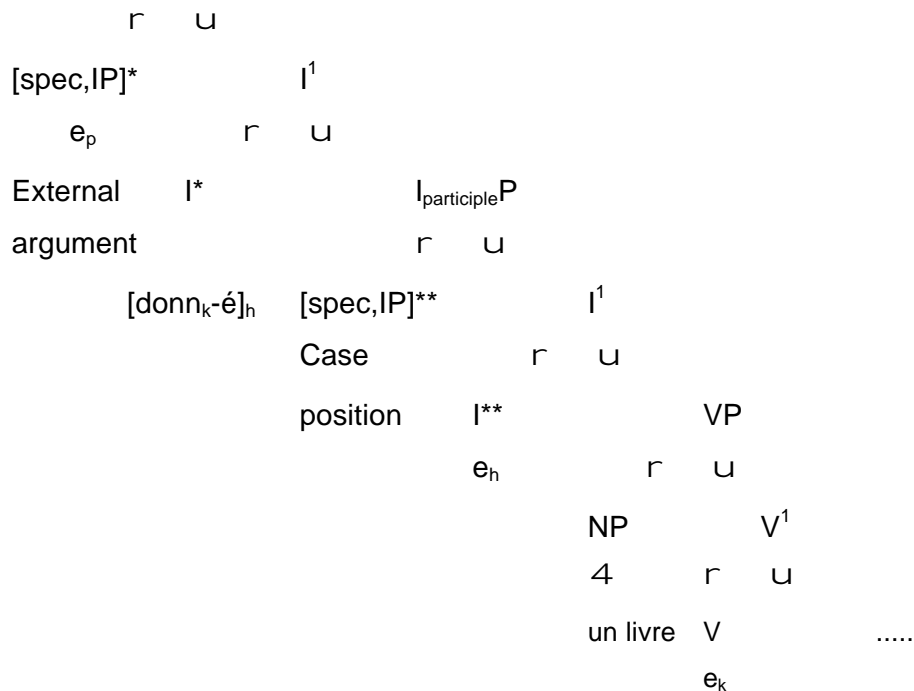
More generally, we could claim that a certain class of affixes (call them Class L - L for lexical) can syntactically project external roles of the head they attach to onto an NP. If a lexical head has an affix of class L, it is always the affix on this verb that allows it. If the verb is bare and the VP looks like (141), we can interpret the upper V projection of the layered VP as some kind of null affix of class L that unlocks the external role. This is what I will tentatively assume. The distinction between class L affixes and others is meant to sort apart tense affixes (which have no lexical content) from participial affixes or nominal -ing which do (category label, lexical properties). In section 5.6, I discuss an alternative according to which external arguments are projected in VP regardless of the presence of affixes.

This external argument is going to be projected according to the usual layered predicate projection rules. For example, the sentence *Jean a donné un livre* ..(*John gave a book...*). will contain the substructure (159) with the external argument as [spec,IP]\*. The combination V+morphology raises from I\*\* to I\*.



In conclusion, nothing of consequence is affected except for the possible presence of a lower VP projection. If this approach is correct, the lower VP now contains only the verb and its internal arguments. This raises a further question concerning the surface position of direct and other objects: the object could be either in specifier or in complement position of V. The simplest assumption takes it that position within VP are only projected if they are thematic. This means that verb with one object would have this object as its specifier and more generally that each object of a verb is projected as a specifier of a VP part of a VP shell. Consequently, the full structure of (159) will be:





The question remains whether participial morphology affixation is a case of syntactic head movement. We may distinguish at least three types of verbal morphology represented by the (i) causative affixes, applicative affixes (ii) passive participial affixes (iii) past participle affixes or tense affixes.

Causatives and applicatives have a thematic structure of their own, and impose selectional restrictions on their complements, suggesting, as Baker (1988) or Marantz (1990) propose, that they be considered affixal lexical categories projecting in syntax. Past participle affixes, verbal gerundive *ing*, progressive -ing or tense affixes have aspectual or tense content but no thematic structure and impose selectional restrictions (they select a VP, and perhaps, as progressive -ing subcategories of verbs). Tense is usually analyzed as a functional affixal head projecting in syntax. Finally passive participles affixes only to verbs with external arguments as Jaeggli (1986) shows. If they project in syntax, this will be construed as a selectional property: Passive morphology selects a VP headed by a verb with an external argument.

Should all these affixes project to phrasal value in the syntax? Causatives and applicatives should as a consequence of the theta criterion and the Projection Principle. Tense should as shown by *do*-support under VP-preposing and other such processes where Tense shows up on auxiliary verbs rather on main verbs. The treatment of the other is less clear. Verbal gerund *ing*, past participles or progressive -ing also show up on whatever happens to follow them, a

property suggesting syntactic affixation rather than lexical affixation. But they cannot appear on dummy auxiliaries like *do* under "VP"-preposing:

- (161) a. John grew / grow , John did  
b. John was growing / growing, John was /\*grow, John was doing  
c. John had grown / ?\*grown, John had / \*grow, John had done  
d. Tomatoes were grown / \*grown, tomatoes were /\*grow, tomatoes were done

Lack of *do* support with all these morphologies needs an explanation if *do* support takes place simply to support stranded affixes. Passive morphology only appears on its verb and fails *do* support as well. The first property comes from the fact that it is the most embedded of the verbal morphologies, but of course this last fact needs an explanation. In any case this means that passive morphology affixation could be done in the lexicon, as in Jaeggli (1986) or in the syntax as in Baker, Johnson and Roberts (1989) (cf. below section 5.2.3.2 for further discussion).

The difference between Participial like affixes and Tense like affixes overlaps with the distinction between class L and other affixes we alluded to above: External argument are projected lower than the TP projection (this is the VP Internal subject hypothesis) but possibly not lower than the participial projection as discussed earlier. It might be identical depending on the properties of affixes with intermediate properties such as progressive -ing, which does not allow *do* support, but leaves Case and theta properties unaffected.

#### 5.2.3.2 Deriving Burzio's Generalization

One way Burzio's Generalization can be formulated is:

- (162) A Verb Case marks an NP it governs iff it externally theta marks its subject.

This formulation appears too strong. First there are cases in which a verb does Case mark its object without assigning a theta role to its subject, for example, the impersonal construction or in cases like verb *falloir/to be necessary* as in *il faut une réponse/il la faut/an answer is necessary*. When this happens, Case never seems to be assigned to an NP not thematically related to it. As Belletti (1988) suggests, this indicate that the Case assigned is these instances



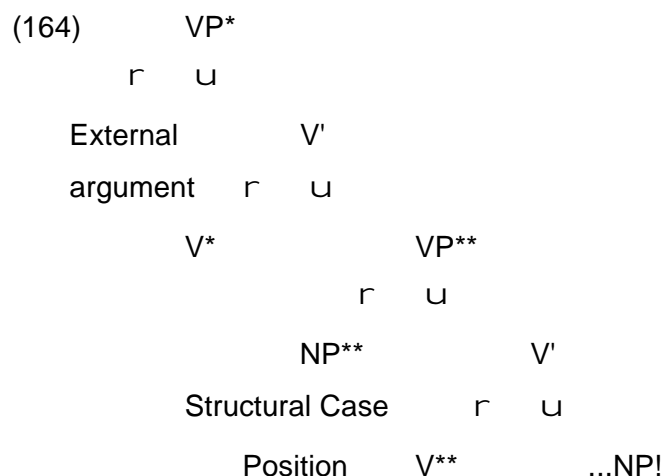
is Inherent Case. Second, there are case of verbs which assign an external role to their subject but assign no Case: all the intransitive verbs *dance*,... However, all these verbs can assign Case as shown by the fact that they can all be used with cognate objects as in *dance a dance*.... This suggest reformulating Burzio's Generalization as:

(163) Burzio's Generalization

A Verb can assign Structural Case iff it externally theta marks its subject

If true, this generalization is a puzzle, because it links what appears to be two properties theoretically unrelated and not easy to relate. If external arguments are not generated inside VP (i.e. if the VP internal subject hypothesis is false), it links a non lexical local property (Case assignment a property of the V class, not of individual verbs) with a non local lexical property (externally theta marking the subject). The system of assumptions we have developed allows a possible account of this link.

Consider the VP of a morphologically simple verb (this can transpose easily to verb/affix combinations):



If there is an external argument, the projection VP\* exists and the verb raises from V\*\* to V\*. We have argued that in this case, the structural (accusative) position is NP\*\*. If there is no external argument, the projection V\*/VP\* does not exist at all. In this case, we want to say that NP\*\* is not a Case position. Burzio's generalization follows if Case assignment is somehow related to verb raising from V\*\* to V\*.

Accusative is assigned to NP\*\* under a specifier head relation with NP\*\*. However, because of i-command, V\*\* does not govern NP\*\*. If the verb has an external argument, V\*\* will be raised by substitution to V\*. The effect of this raising is to make NP\*\* governed by its agreement or structural Case assigner. Suppose we strengthen our view of Structural Case by adopting:

(165) At LF, all Cases are Governed

(165) has no consequence for Governed Cases (i.e. inherent Cases). However, it will require a Structural Case position to be both in a spec/head relation with its Case assigning head and governed by it. This is possible only if at LF, the spec/head checking relationship is between the NP and the trace of the Case marking head, and the head has moved by substitution to a position where it governs the NP.<sup>75</sup> This is exactly what happens if V\*\* moves into V\*. If V\* was of a different category H to which V\*\* adjoined, the result would be [V+H]<sub>H</sub>: NP\*\* would not be governed by its Case assigning head. In the Case of English subjects, this means that I must substitute to C at LF in order to license Nominative Case. (Since C is contentless, it can always be empty at LF, allowing substitution.)

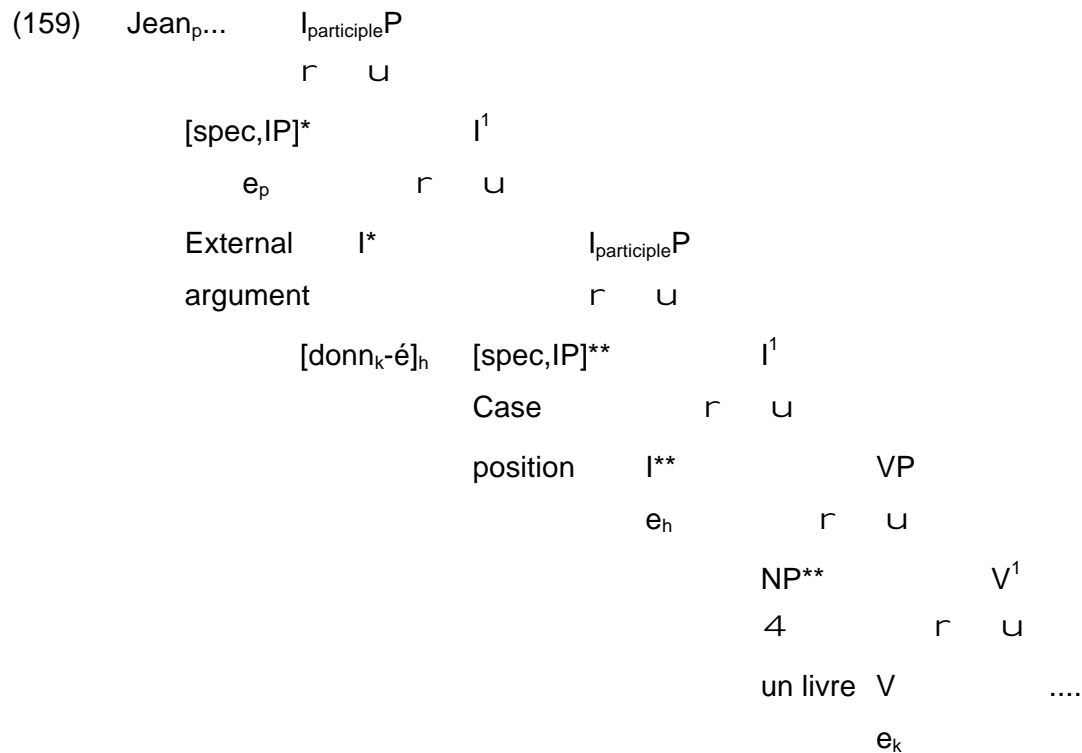
Go back now to (164) and Burzio's generalization. If a verb does not assign an external theta role to [spec,VP\*] in (164), the VP\* projection is absent. V\* is not there for VP\*\* to substitute into: (165) cannot be met if Structural Accusative cannot be assigned. Reciprocally, if Structural Accusative can be assigned, it means V\*\* has a V\* to substitute into. But V\* exists (by the Projection Principle) only if there is an external theta role. If tenable and desirable, (165) entails Burzio's Generalization.

### 5.3 Head Movement, Phrasal movement and Agreement

Consider again the structure of the VP of a sentence like *Jean a donné un livre*:

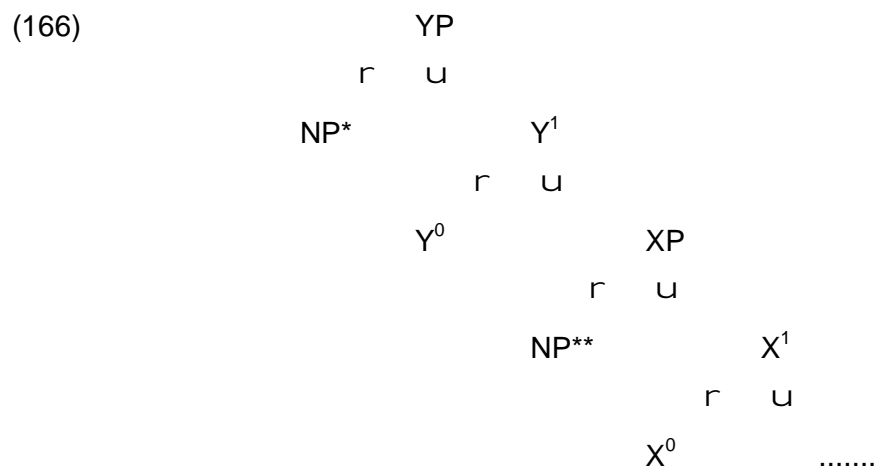
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<sup>75</sup>Head raising here does not perturb the agreement relationships, cf. section 5.3 for discussion



Why doesn't the participle agree with [spec,IP]\* instead of/as well as [spec,IP]\*\*?

This raises the general question of when agreement relations are established. Suppose that we have the following configuration with X an head able to manifest agreement:



NP\*\* can trigger agreement on X<sup>0</sup> regardless of its derivational history. Obviously, it can if it has not moved at all. It also can if it raises to NP\* (agreement with a trace) whether this

movement is A or A-bar (cf. object agreement with NP-traces or subject agreement with wh-traces). It can also if it has been raised from some lower down position under NP-movement (subject agreement with derived subjects). Whether agreement with  $X^0$  can take place with NP\*\* if NP\*\* has moved to [spec,XP] under A-bar movement is less clear. There does not seem to be overt examples in English or French.<sup>76</sup> More generally, there does not seem to be agreement between a head and its specifier if this specifier is an A-bar position. We can ask the same questions about the head  $X^0$ . Suppose it moves to  $Y^0$ . Does it show agreement with NP\*\*? Does it show agreement with NP\*? Languages seem to differ here. We briefly examine French and English below, noting now that they seem differ from languages with extensive Agreement systems like the Bantu languages (cf. e.g. Kinyalolo, 1991, for Kilega, the language of the Lega people of Zaire).

In English (or French), if  $X^0$  can agree with NP\*\*, then it will agree with NP\*\* even if it moved to  $Y^0$ , and then, will not agree with NP\*. There are two examples of this behavior. The first one is the one we pointed out above in connection with (159). The participle can agree with [spec,IP]\*\*. Therefore it will even if it raises to I\* and it will fail to agree with [spec,IP]\*. A second example, identical in structure to the first one is illustrated by the following pair:

- (167) a. John is proud of the children  
 b. Which children is (\*are) John proud of.

The verb *be* in I agrees with its specifier in the a sentence. In the b sentence, it raises to C, fails to agree with [spec,CP] and instead continues agreeing with [spec,IP]. Note that it is not sufficient to say that agreement is only with A-specifiers, as the case of the participle [spec,IP]\* in (159) shows. One can describe what is happening by stating that agreement takes place as soon as a complete word (apart from agreement) is formed in the course of the derivation. In the participle case, the word is formed after the V has raised to I\*\*. It agrees exactly then, not before, not later (this is where Kilega differs for example, which seem to allow two agreement markers on the same head). The same is true in the case of (167). The word is formed only when it has raised to tense. If it agrees, it agrees exactly then, neither prior to this raising, nor

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<sup>76</sup>Rizzi has suggested that there may be agreement between a wh-phrase in Spec,CP and C (to account for restrictions on the *que* --> *qui* alternation in French), but he argues this turns spec,CP into an A-position.

later. Perhaps one way to describe what happens here is that agreement must be external to any affix having semantic content.

Why this is is most unclear. The observation that agreement, an inflectional property, only applies to “complete” words is reminiscent of the prohibition against interspersing inflectional and derivational affixes and in fact, this is the question that is raised here: why do affixes occur where they do with respect to each other. Although it is possible to formulate an answer to this question, I know of none that is not essentially stipulative, building the answer into its framework without deriving it from deeper assumptions. I put in this category theories that are lexicalist to various degrees, e.g. some that put agreement in a different set as other affixes and in a different component as well (agreement in syntax, other relevant affixes in the lexicon). Although it is sometimes claimed that there are some empirical reasons to take syntax to operate on words (cf. Chomsky, 1970), these arguments are far from convincing and it remains to be shown what deeper reasons there are why the notion of word (a non obvious construct, whatever it that may be) should be of any relevance to syntax.

For our purposes, we can stipulate some answer built on an analogy between Agreement and Case. When movement of an NP takes place, say from some A-position to some A-bar position, the Case of this NP is determined by the highest A-position in the sequence of position it occupies in the course of the derivation. Higher positions will all be A-bar positions. We have the observation:

(168) The Case of an NP is determined by the highest A-position of its chain.

Suppose that agreement for heads works the same way.

Let us define the notion of A and A-bar positions for heads. Meaning by complete word, a word stripped of its affixes devoid of semantic content, we can define:

- (169) a. a head position is an A-position if incomplete words may move to it  
b. a head position is an A-bar position if only complete words may move to it

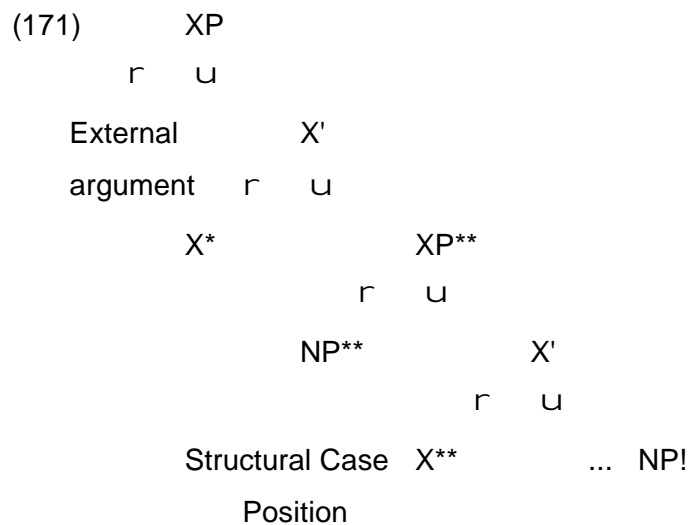
We can now reformulate the above observation by saying that agreement on a head is determined by the highest A-position in the chain containing this head. Paralleling (168), we can state:

(170) Agreement on a head is determined by the highest A-position of its chain.

Correctly, this will characterize the agreement relation as being established between I\*\* and [spec,IP]\*\* in (159), or between V\*\* and NP\*\* in (164). This will also properly characterize tensed verb agreement as being between the tensed verb and the subject.

#### 5.4 SSC Effects of Accusatives

As it stands, movement theory predicts that an accusative object of V acts like a subject within its VP, i.e. might produce SSC effects for NP-movement (although not for lexical anaphor binding):



The accusative NP! makes the position NP\*\* unavailable since it is in this position or is linked to this position for Case purposes. Since A-movement must be to the next specifier up, no A-movement is allowed out of XP\*\*, i.e. over an accusative object. More precisely, it entails that no A-movement is allowed out of a VP containing an object triggering Object agreement. A difference between the two formulations will arise if for Accusative can be inherent

Accusative rather than structural Accusative (as has been suggested for English, cf. below 5.4.1).<sup>77</sup>

This question has wide relevance. It might be relevant to the passivization possibilities of objects in double object constructions. It is relevant to the analysis of asymmetries between objects under object agreement and passivization in the Bantu languages as recently discussed in Baker (1988a), Marantz (1990) or Bresnan and Moshi (1990) for example. It is certainly relevant in Romance languages especially concerning the analysis of Indirect object as I will discuss below in section 5.4.3. As I will show, this prediction is too strong: there are cases of NP-movement over an Accusative object. This means that barrierhood has to be relaxed.

I begin by discussing some potentially problematic cases, then turn to violations of SSC.

#### 5.4.1 English Double Object Constructions

English Double object constructions possibly is a example of Accusative objects producing SSC effects. The relevant paradigm follows:

- (172)
- a. John gave books to children
  - b. John gave children books
  - c. Children were given books
  - d. \*Books were given children

In the a sentence, the Theme receives Accusative and the Goal Dative. In the b sentence, the Goal receives Structural Accusative, and the Theme a morphologically bare Case, which Larson (1988) suggests is Inherent Accusative. The grammaticality of the c sentence reinforces this assumption since the Goal can passivize. The ungrammaticality of the d sentence (in certain dialects; apparently there is dialectal variation) might be taken to illustrate the SSC effect of the Structural Accusative Goal. The problem of course is that the d sentence

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<sup>77</sup>If there is no accusative object, there are two possibilities. If some object needs to move out of VP for Case reasons, it will act as subject. Otherwise, all the specifiers are open and one NP can move out of VP by NP-movement.

might be also excluded for Case reasons if Burzio's generalization is correct or if Structural Accusative is not assigned in passive: there would be no Case for the Goal.

### 5.4.2 Raising Verbs

Raising verbs should not be allowed to have direct objects as raising of an NP over an intervening direct object should violate the SSC. However, English has verbs like *strike* or *impress*.

- (173)
- a. That John looked sick / This fact struck Bill
  - b. Bill was struck by this fact
  - c. It struck Bill that John looked sick
  - d. John struck Bill as sick
  - e. \* Bill was struck as sick by John

The a/b pair shows that *strike* may assign an external theta role. Otherwise passive would be impossible. Nevertheless, it has been argued that in the d sentence, *strike* is a raising verb. This is based on the synonymy of the c and d examples, suggesting that *John* in the d example gets its theta role only from the embedded predicate *sick*. The usual correlates of raising are not systematically found however: some idiom chunks may “raise” but *there* cannot (\**there strikes as being good reasons to do this*).

It is possible then that verbs like *strike* are not raising verbs in which case the SSC problem disappears. Alternatively, we could claim that they are two verbs *strike*. One would appear in the c and d sentences without external theta role, and one would appear in the a or b sentences with an external theta role. In this latter case, passivization would be possible because this (psych) verb has an external argument. In the former case, passivization would be impossible because this verb does not have an external argument. Suppose then that *strike* in d is a raising verb. If its object gets structural accusative, it violates Burzio's generalization, and also violates the theory of NP movement. This suggest that it is not getting structural accusative but rather inherent accusative. The fact that such verbs exist in English but not in French could then be linked to the non-existence of inherent accusative in French. This would correlate with the absence of double object constructions in French, as opposed to English, in which inherent accusative is used on the second object of double object constructions. For



English, this assumption is hard to test. A language like English in all respects except for the existence of object agreement would make the difference: an inherently Case marked object would not trigger agreement.

### 5.4.3 The Problem of Indirect Object Reflexives

#### 5.4.3.1 The French Case

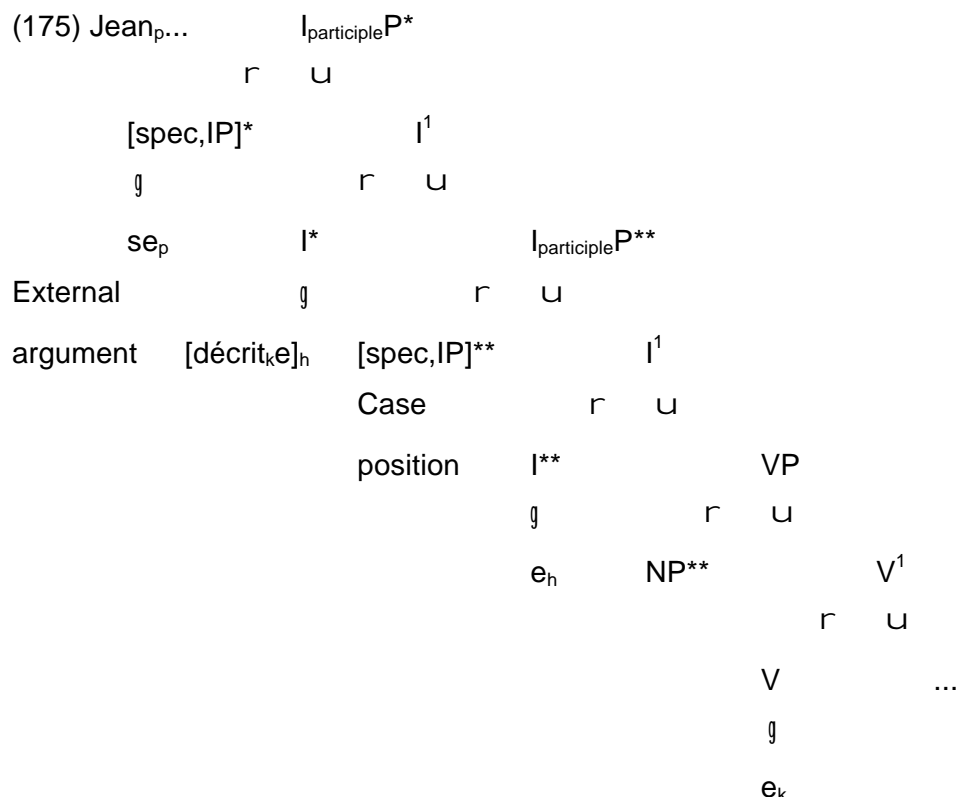
The most serious problem for the idea that accusative objects acts as subjects of their VP for NP-movement comes from the interaction of two analyses: the analysis of object agreement and the analysis of reflexive clitics as extended to "indirect object" reflexives. The problem is illustrated by the following paradigm:

- (174)
- a. Jean a décrit les portes à Pierre  
John described the doors to Peter
  - b. Jean n'a décrit les portes qu'à lui-même  
John described the doors only to himself
  - c. Jean ne les a décrit(ES) qu'à lui-même  
John only described them to himself
  - d. Marie s'est décrit(\*E) les chapeaux  
Mary described the hats to herself
  - e. Jean se les est décrit(ES)  
John described them to himself

The relevant facts are as follows: the d sentence shows that an indirect object reflexive in French does not trigger object agreement. Rather, as the e sentence shows, agreement, if present, is optional (in my dialect) and is triggered by the direct object. We see first that this paradigm contradicts the traditional description of agreement since we have a case of a construction using auxiliary *be* without obligatory agreement with the subject.

Recall the analysis we presented of reflexives: we showed that reflexives were best analyzed as external arguments, implying that the superficial subject is in fact an underlying internal argument. Applied to the d sentence, this means that *se* stands for the external argument in a sense to make precise, and that *Marie* is the underlying Goal. This Goal has raised to

[spec,IP], an A-position, triggering subject/verb agreement and therefore must have raised spec to spec exclusively through A-positions.<sup>78</sup> Two problems arise. Consider the structure of the d or e sentences:



Both the Goal and the Theme originate within VP. Why doesn't the Goal obligatorily trigger object agreement on the participle in the d sentence; second, why is the direct object able to trigger agreement on this past participle. This last property of the direct object must be interpreted as meaning that the direct object can move to the Accusative position, i.e. to [spec,IP]\*\*, a specifier that is higher than the base position of the Goal NP. This means the Goal NP is able to skip, and in fact must skip that specifier position. Worse, if the Theme must

<sup>78</sup>Consistent with this analysis and with the facts reported in footnote 55 is the observation that a reflexive reading is impossible in an "indirect object reflexive impersonal construction" as *il s'offre des robes à des femmes tous les jours* (it is offered dresses to women every day). Note that in these examples, there is a definiteness effects on both objects (the direct and the indirect object) which casts doubt on Belletti's proposal that this effect is due to the assignment of partitive Case (since the indirect object gets Dative here).

move to [spec,IP]\*\* at S-structure or at LF, this means neither [spec,IP]\*\* nor [spec,IP]\* is available for the Goal to move through, as these positions are needed for the Theme and the external argument respectively. This means that the notion of barrierhood we operate under is too restrictive and should be amended.

Here then are the three problems we need to address:

- (i) The Goal is able to skip the intervening specifier [spec,IP]\*\*
- (ii) The Goal must skip the intervening [spec,IP]\*\*
- (iii) The Goal must be able to skip [spec,IP]\*.

Problem (ii) is solved by the fact that [spec,IP]\*\* is, by definition, the accusative Case position. This makes [spec,IP]\*\* unavailable for non accusative NPs to move to (whether there is a structural Accusative direct object or not).

Problem (i) and (iii) are problems of locality of movement.

So far, we have not said what the structural consequence of treating *se* as an external argument was. The question is whether or not there is a syntactic position in which *se* is generated or not. Notice that since the direct object in the *e* sentence is able to trigger agreement, it means it receives Structural Accusative. If our treatment of Burzio's generalization in section 5.2.3.2 is correct, this means that the main verb should have an external argument. For this reason, I want to suggest that reflexive *se* is in fact an affixal noun in the same way object clitics are, except that it occurs in the external argument slot of its predicate. This is consistent with the fact that reflexive *se* appears in INFL as do object clitics. As a consequence, the projection IP\* exists and its specifier is occupied by *se*, so that movement of the indirect object to subject position must skip this specifier as well. Naturally, now direct object reflexives are reanalyzed too as involving movement of a direct object skipping over a *se* external argument.

#### 5.4.3.2 Barrierhood Revised

In order to accommodate the facts above, barrierhood needs to be made more permissive. Recall the definition of barrierhood we have:

(72) Barrierhood

Given **B** some constituent, and Y some category with  $\mathbf{B} \neq Y^n$ :  
if for some p, YP is not a L-dependent position and includes **B**  
then YP is a barrier for B

Consider the structure (175). We want to allow some NP originating in VP to move directly to a position outside IP\*: the idea is to remove the barrier status of the projection XP of some head X just in case X has moved to some higher head position in a way to make more precise. In the kind of Case we are interested in, the V originating in VP will raise first to I\* then to I\*\*. Suppose then that we revise barrierhood so that neither VP nor IP\*\* count as barrier but only IP\*, as a result of the movement of V to I\*.

(176) Barrierhood

Given **B** some constituent, and Y some category with  $\mathbf{B} \neq Y^n$ :  
if for some p, YP is not a L-dependent position and includes **B**  
then  $\text{clos}(Y)^{\text{max}}$  is a barrier for B

where we define  $\text{clos}(Y)$  (closure of Y) as:

(177)  $\text{clos}(Y)$  is the highest head position in the chain containing Y

$\text{clos}(Y)^{\text{max}}$  is the maximal projection of  $\text{clos}(Y)$ . Applied to (175),  $Y=V$ ,  $\text{clos}(Y)$  is I\* and  $\text{clos}(Y)^{\text{max}}$  is IP\*. <sup>79</sup> These modifications now permit direct NP movement from within VP to [spec,IP]\*. This solves problem (i), but it is not sufficient to solve problem (iii), i.e. for movement of the Goal is from within VP to outside IP\*.

To solve problem (iii), we should take the presence of the coindexed se to be crucial because, in general, the external argument blocks movement of any lower argument around it (this is the essence of the SSC). One way to achieve this result is to take this se coindexed with the raised Goal to fulfill the antecedent government requirement of the trace of the Goal. If se is

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<sup>79</sup>This implies that in layered Larsonian structures of say a V, no intermediate VP is ever going to count as barrier because V raises to the highest V position in the layered structure. More generally, for any X, XP is going to be a potential barrier only if it also is  $X^{\text{max}}$ . In (175), skipping over [spec,IP]\*\* possible if I projects to one further IP like IP\* because I\*\* raises to I\*.

not a member of the chain containing the goal, some NP not member of a chain can qualify as antecedent governor for a trace in this chain. We would again face the problems raised by Lasnik's examples discussed in section 3.5.3 unless we adopt the second alternative mentioned in section 3.5.3 concerning the treatment of Lasnik's example. This alternative requires an antecedent governor intruding in a chain to be itself somehow antecedent governed. If we pursue this line, in order to avoid Lasnik's problems, we should state the CCL to require an antecedent governor intruding in a chain to be itself antecedent governed by a member of this chain.

Alternatively, reflexive *se* is a member of the chain containing the Goal (or the Theme, in the case of direct object reflexives) and we can adopt the first of the alternative construals mentioned in section 3.5.3, namely that the CCL must hold chain internally. How can we reconcile this last assumption with our earlier contention that reflexive *se* is an argument absorbing the external role? This is discussed below in section 5.4.3.3.

There is one immediate advantage of this proposal. We do not need to stipulate the anaphoric character of reflexive *se*. Recall that we proposed in section 4.3.3 that reflexive *se* is simply a pronominal. If some object raises to subject the morpheme *se* will have to be coindexed with it to allow raising, so it has to be interpreted as anaphoric. If nothing raises to subject in overt syntax, the subject position contains an expletive and raising of some NP will have to take place at LF: the morpheme will also have to be coindexed with this NP to license LF raising. In other words, coindexation of *se* with the raised (direct or indirect) object is necessary to license the raising itself. Given that *se* "stands for" the external argument, coindexation is understood as referential dependency: the anaphoric relation follows.

There is also one immediate problem with this proposal. In the case of NP-movement it will preserve the treatment of agreement we have proposed in almost all cases since the agreement position is always going to be the highest position available within the projection containing the participle call it  $I_pP$ : If there is no external argument, the highest specifier position in  $I_pP$  is the agreement position. If there is an external argument, the only relevant cases of NP-movement are cases of movement over a coindexed *se*. In such cases, a problem arises: precisely what allows lack of agreement in NP-movement of the indirect object over a *se* should allow lack of agreement in NP-movement of a direct object over a *se*. However agreement is obligatory in such cases: *Marie s'est décrit\*(e) à Pierre*. We can differentiate the

two cases by noting that the agreement position is unavailable in the indirect object movement case (either because there is a direct object absorbing Accusative, or because Accusative is an elsewhere Case), but is available in the direct object movement case. In order to account for the obligatoriness of agreement with object reflexives (and middles, inherent...), we must require that movement be as short as possible. We can view this requirement as part of a broader requirement subsuming Chomsky's (1989) Principle of Least Effort and reading:

(178) Principle of Least Action (PLA)

Movement only if necessary and if necessary as short as possible

One consequence of the PLA is that we now may derive the idea expressed in (131) that Accusative (and in fact Nominative) is an Elsewhere Case. A DP that gets inherent Case gets it without movement. Since both Accusative and Nominative Case assignment involve movement, Accusative or Nominative will be used only as a last resort, i.e. as an elsewhere Case.

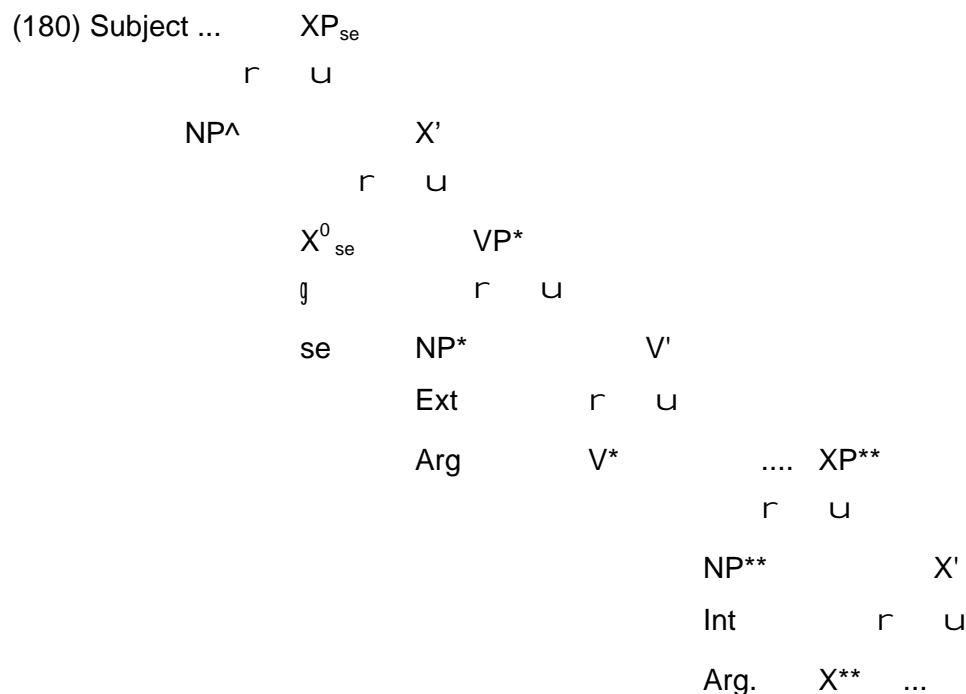
Note finally that the PLA is not redundant with the CCL. The PLA only imposes relative locality requirements: given several movement options, choose the shortest. The CCL imposes absolute locality requirements: it states that movement to a position lying outside a certain local domain is impossible, even if this position is the only landing site available.

#### 5.4.3.3 The Nature of *se*: Reflexives, Middles, Neutrals and Inherent Revised

The previous account of reflexive *se* raises new questions for the treatment of middle and other *se*. French *se* agrees in person and number with the subject of its clause, suggesting, on a par with our analysis of reflexives, that syntactic coindexation of some kind is involved and required:

- (179) a. Ces pommes se mangent/se sont mangées pendant longtemps (middle)  
 One eats these apples / ate these apples for a long time
- b. Vous vous réunissez/ vous êtes réunis (neutral)  
 You gather / gathered
- c. Tu t'évanouis/ t'es évanoui  
 you lose consciousness/ lost consciousness

Given that agreement holds in specifier/head configurations and that *se* behaves as a head, this indicates that there should be a way to have the superficial subject and *se* in a specifier/head relationship in the course of the derivation to S-structure. Consequently, I suggest that *se* is generated heading its own projection and that the NP it agrees with transits through its specifier NP<sup>^</sup> on its way to the subject position as follows (simplifying somewhat):



To preserve the analysis of “*se* as external argument”, we replace the proposal that *se* is an external argument with the property that *se* selects as complement a VP with an external argument slot. It might be thought that the second proposal is inferior to the first one but this

would be incorrect. They are both descriptively adequate and explanatorily equivalent as long as we do not have an account of why *se* is limited to external argumenthood. If we could derive this limitation, the first proposal would clearly be superior.

The various constructions now differ as follows:

In the neutral constructions, the external theta role is suppressed (a lexically governed option) and instead an expletive is projected in the external argument slot NP\* (otherwise, we could not prevent unaccusatives from participating in this construction).

The same thing happens in the inherent constructions: the inherent construction is a case of neutral where the causative counterpart never surfaces.

In the middle construction, NP\* is projected as an argument receiving the external theta role. In these last three cases.

In the reflexive construction, NP\* is also projected as an argument receiving the external theta role but is also coindexed with some internal argument.

In this view, NP<sup>^</sup>, the specifier of a functional category, is an expletive, and thus must be eliminated by LF. In all cases of movement to subject, i.e. to an A-position higher than NP<sup>^</sup>, movement will have to transit through NP<sup>^</sup>. This is how we derive the agreement of *se* with the superficial subject.

In the neutral and inherent constructions, Both NP<sup>^</sup> and NP\* are expletives and must be eliminated. Overt raising of an internal argument, proceeding with steps as short as possible in accordance with the LAP (178) and compatible with the CCL will raise successively through NP\* and NP<sup>^</sup> to the subject position.

In the middle construction, NP\* is a thematic position. The result we want is for some internal argument, say NP\*\*, to be able to raise to NP<sup>^</sup> and beyond, skipping NP\*, and to prevent NP\* from raising to NP<sup>^</sup> (otherwise we lose the account of subject-*se* agreement). To achieve this, we must assume that VP\* is not a barrier for the movement of NP\*\*: Let us take this to be one defining property of *se*: its complement is never a barrier. The desired derivation follows: if we were trying to raise NP\* to NP<sup>^</sup>, NP\*\* will no longer be able to reach the subject position without violating the CCL. We would get an impersonal middle construction (*il se mange beaucoup de pommes/ one eats many apples*). Left open here is how the subject expletive is eliminated. The simplest answer is by further raising NP\* from NP<sup>^</sup> to subject at LF. Since NP\* is a pronominal anaphor, i.e. a PRO, this derivation might be impossible. This means that NP\*\* must raise to subject instead. This will be possible only if NP\* never raises to NP<sup>^</sup> but NP\*\*



does instead (as discussed below), but at LF. If NP\* does not raise to NP<sup>^</sup>, NP\*\* can raise directly to NP<sup>^</sup> (and beyond), eliminating the expletive NP<sup>^</sup>, triggering agreement on *se* and raising further up to subject position: this derivation gives the (personal) middle.

Turning now to reflexives, NP\* is by definition an argument and anaphoric. It will have to be coindexed with some object (say NP\*\*). Since the derivations invoked in the previous case are also available in this case, we can examine them. NP\* needs a local c-commanding antecedent. We will get proper binding of the anaphor only if NP\*\* raises to subject. This excludes the first derivation (NP\* to NP<sup>^</sup>) and only permits the second derivation (NP\*\* to NP<sup>^</sup> to subject overtly or covertly): the coindexing will follow.

Note that we can now keep to the strongest form of the CCL (as announced in 3.5.3) requiring the CCL to be satisfied strictly chain-internally. This assumption excludes other possible movement derivations (e.g. NP\* to NP<sup>^</sup> together with NP\*\* to subject).

In sum, we have concluded that:

- (i) the CCL should hold only chain-internally
- (ii) *se* selects VPs with external argument slots
- (iii) *se* remove the barrier status of its VP complement.

From these assumptions, we have derived the agreement properties and movement patterns found in *se* constructions.

#### 5.4.3.4 Barrierhood further Revised and Some Consequences

We derive the fact that *se* must always agree with its S-structure. This subject is always a derived subject: coindexation of *se* with this subject is necessary to license the raising to subject position.

Consider the following sentence:

- (181)    *Nous nous regardions*  
          We were looking at ourselves

In such a sentence, the verb raise to T to get Tense as Emonds (1976) shows. The way Barrierhood is now defined will permit some internal argument to raise directly to [spec,TP]

since  $\text{clos}(V)=T$ . In particular, a direct object should be able to raise over a se without transiting through its specifier. If we want to preserve the account given, we must prevent this derivation. In order to prevent it, it is necessary to limit the kind of head movement that is taken into account in the definition of  $\text{Clos}(Y)$ . Head movement to participial morphology extends the minimal barrierhood domain but head movement to T does not. This distinction recalls the distinction previously introduced in section 5.2.3.1 between affixes of class L and others. Concretely, barrierhood is canceled by head movement only once, namely by moving a head to the next head up. I modify the definition of  $\text{clos}(Y)$  and replace it by:

(182)  $\text{clos}(Y)$  is the highest head lexically selecting Y in Y's chain.

consequently, participial morphology will be within  $\text{clos}(V)$  but Tense, Comp or progressive -ing will not.

It should be clear that the relaxation of barrierhood resulting from (176) and (182) does not affect wh-movement possibilities in VPs. Of course, it does affect NP-movement possibilities, by making it less free.

Possibilities of Head movement are radically altered however, since barrierhood is now defined in term of the notion "closure" itself derived from head movement. Under (177), head movement became completely unconstrained by barrierhood and some other principle had to be responsible for the Head Movement Constraint.

Under (182), the HMC remains derived from barrier theory except for the case of a head moving to another selecting it, even if this movement skips over some intermediate head. I think this consequence is actually highly desirable: it is at the root of the properties of restructuring constructions, reanalysis constructions. Furthermore it will allow incorporation of a N in a V that selects it even if intermediate projections such as D/DP, Q/QP intervene.<sup>80</sup>

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<sup>80</sup>Baker and Hale (1990) document such a case, attributing the possibility of the violation of the strict HMC to the fact that only a Relativized Minimality (in the sense of Rizzi, 1990) version of the HMC holds whereby intermediate functional projections do not count as intervening between two non lexical projections: in our account, the RM effect is actually not attributable to a primitive RM condition, but rather derived from lexical selection. Note further that selection of N by V violates government in the absence of N movement to V; If as is reasonable, selection is checked at LF, this suggests LF incorporation is needed to license government.

#### 5.4.3.5 Se Constructions and Case

Se is not an NP and thus needs no Case for visibility purposes.

Because we derive Burzio's Generalization from verb raising, we might expect accusative Case to always be available in se constructions: as the structure (180) indicates, X\*\* raises to V\*, allowing accusative Case assignment. However, the same reasoning applies to passive constructions. It is thus possible that, even though accusative is assigned, it is unavailable because it is redirected (e.g. to NP\*), as has been argued to happen in passives.<sup>81</sup>

Consider first the reflexive construction (reflexive interpretation intended throughout):

- (183) a. Beaucoup de gens se rasent  
Many people shave themselves  
b. il se rase beaucoup de gens  
it se-shave many people  
c. \* il s'en rase beaucoup  
it se-of-them shave many  
d. Beaucoup de gens s'offrent des fleurs  
Many people give themselves flowers  
e. \* il s'offre des fleurs à beaucoup de gens  
it se-give flowers to many people  
f. \* il s'offre des fleurs beaucoup de gens  
it se-give flowers many people

In the direct object reflexive (183a), accusative should be available, given the possibility of (183d) with an overt direct object. This means that the post verbal NP in (183b) could be accusative, if it is in object position. The b sentence is acceptable with a reflexive reading, but the reflexive reading disappears in the c sentence with *en* cliticization. Since the possibility of *en* placement is a diagnostic property of direct objecthood, I interpret this as meaning that a postverbal NP in object position does not allow the reflexive reading. I ascribe the possibility of

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<sup>81</sup>Note that this proposal of redirecting accusative to NP\* differs from that of Baker, Johnson and Roberts (1988) as accusative is assigned to an NP and not to a head. We would take the same approach with passives. How this redirection is to be handled precisely is unclear, given the way in which accusative Case assignment now proceeds.

the reflexive reading in the b sentence to its structural ambiguity. The postverbal NP can also be an inverted subject as found in what I have called the impersonal intransitive construction illustrated by:

- (184) a. Il a dansé trop de gens ici  
It has danced too many people here
- b. \*Il en a trop dansé ici, de gens  
it of-them has too much/many danced, of people
- c. \*il en a dansé trop ici, de gens  
it of-them has danced too many, of people
- d. \*il dansé des polkas trop de gens ici  
it has danced polkas too many people here

This last construction does not allow *en* placement (184c), does allow the presence of a direct object (184d) and does not tolerate a pre participial quantity adverb binding into the postverbal NP (184b).<sup>82</sup> All this suggest that the postverbal NP is not an object. Expletive replacement at LF will force the postverbal NP to raise to subject position. If the external role is anaphoric, the reflexive reading arises, otherwise, we get a impersonal middle construction.<sup>83</sup> We have seen in section 5.4.3.3 that raising of NP\*\* to subject position overtly or covertly should be able to provide an antecedent for an anaphoric external argument. What then blocks the reflexive interpretation when the post verbal NP is in object position as in (183c): in (183c) the clitic *se* or its base position commands the object position. Coindexation then yields a principle C violation if this Principle held at S-structure, an assumption that seems reasonable.<sup>84</sup> This reasoning does not extend to the impersonal intransitive construction: the

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<sup>82</sup> The sentence (184b) improves with indefinite *en* as in *il en a trop dansé ici, deS gens / it of-them has too much/many danced, people* instead of quantitative *en*.

<sup>83</sup> Left unexplained under this account is the impossibility of French *il se danse* as an impersonal middle, whose Dutch *er wordt gedanst* and German *es wurde getanzt* passive equivalents are grammatical. Possibly, this is related to the necessity of an "affected" internal argument in the middle, cf. below in this section.

<sup>84</sup> Note that the object cannot be definite. As a result, it cannot be a definite pronoun. If it is an indefinite pronoun, it would instead be a principle B violation. An anaphor should be ruled out too. The case of

impossibility of *en* placement in (184) shows that binding of the postverbal NP from the clitic position is not possible.

Returning to the question of Case, I will suppose on the basis of (183d) that Accusative is in principle available in reflexive constructions. In (183a) optional Case assignment of accusative has not taken place, and the object has raised to subject, receiving Nominative. In (183b), the accusative option is not exercised either (recall that under the relevant reading, the postverbal NP is not an object but an inverted subject). The postverbal NP gets Nominative Case, and raises at LF to subject position, where Nominative is checked. The situation of (183d,e,f) is similar, except for the fact that the indirect object and Inherent Dative are involved, instead of the direct object and accusative. In the first one, the indirect object fails to receive Inherent Case. Instead, it gets Nominative checked by being moved to subject position overtly. The counterpart of (183b) is (183f) without the *à* which is ill formed like (184d) for unclear but general reasons (preventing subject inversion in the presence of a direct object). Finally, (183e) is ill formed for reasons similar to those ruling out (183c): since the reflexivized argument is marked dative, it is an indirect object and thus in the c-command domain of the coindexed external argument, which leads to a principle C violation. Notice that because of the elsewhere character of accusative, indirect reflexive constructions cannot display participle agreement even in the absence of a direct object.

As we have seen (even, tentatively for inherent *se* constructions - cf. footnote 54) we have concluded that *se* can only occur on verbs which have an external argument and expresses or “absorbs” this external argument. Reflexive *se* differs from the others in a couple of ways. First the reflexive *se* does not need a verb taking an internal argument realized as accusative in the absence of *se*. Unlike reflexive *se*, however, middle, neutral or inherent *se* needs to be affixed to a verb otherwise taking an accusative internal argument. Secondly reflexive *se* does not need to eliminate the normal expression of this argument, while middle, neutral and inherent *se*’s do. Thus they do not cooccur with an accusative direct object (assuming that the postverbal NP in the middle impersonal (185b) is not accusative), or to enter in construction with only an indirect object or a small clause subject assigned accusative. Thus middles, neutral and inherent *se* constructions differ from Passives and Reflexives:

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anaphors however is more complex, due to the various possible interpretation of principle A satisfaction

Passivization seem to involve Structural Accusative objects, regardless of thematic properties.<sup>85</sup> Reflexivization can affect Accusatives or Dative NPs again regardless of thematic relations. Middles, neutral and inherent se constructions however only involve direct objects:

- (185)a. Ces gens se sont vendus / Il s'est vendu beaucoup de gens  
 These people were sold / many people were sold  
 These people sold themselves / \*Many people sold themselves
- b. Ces gens se parlent / Il se parle beaucoup de gens  
 \*One speaks to these people/ \*one speaks to many people  
 These people speak to themselves / These people speak to themselves<sup>86</sup>
- c. Ces gens se considèrent malades / \* Il se considère beaucoup de gens malades  
 \*One considers these people sick / \* One considers many people sick  
 These people consider themselves sick / \*these people consider themselves sick<sup>87</sup>
- d. Je me décris facilement<sup>88</sup>  
 One describes me easily  
 I describe myself easily

Apparent lack of cooccurrence with accusatives might suggest, given Burzio's Generalization that these se are not projected as external arguments, a fact certainly consistent with the lack of external argument for neutral or inherent se constructions. But this is not consistent with the presence of the external argument of middles. This suggests instead that these constructions should be assimilated to passive constructions where accusative Case becomes unavailable because it is redirected to the external argument (cf. Baker, Johnson and Roberts, 1989). Furthermore inherent, neutral or middle se and reflexive se have the same surface distribution as reflexives and other clitics: it is external to all other clitics and internal to negation:

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and their consequences for the distribution of anaphors, cf. Belletti and Rizzi, 1988 for example

<sup>85</sup>The non passivizability of objects like *Bill* in *John resembles Bill* can be attributed to *Bill*'s receiving inherent accusative, another such instance in English contrasting with French, in which these NPs receive Dative.

<sup>86</sup>The second member of the pair seems to me marginally acceptable with a reflexive reading.

<sup>87</sup>Here the reflexive interpretation is totally ruled out, reinforcing the conclusion of footnote 54.

<sup>88</sup>The impersonal counterpart is only possible with third person, due to the Definiteness effect.

- (186) a. Jean ne se l'est pas donné (reflexive)  
 John NEG-REFL-OBJ-be NEG given  
 John did not give it to himself
- b. Jean ne s'y est pas évanoui (inherent)  
 John did not pass out there
- c. L'eau ne s'y est pas renversée (neutral)  
 The water did not spill there
- d. Les pommes ne s'y mettent pas facilement (middle)  
 One does not put apples there

all the clitics appear adjoined to some functional category away from the verb, which suggests that they are positioned by syntactic processes.<sup>89</sup>

The ill-formedness of these constructions with indirect object or small clause subjects suggests that accusative per se is not at issue here. Now there are poorly understood semantic constraints on middle formation, involving interpretive properties of some internal argument. It is possible that the NPs with the right thematic relations to verbs (e.g. affected) must be realized as direct objects so that only direct objects can raise to subject in middle constructions. These constraints will prevent subjects of small clauses or indirect objects from raising to subject in middle constructions and perhaps prevent impersonal middle constructions lacking direct objects as well. If this last approach is correct, a postverbal NP in an impersonal middle construction such as (185a) could in principle be accusative. Our theory of participle agreement then predicts that participle agreement should be possible with a postverbal NP in an impersonal middle construction, contrasting with impersonal passive or unaccusative constructions. The facts are not as clear as one would wish:

- (187) a. il a été construit des maisons récemment  
 it has been built houses recently
- b. il s'est construit des maisons récemment  
 it se was built house recently
- c. il en a été construites, des maisons, récemment

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<sup>89</sup>All the *se* also behave similarly in causative constructions in disallowing climbing, differently from other clitics, cf. Kayne, 1975, Burzio, 1986, Zubizarreta, 1982.

- it some has been built-agr, houses, recently
- d. il s'en est construites, des maisons, récemment
- it se some was built-agr, houses, recently

Both (187c) and (187d) strikes me as unacceptable.<sup>90</sup> This shows that the post verbal NP in (187a, b) is not a Structural Accusative object, but rather Nominative, in keeping with our treatment of impersonals.

Suppose then that the postverbal NP in middle and inherent impersonal constructions is not Structural Accusative. Even though accusative is possible in principle, it cannot surface: if there is only one internal argument NP, this NP must be nominative, because of overt movement or LF expletive replacement. Suppose there are two NP internal arguments, a direct object and an indirect object. Because indirect objects cannot be "middleized", expletive replacement will have to involve the direct object. This means it cannot be accusative.<sup>91</sup>

## 5.5 Agreement with Quantitative/Partitive *en*

I begin by a note about the judgments on participle agreement in French. Participle agreement with accusative objects when they precede is a rule that is enforced by norm in school mostly for spelling reasons. The rule teaches that such agreement is obligatory. Most people's judgments disagree with the norm: if the preposed object is not a clitic (e.g. a wh-phrase), most people (I have interviewed) will agree that agreement is optional. Further, some will have obligatory agreement with accusative object clitics. My judgments (and many other speaker's) is that agreement is optional even with accusative clitics. For most of these judgments, they are actually duplicated in neighboring Romance languages such as Catalan or Italian.

Judgments on agreement with (non genitive) *en* vary more. Consulting French grammars such as Grevisse (1980 on this topic shows that the normative rule simply collapses in this case. I therefore take these judgments as highly significant as they reflect inner resources of the

<sup>90</sup> Although the second of these examples seems marginally less unacceptable.

<sup>91</sup> Alternatively, accusative is unavailable perhaps because it is redirected as in passives, an option that will have to be made compatible both with our treatment of structural accusative Case assignment and our treatment of Burzio's Generalization.



grammar. In everything that follows, the judgments are mine. Throughout this section, the diacritics indicate contrastive rather than absolute judgments on agreement facts.

### 5.5.1 Basic Facts

So far, we have only discussed genitive *en*, a pronominal standing for a complement of a noun. Quantitative/Partitive *en* appears superficially as complement of a bare Q. In Milner's (1978) terminology, Quantitative *en* is illustrated by the a/b pair (with the Q either followed by *de* or not, depending on the Q), Partitive *en* by the c/d pair, the difference between the two being the presence of the determiner in the Partitive:

- (188)
- a. il a vu beaucoup de photos /il a vu trois photos  
he saw many pictures /he saw three pictures
  - b. il en a vu beaucoup, de photos /il en a vu trois, de photos  
He of-them saw many, pictures /he saw three of them
  - c. il a vu beaucoup des photos  
he saw many of the pictures
  - d. il en a vu beaucoup, des photos  
He of-them saw many, of the pictures

Milner (1978) analyzes Quantitative *en* as an N', and partitive *en* as an NP. Haik (1982) analyzes both *en* as the head of the NP object, as opposed to genitive *en* which stands for an NP. Clearly, if Milner is right for Quantitative or Haik is right, we might face a potential problem: cliticization crucially involves an intermediate adjunction to VP of *en* that would not be available, if we were dealing with head movement or N' movement from the start. The alternative in the case of head movement would be to invoke successive adjunctions to the verbs (first to *voir*, then to *avoir*), which we showed earlier in section 3.2.4 is ruled out. Now, it is clear that *en* is a head, since it is a clitic, but this does not imply that it must move as a head. Rather, a larger XP projection including the head can move first, followed by cliticization of *en* later in the derivation, exactly as in the case of accusative clitics discussed previously. Taking into account the DP hypothesis of Abney's (1987), which we have not done so far allows resolving the conflict between the two proposals and keeping the insight of each. With Haik,

we must take *en* as a head (since it is a clitic), namely head of DP in all cases, with the advantage of a unified analysis for all *ens* (including genitive *en*). With Milner, we take the object of *beaucoup* to differ depending on whether or not a definite article is present: an article is present in the partitive construction, but missing in the quantitative construction. This yields the following (simplified) structures<sup>92</sup>:

| (189) a. Genitive |               |  | b. Partitive |                     |    | c. Quantitative |        |    |
|-------------------|---------------|--|--------------|---------------------|----|-----------------|--------|----|
| NP                |               |  | QP           |                     |    | QP              |        |    |
| t y               |               |  | t y          |                     |    | t y             |        |    |
| N                 | DP            |  | Q            | DP                  |    | Q               | DP     |    |
| livre             | 4             |  | beaucoup     | t y                 |    | beaucoup        | t y    |    |
|                   | (de) mon père |  |              | D                   | NP |                 | D      | NP |
|                   |               |  |              | des                 | 4  |                 | (de) ∅ | 4  |
|                   |               |  |              | (= (de)+les) photos |    |                 | photos |    |

We can then take *en* to be a D (like other pronouns and clitics) agreeing with an NP. This gives a unitary analysis of *en* as the head of a DP Case marked genitive. *En* is a form incorporating the particle *de* and the D, i.e. partitive *en* =  $D_{\text{definite}} + de$ , quantitative *en* =  $D_{\text{null}} + de$ , genitive *en* =  $D_{\text{pronominal}} + de$ ). We give one additional reason to support the idea that quantitative (and partitive and genitive) *en* should also be treated as the head of an XP, i.e. as  $[Q [_{XP} en]]$ . Movement of quantitative *en* is sensitive to the presence of material in an intervening specifier exactly in the same way genitive *en* is:

<sup>92</sup>In particular, we totally ignore the presence of the particle *de*, which seems external to the necessary semantic relations realized here (reminiscent of Case) and whose presence raises additional issues (a structural Case treatment similar to accusative would make *de* more or less external to these “base” structures) that will have to be resolved elsewhere.

- (190) a. Il a vu les trois premières photos  
he saw the first three pictures
- b. Il en a vu les trois premières, de photos  
He of-them-saw the first three, pictures
- c. Il a vu mes trois premières photos  
he saw my first three pictures
- d. \*Il en a vu mes trois premières, de photos  
He of-them-saw my first three, pictures

in the DP terminology, if the [spec,DP] position of the higher NP is filled, here by a possessor, extraction of quantitative *en* is blocked, suggesting movement of *en* through this [spec,DP], i.e. that this *en* is an XP. Note that head movement is not sensitive to the presence of material in specifier position: INFL to C in English can take place in the presence of a subject in [spec,IP]:

- (191) Will<sub>i</sub> [<sub>IP</sub> John [<sub>I'</sub> t<sub>i</sub> [ like it ]]]

I conclude that in all cases, *en* stands for an XP and that it is the XP that moves out of the direct object, followed by incorporation of its head *en* in the same fashion as other clitics. This is not to say that I do not accept Milner's (1978) arguments. Milner convincingly argues for a structural difference between quantitative constructions and partitive constructions, which he analyzes respectively as [<sub>NP</sub> Q \*N'] and [<sub>NP</sub> Q [<sub>N'</sub> N^ \*NP]] with N^ silent. Milner suggests that the quantitative *en* stands for \*N' while partitive *en* stands for \*NP. It seems to me that although structural differences between the two constructions are well motivated, it is quite unclear that we are dealing with two *en*. We can reformulate his proposal here by adding to (189b) an additional DP projection in the partitive yielding [<sub>QP</sub> Q [<sub>DP</sub> D<sub>∅</sub> NP] ] and [<sub>QP</sub> Q [<sub>DP</sub> D<sub>∅</sub> [<sub>NP</sub> N^ DP]]], with N^ silent, for quantitative and partitive respectively. This preserves his idea that the partitive is a structure including a quantitative subpart and is compatible with the text above.<sup>93</sup>

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<sup>93</sup>There is one important difference between genitive *en* and quantitative *en*: cliticization of genitive *en* is possible from a derived subject: *la cheminée en est penchée*, but cliticization of quantitative *en* is not possible: *\*trois en sont penchées*. Milner (1978) notes that "bien que les exemples soient peu clairs, il semble que *en* partitif se comporte plutôt comme *en* ordinaire" (i.e. genitive) and not like quantitative *en*

### 5.5.2 Plural Indefinite and Partitive article

A final type of *en* occurs in constructions containing what traditional grammarians have called the indefinite plural article *des* illustrated in (192a) and the partitive article *de* illustrated in (192b):

- (192) a. Il a repeint des portes / il en a repeint(es)  
He repainted doors(fem-pl) / he repainted some
- b. Il a mange de la soupe/ il en a mange  
he ate some soup / he (of it) ate some

I will follow Milner's (1978) conclusions that both these constructions contain a silent quantifier and are of the form [Q [<sub>DP</sub> de art X]] (with rules *de + les = des*, *de + le = du*), where the silent Q stands for an indeterminate quantity. I will further suppose that the so-called partitive article is simply the counterpart of the plural indefinite article when the head noun is or is used as a mass noun, rather than a count noun.

### 5.5.3 Agreement with Quantitative *En*

Let us now turn to the agreement facts.

First, none of these *en* can trigger agreement when they originate as part of the object in an impersonal unaccusative constructions, an impersonal passive construction or an impersonal middle constructions.:

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as in *ces pommes, beaucoup en sont gatées*. My own judgments are opposite and treat such sentences as on a par with quantitative *en* sentences.

(193) Impersonal Unaccusative

- a. Il est arrivé des femmes / Il en est arrivé(\*ES)  
it is arrived women/ it some is arrived
- b. Il est arrivé beaucoup de femmes /Il en est arrivé(\*ES) beaucoup  
it is arrived many women/ it of-them is arrived many
- c. Il est beaucoup arrivé de femmes /Il en est beaucoup arrivé(\*ES)  
it is many arrived women/ it of-them is many arrived

Impersonal Passives

- d. Il a été peint des portes/ il en a été peint(\*ES)  
it has been painted doors/ it some has been painted
- e. Il a été peint beaucoup de portes/ il en a été peint(\*ES) beaucoup  
it has been painted many doors/ it of-them has been painted many
- f. Il a été beaucoup peint de portes/ il en a beaucoup été peint(\*ES)  
it has been many painted doors/ it of-them has been many painted

Impersonal Middle

- g. Il s'est construit des maisons / Il s'en est construit(\*ES)  
It se is built houses / it se some is built
- h. Il s'est construit beaucoup de maisons / Il s'en est construit(\*ES) beaucoup  
It se is built many houses / it se of-them is built many
- i. Il s'est beaucoup construit de maisons / Il s'en est beaucoup construit(\*ES)  
It se is many built houses / it se of-them is many built

Impersonal Intransitive

- j. Il a conduit des femmes ../ il en a conduit(\*\*ES)  
it has driven women/ it some has driven
- k. Il a conduit beaucoup de femmes ../ il en a conduit(\*\*ES) beaucoup  
it has driven many women / it of-them has driven many
- l. ? Il a beaucoup conduit de femmes ../ \*il en a beaucoup conduit(ES)  
it has many driven women / it of-them has many driven

This is as predicted. Since the object in all these cases does not get accusative Case, agreement is not possible. There is nevertheless a contrast between the first three constructions and the last one that can be attributed to the fact that the postverbal NP in the first three is nevertheless a complement of the verb, while it is an inverted subject in the last one (using inverted without prejudging how this should be analyzed - as inversion or as failure of raising from VP internal position). As illustrated by the examples c, f, i and l, the initial Q of the postverbal object can appear separated from the rest of that object (if it is immediately followed by *de* as *beaucoup* but not say, numerals). Call these Q separable Qs. Some analysis of this process is provided below in section 5.5.4.

In the transitive case, the facts are as follows.

- (194)
- a. Il a peint des portes / Il en a peint(ES)  
he has painted doors / he soem has painted
  - b. Il a peint beaucoup de portes / Il en a peint(\*ES) beaucoup  
he has painted many doors / he of-them has painted many
  - c. Il a beaucoup peint de portes / Il en a beaucoup peint(ES)  
he has many painted doors / he of-them has many painted
  - d. Il a peint autant de maisons qu'il en a construit(ES)  
he has painted as many doors as he of-them has built

In the a sentence, agreement is possible with a preposed clitic even though the clitic does not stand for the direct object itself but rather for a subpart of the direct object. This also true in the d sentence. In both cases, the object is of the form [<sub>QP</sub> Q [<sub>DP</sub> de (art) X]] with Q silent or *beaucoup*. Why is agreement possible? In order to account for this data, I suggests that the derivation of the a and d sentences proceeds as follows: the constituent QP (which I had been calling an NP throughout) raises to the Accusative position, triggering agreement. As next step, DP raises out to [spec,QP] position and then out of QP from which *en* (the head of DP) can be incorporated into Tense. The (silent or overt) Q from QP is left behind, possibly in the accusative position or possibly is subject to further movement rules (as in the d example of subdeletion). In the c sentence, the Q overtly remains postverbal: QP has never raised to the accusative position, only Y has been extracted out of it without being able to transit through the accusative position. Agreement is impossible.

#### 5.5.4 Separable Q Position

The general account of agreement I have given argues that in French, agreement is triggered by the presence of the direct object in [spec, I<sub>participle</sub> P] in the course of the derivation. This leaves open the question of why the agreement position allows movement through it but does not appear to allow an overt filler as the a example shows:

- (195) a. \*Jean a les portes peint(es)  
Jean has the doors painted  
b. Jean a beaucoup/trop/peu peint de portes  
Jean has many/too many/few painted doors

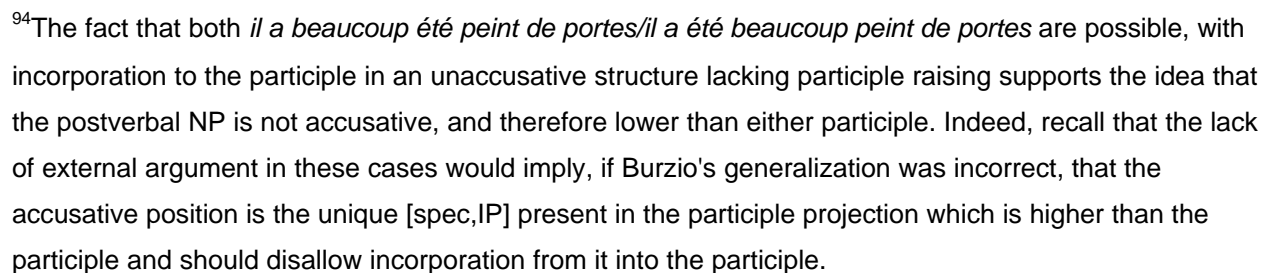
The analysis of the data in (194) above might be taken to suggest that some non silent filler might be allowed to appear overtly in that position as in the b sentence, if it can be shown that *beaucoup* actually occupies the agreement position. The possibility of:

- (196) Il a trop/peu imprimé ses articles  
he printed his articles too many times/ few times

indicate that these Qs do not have to appear in the accusative position: since this position is needed for the postverbal object, *trop* cannot occupy it. These Qs fit in the class of unselective quantifiers in Lewis's (1975) sense: the Qs in sentences like (195b) are ambiguous between the *many/too many/few* readings (quantifying over NPs) and the *too much/not much* reading (of frequency quantifiers over events). In (195b), they have the first reading, in (196) the second. The reason is clear: if the postverbal NP contains an empty Q, the preverbal Q will have to act as antecedent for it and have its restriction defined by this postverbal NP.

Otherwise, it is free to quantify over events or other open entities in the sentence. This shows that in each case we are dealing with only one Q (and not two homophonous Qs) as could be suspected from the systematic ambiguity. It also shows that the Q does not have to be in the accusative position, since it is not in (196). This is corroborated by sentence (195b): Q by itself is a head. If it were in the accusative position, it would mean the whole QP has moved there with DP extraposed or moved out of QP prior to QP raising. But if the Q headed QP were in the accusative position, we would expect agreement with the postverbal object. Agreement

This reasoning is consistent with the stronger conclusion that the Q in (195b) cannot be in the accusative position. Of course, this does not show that the Q is not in the accusative position when *en* movement has taken place as in *Il en a beaucoup mangé*, but it shows it does not have to be. These conclusions are consistent with our contention that the accusative position is in fact lower than the participle's at S-structure. Indeed, recall that the relevant structure for a transitive sentence is:<sup>94</sup>





That these separated NP quantifiers cannot appear in the accusative position is supported by the following observations showing that the Q position is as close to the verb as possible:

- (198)
- a. J'ai donné beaucoup de bonbons à tous les enfants  
I have given many sweets to all the children
  - b. J'ai beaucoup donné de bonbons à tous les enfants  
I have many given sweets to all the children
  - c. Je leur ai tous donné beaucoup de bonbons  
I to-them have all given many sweets
  - d. Je leur ai tous beaucoup donné de bonbons  
I to-them have all many given sweets
  - e. \* Je leur ai beaucoup tous donné de bonbons  
I to-them have many all given sweets

Thus the adverbial Q *beaucoup* cannot be separated from the verb by a floating quantifier (quantifying over the indirect object).<sup>95</sup> Where then are these Qs appearing in (195b)? I suggest that they incorporate to the participle in I\* from [spec,IP]\*\*: QP raises to [spec,IP]\*\* triggering agreement. DP is extracted from there, and ultimately cliticized and Q incorporates to I\*.<sup>96</sup> Returning to our original question, these facts indicate that the Agreement/Accusative position must be empty at S-structure.

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<sup>95</sup>And so do the following in which the Q is the totality of the QP constituent.

- (i)
  - a. J'ai donné tout à tous les enfants
  - b. J'ai tout donné à tous les enfants
  - c. Je leur ai tous donné tout
  - d. Je leur ai tous tout donné
  - e. \* Je leur ai tout tous donné
- (ii)
  - a. J'ai donné toute ma confiance à tous les enfants
  - b. Je l' ai toute donné à tous les enfants
  - c. Je leur ai tous donné toute ma confiance
  - d. Je la leur ai tous toute donné
  - e. \* Je la leur ai toute tous donné

<sup>96</sup>Note that the distributional facts are quite complex with the frequency reading of *beaucoup*, *trop* ... Thus, *beaucoup*, *trop* etc.. behaves distributionally like NP quantifiers and unlike frequency adverbs. We find the contrasts:

### 5.5.5 A Puzzle about the Partitive Article

There is a minimal and puzzling contrast with respect to agreement between an indefinite plural object and a partitive singular object illustrated below:

- (199)
- a. Il a pris des poires/ ?il en a pris(es), des poires  
he has taken pears/ il some has taken, pears
  - b. Il a pris de la glace/ il en a pris(\*E), de la glace  
he has taken ice/ hesome has taken, ice
  - c. Il a fait des soupes /?Il en a faitES, des soupes  
he has made soups/ he some has made, soups
  - d. Il a cuit de la soupe/Il en a cuit(\*E), de la soupe  
he has cooked soup/ he some has cooked, soup

The impossibility of the b and d sentences appears mysterious: The derivation available for a and c should be available for b and d. This different behavior can be related to structural differences between indefinite plural and singular partitive constructions, and/or to some semantic difference between the two such as the count/mass distinction or the nature of the covert quantifier.

This suggests imposing an (unexplained) restriction on the Agreement/Accusative position, namely that it is restricted to certain types of quantified NPs that would include pronouns (analyzed as D heading a DP), wh-words and certain Qs such as *beaucoup*, *trop* and the silent Q appearing in the indefinite plural but not *la moitié* or *la plupart* and the silent Q appearing in the singular partitive. A potentially serious problem with this is raised by the possibility of agreement in *de la soupe a été faitE ce matin*. The agreement here is triggered by transit

- 
- (i)
- a. J'ai beaucoup/rarement parlé à tous les enfants
  - b. \*Je leur \*beaucoup/OK rarement tous parlé
  - c. Je leur ai tous beaucoup /\*rarement parlé

Suggesting that “pure” frequency adverbs systematically occur higher than the *beaucoup* type.

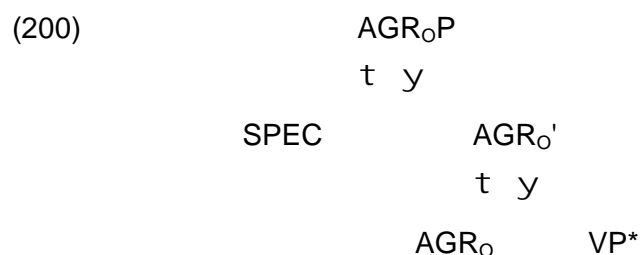
Furthermore, although the a sentence with *beaucoup* is ambiguous between *speak often* and *speak a lot*, the c sentence only has the latter reading.

through the specifier of the participle, suggesting silent Qs that cannot move to agreement position in transitive sentences can do so in unaccusative structures.

Pushing this proposal further, we might distinguish the agreement position in transitive structure which also is the Accusative position AGR-ACC from the agreement position in unaccusative structures which is not a Case position AGR. Suppose that AGR-ACC is an A-bar position restricted to certain kinds of Q headed NPs, while AGR is an A-position allowing any NP to move there (a possibility consistent with our conclusions in section 5.1.2.4). In NP movement structures, the AGR position will have to be empty for Case reasons (an NP movement through it must move the NP higher to get it Case). In other structures, AGR-ACC must be empty for the same reason an intermediate [spec,CP] must be in wh-movement constructions.

## 5.6 APPENDIX: Remarks on AGR-O and an Alternative Theory

Kayne's (1989) analysis of participle agreement differs from that presented above in that he postulates an AGR projection to mediate agreement between the preposed object and the participle. Roughly there is an AGRP projection. The participle and the agreement affix merge and the object determines the shape of the agreement affix by transiting through [SPEC,AGRP] or by adjoining to AGRP. Similarly, Chomsky (1989) proposes, that objects actually move to the SPEC of a functional projection, AGR<sub>O</sub>, triggering object agreement. According this view, we would be dealing with a structure like below.



We basically propose the same analysis except for the fact that we take the AGR projection to be the syntactic projection of the affix that attaches to the verb. We also have argued that Structural Case and External theta properties are properties of the affixal head. This causes the external theta role of the verb to be expressed as specifier of a projection outside the

projection triggering agreement as in (159) for example. If the agreement causing projection is AGRP, there is no principled reason why AGRP should be lower than the external argument position, as we have argued, rather than higher (the external theta role would be assigned to [spec,VP\*] in (190)).

The existence of an agreement projection (possibly identified with the participial morphology projection) raises a crucial question: How are the existence of the agreement projection and the VP internal subject hypothesis combine? There could be a priori two possible structures:

- (i) the external argument NP\* could be lower than AGR<sub>O</sub> as in (201a), in [SPEC,VP] or
- (ii) it could be external to AGR<sub>O</sub> as in (201b):

- (201) a. ... [spec,IP] ... [AGR<sub>O</sub> [VP NP\* [V' V ..  
b. ... [spec,IP] ... [NP\* ... [AGR<sub>O</sub> VP..

(201b) is basically what we adopt. Let us discuss the alternative (201a). Translating our proposals concerning Case, we would claim that the external argument has to move (or get linked) to [SPEC,IP] ([SPEC,AGR<sub>S</sub>P] in Chomsky's terminology) (either for Case reasons or because it is PRO for government reasons), while the direct object has to move (or get linked) to [SPEC, AGR<sub>O</sub>]. The problem is how we can insure this result. How do we insure that the object moves to [SPEC, AGR<sub>O</sub>P], over the thematic subject or its trace, and the subject to [SPEC,AGR<sub>S</sub>P] (i.e. [SPEC,IP]).

If both the movement involved are A-bar movements, it is unclear how to force this derivation at all. Note that linking the position [SPEC,AGR<sub>O</sub>P] with accusative Case and [SPEC,AGR<sub>S</sub>P] with nominative Case (linking which we have argued for) is not sufficient. Both nominative and accusative Case are structural Cases, blind to thematic properties. How would we prevent a sentence like (i) *John believes Bill to have left* with two subjects to be interpreted with *John* the external argument of the embedded clause having raised to [SPEC,AGR<sub>S</sub>P] and *Bill* the external argument of the main clause having moved to [SPEC,AGR<sub>O</sub>P].<sup>97</sup>

Suppose therefore that one of the movements or both is A-movement. If movement to movement to [SPEC,AGR<sub>O</sub>P] is A-movement and movement to [SPEC,AGR<sub>S</sub>P] is A-bar

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<sup>97</sup>Note that we cannot link AGR<sub>S</sub> with external argumenthood either, as shown by the case of subjects derived from underlying objects.

movement, we face the same problem: nothing will prevent an internal argument to raise to [SPEC,AGR<sub>S</sub>P] over an external argument that has raised to [SPEC,AGR<sub>O</sub>P], since again A-bar movement is not sensitive to the SSC.

I conclude that movement to [SPEC,AGR<sub>S</sub>P] must count as A-movement or must contain a step which does (e.g. movement to [spec,TP]). The status of movement to [SPEC,AGR<sub>O</sub>P] is open.

As should be clear from the discussion in section 5.1.2.4), [SPEC,AGR<sub>O</sub>P] must be an A-position in case the verb is passive, unaccusative etc.. In this case there is presumably no external argument NP at all (except perhaps in reflexive constructions, as argued in section 5.4.3). However, it may be an A-bar position or an A-position otherwise.

The configuration contains the following substructure:

[SPEC,AGR<sub>S</sub>P] ... [SPEC,AGR<sub>O</sub>P]      AGR<sub>O</sub>    [VP NP\* [V' V NP\*\*..

The object NP\*\* moves to [SPEC,AGR<sub>O</sub>P] over NP\*: Either this is A-bar movement, in which case it is licit, or it is A-movement, in which case we need to assume a theory of NP movement where an intervening subject (or perhaps the trace of a subject) does not block NP-movement. Next, the external argument NP\* moves to [spec,IP]. In this case, it must be A-movement but is able to skip over [SPEC,AGR<sub>O</sub>P]. We need a theory of NP-movement that allows skipping over certain intermediate specifiers, basically what was needed under one of the alternatives previously discussed in connection with the movement of NP\*\*.

I quickly explore a couple of alternatives. If NP-movement possibilities is to be derived from antecedent government (as it is with the CCL), we would need to revise the notion of barrierhood so that no barrier is crossed.

One possibility would be to put together proposals by Aoun (1984) and Chomsky (1986a) and to count as barrier only constituents containing a complete functional complex closed under A-chain formation for its external argument.<sup>98</sup> In (201a), this would make IP a barrier if the external argument has raised to IP, while it would make AGR<sub>O</sub>P the barrier if the external argument has raised to [spec,AGR<sub>O</sub>P]. This would have the desired effect. In the former case, the object would be free to associate with [spec,AGR<sub>O</sub>P], crossing no barrier. In the latter case,

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<sup>98</sup>That is a predicate, all its arguments and the entire A-chain containing its external argument. A-chains closure for all its arguments would not block the sentence (i) discussed above and similar sentences.

the sentence would be ruled out for lack of Case on the object: the only way for it to get Case is to move to [spec,IP], which lies outside the relevant complete functional complex, namely AGR<sub>OP</sub>. Clearly, under such an approach, NP-movement of the external argument must be determined by other means. If nothing further is said, no matter where it moves, the external argument will never cross any barrier. This means we lose an account of NP-movement possibilities of external argument in the same terms as NP movement of other arguments. We would need a principle restricting NP-movement to certain domains (e.g. IP) within which the NP-movement possibilities would be restricted by antecedent government. This loss of generality strongly argues against such an alternative, I believe.

Another alternative could take advantage of the fact that the V moves to AGR<sub>O</sub>. We could again need to modify our early notion of Barrierhood and close it under head movement chain as we have suggested is necessary in section 5.4.3.2. Then, an object moving to [spec,AGR<sub>OP</sub>] over the trace of the subject would not cross any barrier. But then, movement of the external argument to [SPEC,AGR<sub>S</sub>P] would. Unless we assume that the V raises even further than to AGR<sub>O</sub>, making a higher specifier accessible to NP\*. This last and necessary assumption seems to me to weaken the adoption of (201a) over (201b), although it is quite close to what we have assumed under (201b). The difference of course, is that our assumption concerning the existence of this extra projection comes from our general assumption about the projection of external theta position. A structure like (201a) would have some desirable features, for example that of making theta structure of verbs uniformly projected independently of agreement (certainly a desirable move if AGRP is not ParticipleP). I will leave this matter open at this point.

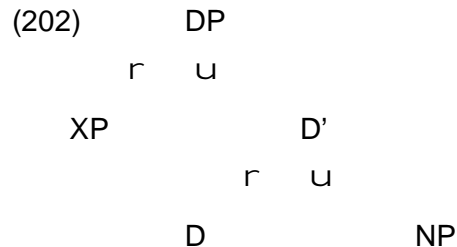
## **6. Structure of NPs**

### **6.1 NP Structure**

#### **6.1.1 The DP hypothesis**

Recall first of all that we started with the assumption that [spec,NP] should by the definition we have given, be an A-position but we have noted in section 3.4.5 that it was advantageous to take [spec,NP] as an A-bar position. When looking at the properties of the

various *en* in section 5.5, we have further concluded that it was necessary to explicitly adopt the DP hypothesis of Abney's (1987). Furthermore, as Szabolcsi (1983) argues, it is advantageous to suppose a certain parallelism between NPs and Clauses in that NPs seem to have a COMP like A-bar position through which extraction out of NP can proceed in Hungarian. I will thus adopt the idea that bare arguments of predicates have a structure roughly along the lines of (202).

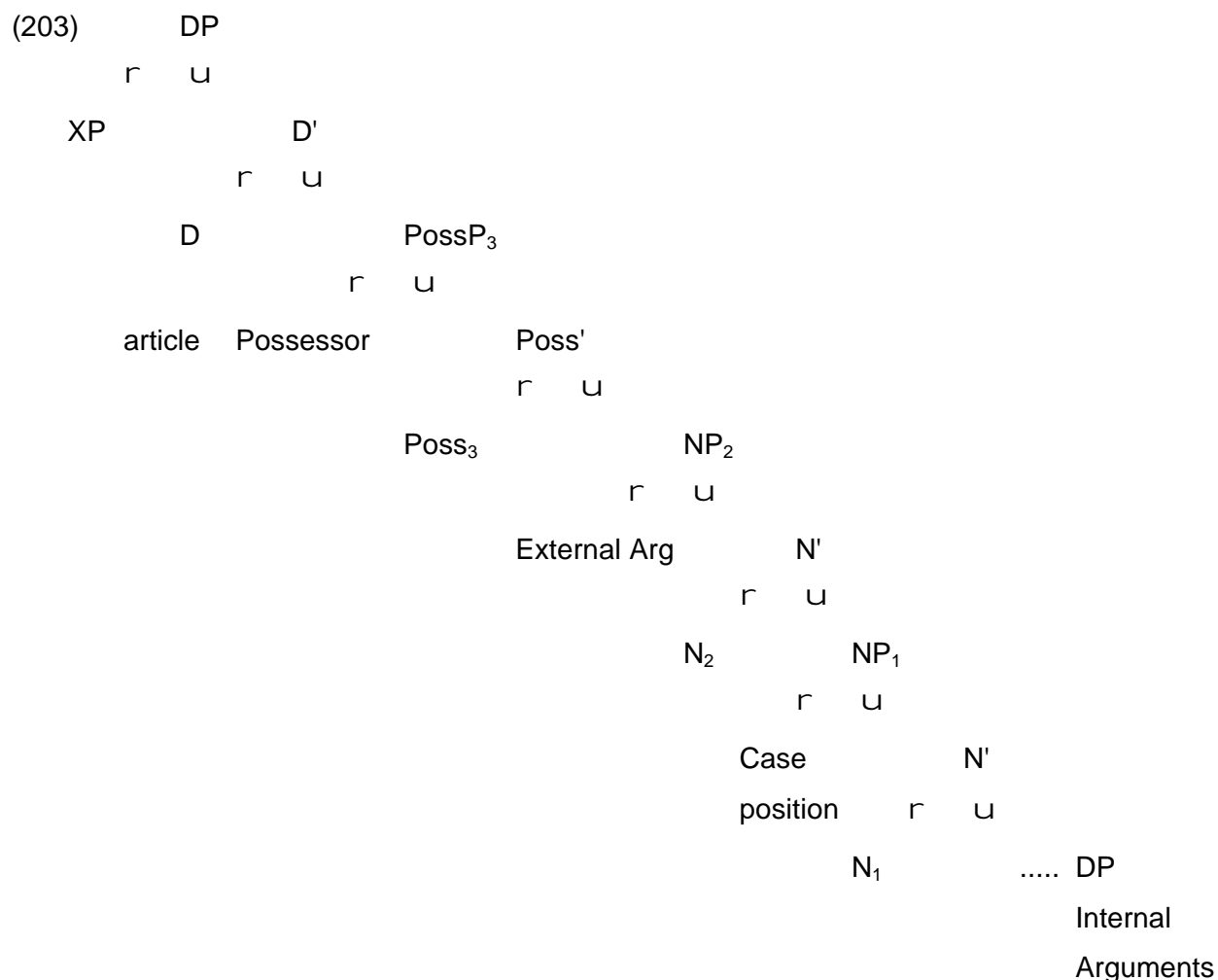


With XP an A-bar position. Naturally, when a DP is an object of say, a verb, the DP boundary will count as L-marked by this verb so that extraction out of DP can, in such cases proceed through XP.

### 6.1.2 Larsonian NPs

As Stowell (1988) has remarked, adopting the DP hypothesis allows one to draw a simple parallel between NPs and VPs in that they can now be seen as both being predicative categories. A second, and natural assumption I will adopt is the following: the projection rules of argument structure onto syntactic structure in NPs mirrors those for VPs and other lexical categories. In particular, this means that NPs have a modified Larsonian internal structure, much like VPs.

Putting together this proposal with the standard DP hypothesis, we get the following (simplified) structure for an NP having a possessor, an external argument and an internal argument, e.g. *la photo de lions de McPherson du Musée de l'Ouest/The Museum of the West's picture of lions by McPherson*, parallel to what we have adopted for VPs in section 5.2.3.1:



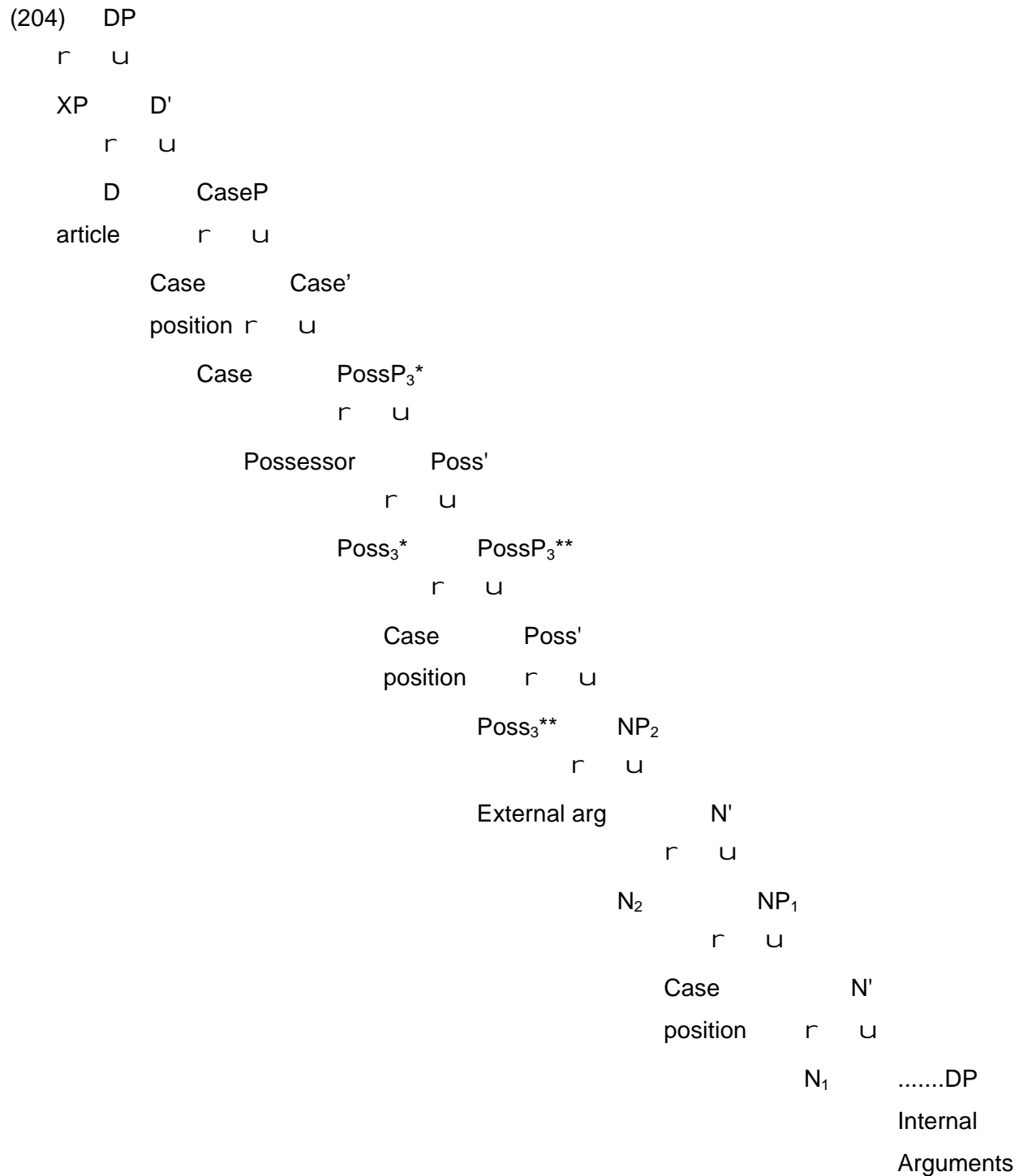
The PossP<sub>3</sub> projection projects the possessor as its specifier and take an NP complement (so, following what we said earlier, it should project the possessor on a higher projection than the one containing the head and the NP complement. This simplification is unimportant.) The noun projects its internal arguments inside NP<sub>1</sub>, and its external argument as specifier of NP<sub>2</sub>. As in the Case of VP, we suppose that the internal argument corresponding to the accusative NP raises to [spec,NP<sub>1</sub>] to get Case under agreement with N<sub>1</sub> and be governed by N<sub>2</sub>. As with VPs, the projection PossP<sub>3</sub> exists only if there is a possessor to project, and the projection NP<sub>2</sub> only exists if the noun has an external argument. The head noun raise from N<sub>1</sub> to N<sub>2</sub> to Poss<sub>3</sub>. If this structure is correct, we expect all sorts of asymmetric command relations between the possessor, the external argument and the internal argument. They are indeed found as Giorgi and Longobardi (1991) and Valois (1991) show.



Note two aspects in which this structure is not rich enough. First, it provides no way for either the external argument or the possessor to get Case. This suggests additional structures must be present. To be consistent with our previous treatments, there should be an additional Case position above PossP (equivalent of AGRs in clauses)<sup>99</sup> for the Possessor DP and the Possessor predicate should have a layered, Larsonian structure. Putting all this together yields the following:

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<sup>99</sup>I will take this projection to be headed by the particle 's in English.



Secondly, in this view the Poss head is a predicative head expressing possession and thus should take two DPs as argument. Again this suggests that more structure is involved (in particular that there should be a DP projection intervening between Poss\*\* and NP<sub>2</sub>).

Finally, notice that the modification of barrierhood introduced in section 5.4.3.2 does not affect the results derived in section 3.4.3 and section 3.4.4 concerning extraction out of NP (or more precisely DP) since the only Noun raising affecting barrierhood is from  $N^1$  to  $N^2$ .

### 6.1.3 Case Marking

Consider now Case marking. These three argument surface in French as *de*-NP. I will assume that *de* is simply the surface realization of Genitive Case, which I take to be a Structural Case assigned in the various Case positions given above in (204). This is a departure from standard assumptions about *of/de*. The only reason why Nouns or Adjectives are postulated to assign Inherent Case instead of Structural Case is the absence of Exceptional Case Marking Structures complement of N (or A) as in the a and b phrases below:

- (205)
- a. \*belief [John sick] / believe John sick
  - b. \*belief [John to be sick] /believe John to be sick
  - c. \*John's belief [ t sick]
  - d. \*John's certainty [t leave] (with the raising reading)
  - e. John's belief [ PRO to have to leave]

An inherent Case proposal does not explain the deviance of the raising cases c and d. Granting that the ungrammaticality of e is due to the PRO being governed by N, we cannot rule a through d out simply by claiming that exceptional government (needed for c and d, hence exceptional Case marking) is absent in NP. We do not have an explanation for the c and d cases. Note however that the a and b cases reduce to the impossibility of raising: in order to get Case, *John* in a and b will have to raise to [spec,NP] as in a way similar to what happens with ECM verbs discussed in section 5.2.1.2. That is, will have to have "raising to object" in NPs in exceptional Case marking structures the same way we have "raising to object" in exceptional Case marking structures in VP. Consequently, there is no need for the assumption that N (or A) assigns only inherent Case. Furthermore, there is substantial evidence that the conditions governing the appearance of *of/de* are not thematically related. First *de* is compatible with a range of (semantic) relations (this is atypical of inherent Case) as

shown by the examples (206a) and appears in contexts where no thematic role at all is involved (206b):

- (206) a. frère de Jean, ville de Paris, table de bois, photo de Pierre,  
brother of John, city of Paris, table of wood, picture of Pierre  
b. drôle de type, beaucoup de mes amis, regard de pitié  
strange (of) guy, many of my friends, look of pity

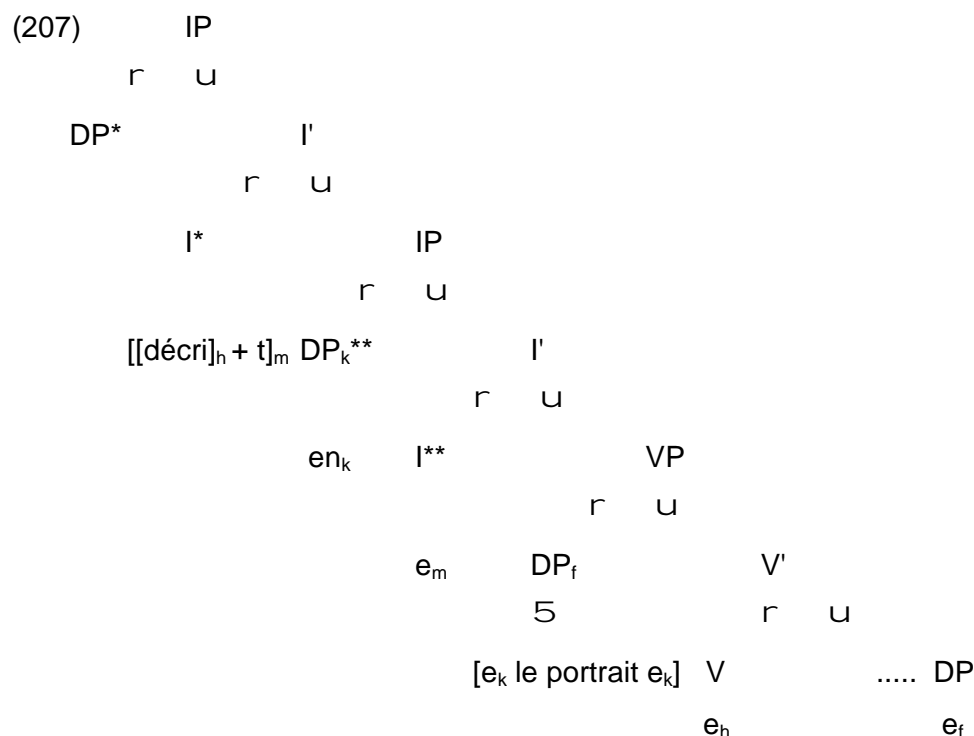
I conclude *of/de* is the realization of the Structural Case assigned in the nominal system.

## 6.2 The Internal Structure of NP and Extraction

Recall the basic proposal we adopted for extraction out of NPs in section 3.4.3 and section 3.4.4. Phrases extracted out of NPs must go through [spec,NP], now [spec,DP] an A-bar position. Consequently, a phrase can be extracted out of a given DP only if it is allowed to move to the [spec, DP] position. There are a number of problems that we have encountered and to which we return below. I now will argue that these problems can be traced back to a misconstrual of the internal structure of NPs. When the principles we have adopted or developed for the structure of VP are transposed to the analysis of NPs within the DP hypothesis together with modified Larsonian structures, many of these problems disappear.

### 6.2.1 Agreement Problems with Genitive *en*

Extraction of NP leads to problems w.r.t agreement similar to those we had with Datives and other non accusative complements, and suggests the same kind of linking of the agreement position with the accusative position. To see this, consider the relevant part of the structure of *Pierre en a décrit le portrait, de Marie/Pierre described her portrait, Marie*



The verb raised to I\*\* to pick up participle morphology. The participle moves to I\* to license the external argument. The DP *en* raises to [spec,DP] inside the direct object. The direct object raises to [spec,VP] to be governed by the participle. Since escape of *en* from DP<sub>f</sub> is through an A-bar position, *en* movement from within DP is never going to trigger agreement regardless of circumstances since agreement triggering positions are A-position. Nor will *en* ever be able to move to subject position.

## 6.2.2 Problems of Extraction from DP and Movement within DP

### 6.2.2.1 Extraction from NP in NP or PP

This is the problem we listed as problem #1 in section 3.4.3, and is illustrated below by (modified) (62c,e):

- (62)
- a. Who did you see a picture of t
  - b.? Of whom did you see a picture
  - c.?\*Who did you see [<sub>XP</sub> a picture of [<sub>DP</sub> a portrait of t]]

- d. Who did you talk about t  
 e.?\*Who did you talk [<sub>XP</sub> about [<sub>DP</sub> a picture of t]

In these examples, nothing prevented movement from the t position to [spec,DP] to [spec,XP] then out. Because DP is L-marked, moving through its specifier should be sufficient to escape it, if [spec,DP], an A-bar position,<sup>100</sup> is available.

We need to explain why extracting E from XP in [<sub>XP</sub>..X..<sub>DP</sub>...E...], where X is either N or P is deviant. The idea I will pursue attributes this impossibility to improper movement. With X=P, Extraction out of XP = PP will have to transit through [spec,PP], which is an A-position. Extraction out of DP is through an A-bar position ([spec,DP]). Movement from [spec,DP] to [spec,XP] is movement from an A-bar position to an A-position. It is a case of improper movement and as such excluded. In the case of X = N, this suggestion will not work if NP, like VP allow adjunction to it. Indeed, recall that in VP, anything can extract by A-bar movement. The same derivation should allow adjunction to NP followed by movement to [spec,DP]. In order to rule this out, I will stipulate that NPs and more generally N related predicative categories (e.g. PossP) cannot be adjoined to. This will rule out the c example and thus solve problem #1.

#### 6.2.2.2 DP Internal Movement

Problem #3 (from section 4.1.3.1) is the problem of accounting for generalization (94).

- (94) Only genitives can move to [spec,DP]

Recall that in French, we can establish what can move to [spec,NP] independently of extraction by looking at possessive "adjectives". (94) observes that only genitive complements

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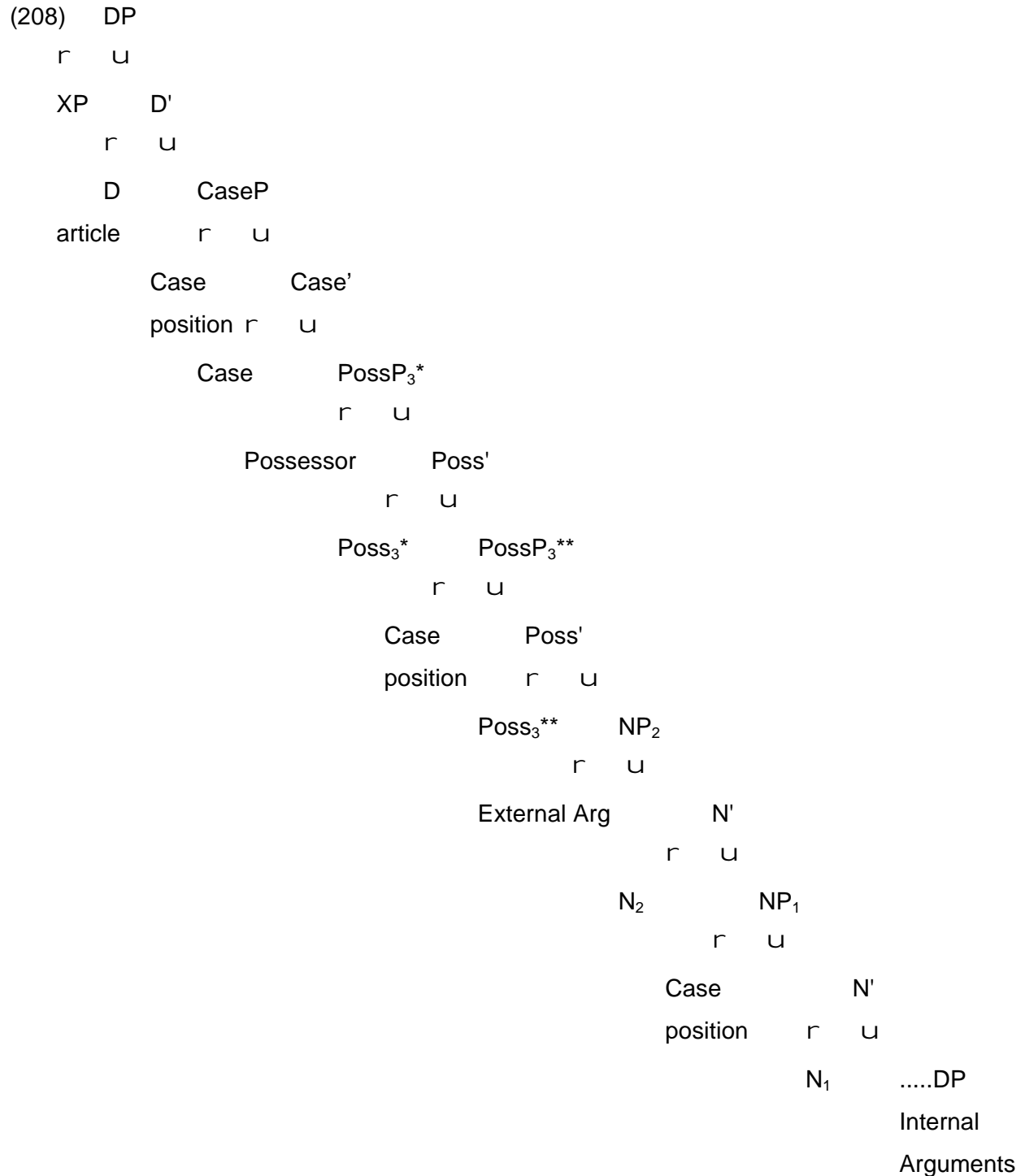
<sup>100</sup>Although either the adjunction option (to DP), or the substitution (to [spec,DP]) option can derive the results we want, I will adopt the substitution alternative, which Valois (1991) suggests (over my own previous view of extraction under adjunction to DP). There are several reasons for this as Valois (1991) points out. One is Szabolcsi's (1983) Hungarian evidence that Noun phrases should contain a Comp like position. Another is Tellier's (1990) analysis of double *dont* constructions in French to the same effect. A last one is Valois's (1991) argument that (an otherwise desirable) complete parallelism between the internal structure of clauses and the internal structure of noun phrases can explain many properties of the internal syntax of NPs/DPs.

(i.e. *de*-complements). In particular, datives cannot, locatives cannot etc., despite the fact that they seem to be NPs, as discussed in section 5.1.1.1.

It is not sufficient to be a genitive NP to be able to appear as a possessive. Given a thematic hierarchy ordered Possessor>External argument>Internal Argument among genitive complements, we have the following generalization as yet unaccounted for that we called problem # 2 in section 3.4.4:

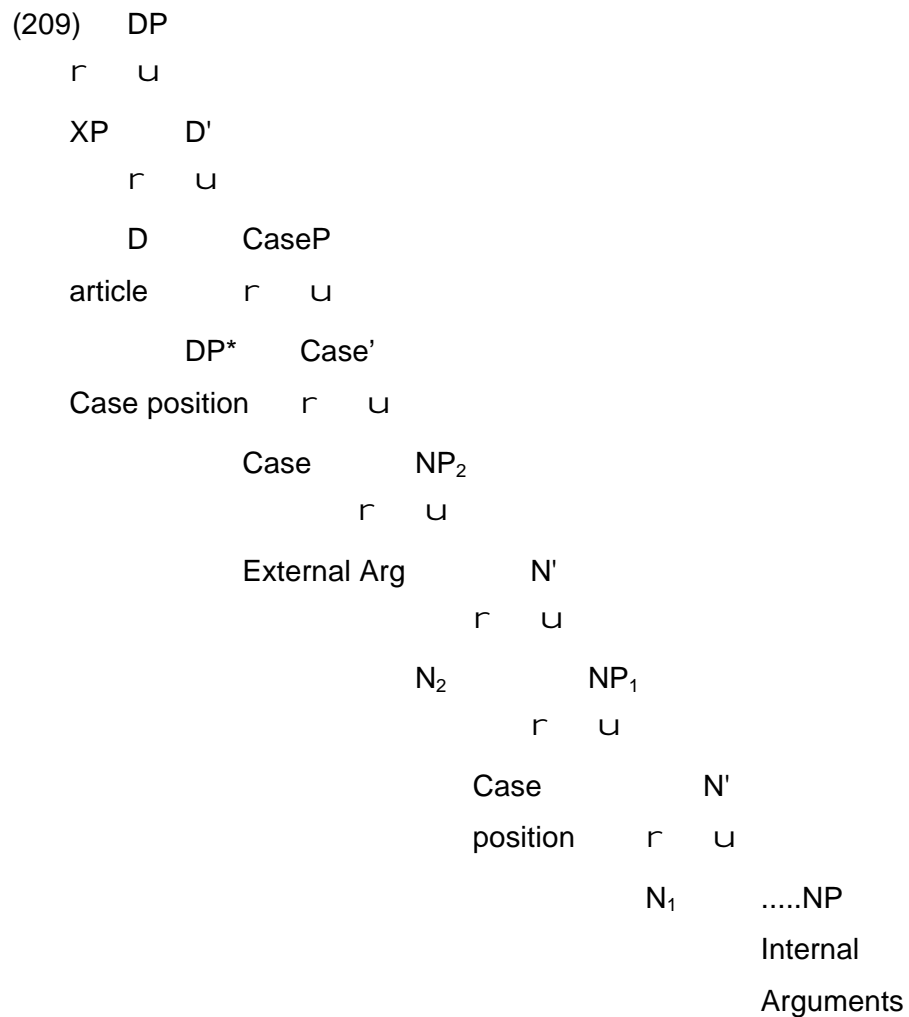
- (66) In a structure: [<sub>DP</sub> specifier ... [<sub>N</sub><sup>1</sup> N [de-NP]]  
the role of the specifier must always be higher than that of the [de-NP].

Look again at the typical structure of a DP:



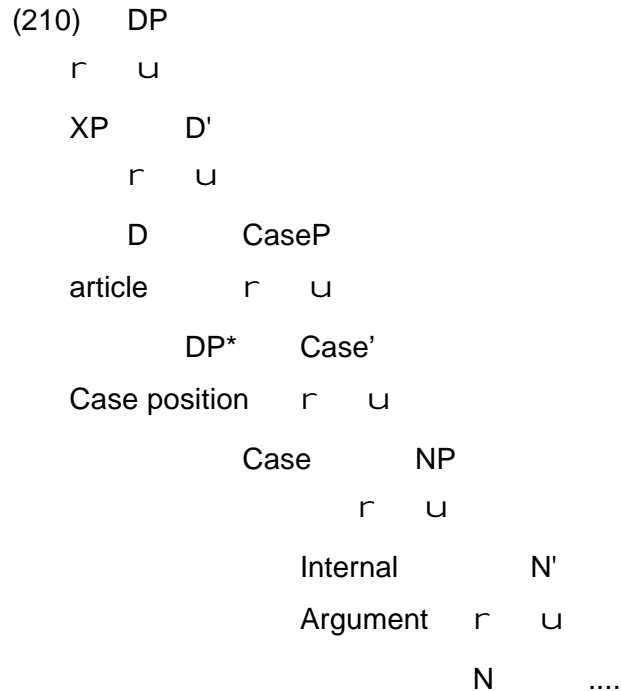
Clearly, nothing prevents the possessor DP to move to XP and further out. In the presence of a Possessor, the external argument (and, a fortiori, any internal argument) cannot reach the XP position due to the intervening barrier PossP which cannot be circumvented by adjunction. In the absence of the PossP projection, the structure reduces to:





In this case, the external argument may move to the higher Case position DP\* then to XP, but any internal argument is blocked by the intervening barrier NP<sub>2</sub>. This provides a solution to problem #2.

Suppose now that the NP only has one non- oblique argument. The structure of the DP containing it further reduces to:



In order to reach XP, a DP must transit through the Case position DP\* where it is assigned structural Case. An oblique argument will be barred from reaching such a position for the general reason that movement to DP\* is motivated by Case reasons. By definition, an oblique DP is assigned some other Case and thus is disallowed to move to DP\*, hence to reach YP. It is the same generalization that prevents an oblique object to move to an Accusative position (or a Nominative position), namely the PLA (178). This provides a solution to problem #3.

### 6.2.2.3 Restrictions on Specifiers: Further Problems

There is a number of further problems with our account of extraction that we now list. We have claimed that movement of *en* out of an DP transits through the [spec,DP] position and that the restrictions on movement to [spec,DP] are illustrated by the possibilities of Possessivization. Yet, when a possessive moves to specifier position, it appears in a different form than *en*, namely as *son*, *sa*, *ses*... The possessive also agrees with the head noun in number and gender, just like an article. Furthermore it is in complementary distribution with articles. *En* on the other hand is invariable and its extraction cooccurs with the presence of the article. Why is there this morphological difference? If the possessive agrees with the head

noun, and *en* transits through the possessive position, why does it not agree with the head noun?

Presumably, *en*, as a clitic must raise out of DP to some Functional head in the clausal system. We thus do not expect it to surface in [spec,DP]. However, we have claimed that extraction of phrases from DP proceeds through [spec,DP] and that [spec,DP] is an A-bar position. Why then are overt DPs excluded from this position? This illustrated by the grammaticality of the following type of sentence:

- (211) De quel auteur<sub>i</sub> as-tu suivi les recettes t<sub>i</sub> à la lettre  
Of which author did you follow the recipes to the letter

[spec,DP] in French looks severely restricted. Possessives may appear there, it seems, and possibly *en* on its way out, but no phrase. Extraction in (211) is of a phrase, which, we should conclude on the basis of our analysis of extraction, transited through [spec,DP]<sup>101</sup>. Why can't phrases surface in this position?

The more articulated internal structure of DPs we have adopted allows the elimination of some of these problems, as we will now see.

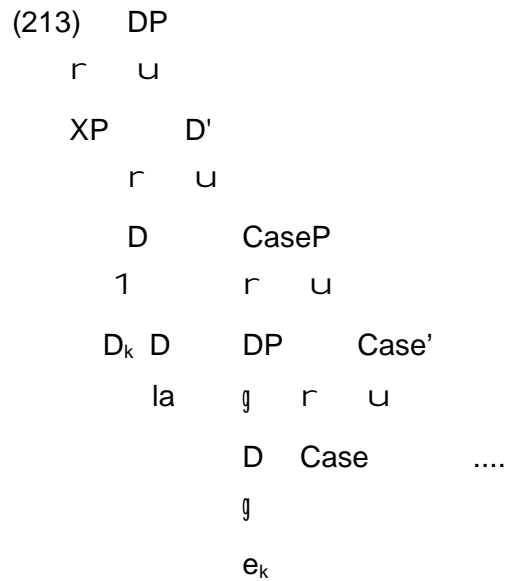
Because possessives block extraction, we assumed earlier in section 3.4.4 that extraction proceeded though the position occupied by the possessives. However French Possessives are not phrase, they are at most single words. I would like to suggest that possessives are the exact counterpart of the verbal pronominal clitics and as such, that they must cliticize onto a functional category, in the nominal system namely D:

- (212) Possessive adjectives in French are Clitics on D.

This would immediately explain why possessives agree with the head noun. A possessive like *sa* in *sa soeur/his sister* is the conflation of the definite article *la* which is [+sg, +fem] agreeing with the head noun *soeur* and a [+sg,3rdperson] pronoun (i.e. a kind of D) determined in form by its antecedent. This cliticization operates from the Case position immediately following D as follows:

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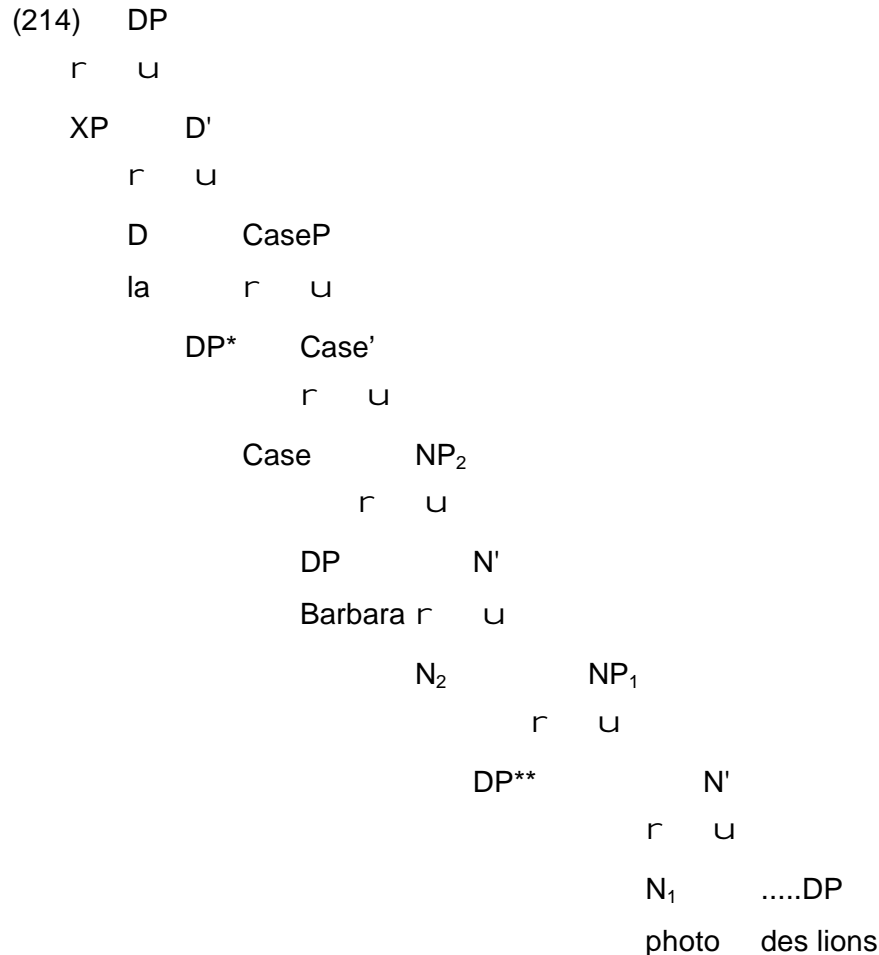
<sup>101</sup> Of course, in English, the question arise of why *\*Whose did you see t book* is out or most tellingly since *who+s* is not a syntactic constituent why *Who did you see t's book* is out.



Naturally, only a DP able to appear in this Case position will be able to cliticize in this way. The parallelism between possessivization possibilities and extraction possibilities is established but not directly by saying that extraction proceeds through the possessive position. Rather, it is access to the specifier of the immediate complement of D that is crucial. The fact that this parallelism is not established directly permits an account of the differences between possessives and extracted phrases noted above. Because extraction is through [spec,DP], we expect phrasal extraction as in (211) to be possible. No morphological similarities between possessives and extracted *en* is expected. It also means that the [spec,DP] position, much like the Accusative position, can never be overtly filled in French, a generalization for which we have no account.

### 6.2.3 Word Order in NP

Adopting (204) raises word order questions. An DP like *la photo des lions de Barbara/ the picture of the lions by Barbara* will have the structure:



Given the surface word order, we have to suppose that the Noun *photo* raises further than the external argument *Barbara*. This suggests that it raises to Case, but that *Barbara* raises to its Case position only at LF. Furthermore, if the conclusion (165) is correct, it should be governed by its Case assigner (at S-structure or at LF). This means that Case raises to D overtly or covertly.<sup>102</sup>

Cinque (1992) provides a further argument for the existence of this raising of the noun based on the distribution of argument adjective that I adopt and adapt below. A detailed discussion of these issues can be found in Valois (1991). Cinque's argument is based on the observation that thematic roles assigned by a N appear to be not necessarily satisfied by NPs. Sometimes, they can be satisfied by adjectives.

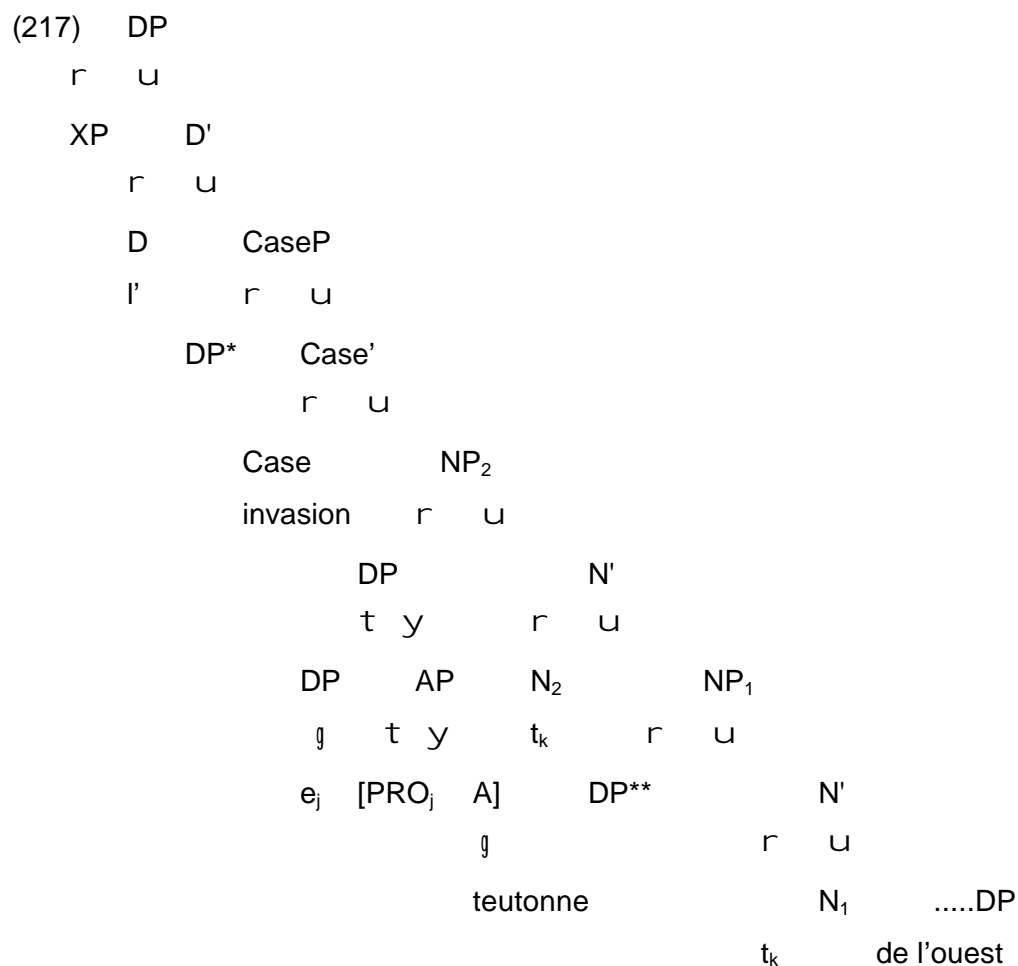
<sup>102</sup>Note that raising of N to D is what seems to happen in languages having the so-called construct state in the Semitic languages, the associative construction in the various African languages and is present in earlier stages of French as in the place name *Bois-le duc* = *le bois du Duc* (*the Duke's woods*) .

- (215) a. L'invasion de l'ouest par les teutons  
the invasion of the West by the Teutons
- b. L'invasion teutonne de l'ouest  
The Teutonic invasion of the west

These "argument" adjectives act exactly as if they were NPs with respect to both possessivization and extraction:

- (216) a. L'invasion teutonne de l'ouest  
The Teutonic invasion of the West
- b. \*son invasion teutonne  
its Teutonic invasion
- c. \*dont<sub>j</sub> ... [l'invasion teutonne t<sub>j</sub>]  
of which ... the Teutonic invasion

This suggests that there is in fact an DP (here, I differ from Cinque). This is corroborated by the theta criterion: two theta roles are assigned here: the Agent role of *invasion* and the external role of the adjective *Teuton/Teutonic*. Consequently, I suggest the structure of (216) is as follows:



with [spec, NP<sub>2</sub>] getting the external theta role of *invasion* and the adjective *teuton* assigning its theta role to its subject PRO. The AP is adjoined to [spec, NP<sub>2</sub>] and PRO (ungoverned here as it is in an adjunct) is controlled by it. The fact that the order in (215) is rigid provides Cinque's argument in favor of raising of the head noun (he suggests it is raising to some intermediate projection XP which he takes to be AGRP, which is consistent with its being a structural Case position ).

Although the distribution of "argument" adjectives is consistent with the predicted word order, some problems arise with genitive arguments, which I will simply allude to here. The problem concerns the respective order of the "arguments" of the noun, e.g. the possessor, the agent and the Internal arguments. The facts are quite complex. We predict the order Possessor>External Arguments>Internal Arguments. With Genitives, the preferred order is the mirror image of the one predicted. If all three genitives are present (with nouns whose referent

can be possessed, say concrete nouns, but see below), the noun phrase is awkward as in (218a), but the order indicated is much preferred than any other. If only two are present, with this kind of noun, either order is possible (218bcd) (with a marked preference for the first one).

- (218) a. Le portrait d'Aristote de Rembrandt du Musée d'Orsay  
The portrait of Aristotle of Rembrandt of the Museum of Orsay
- b. Le portrait d'Aristote de Rembrandt /de Rembrandt d'Aristote  
The portrait of Aristotle of Rembrandt / of Rembrandt of Aristotle
- c. Le portrait d'Aristote du Musée d'Orsay/du Musée d'Orsay d'Aristote  
The portrait of Aristotle of the Museum ../ of the Museum of Orsay of Aristotle
- d. Le portrait de Rembrandt du Musée d'Orsay/du Musée d'Orsay de Rembrandt  
The portrait of Rembrandt of the Museum ../ of Rembrandt of the Museum ..

With nominalizations, the situation is different. In my judgment, possessors are excluded, unless the result of the action denoted by the predicate can be somehow interpreted concretely, e.g. *description* referring to the book containing the description. With this concrete interpretation (incompatible with adjectives such as *répétées/repeated*), the facts are basically as above. Under the non-concrete interpretation, these nominals get either a process or a result interpretation and they do not get a possessor. In my judgment, they are quite awkward with two genitives (one internal and one external argument). It is much preferred to have the external argument as an adjective as above, or in a by-phrase:

- (219) a. Les descriptions (??répétées) de Paris de La Bruyère  
The description repeated of Paris of La Bruyère
- b. Les invasions répétées de l'ouest ??des Teutons/par les Teutons  
the invasions repeated of the west of the Teutons / by the Teutons

The external argument can be a genitive though, if the internal arguments are not. In this case, the preferred order is External argument>Internal Argument. The same is true with abstract Nouns derived from adjectives. All these judgments recall those of Heavy NP shifted structures: the heavier the external argument the better:



- (220) a. Le déferlement des teutons sur l'ouest / ?sur l'ouest des teutons  
The advancing wave of the Teutons on the West / ? on the West of the Teutons
- b. L'obéissance des troupes à leur chef / ?à leur chef des troupes  
The obedience of the troupes to their chief / to their chief of the troupes
- c. La fidélité de Jean à ses amis /? à ses amis de Jean  
the faithfulness of John to his friends / to his friends of John

In other words, when word order is rigid, it supports the basic structure we propose. When it is not, an explanation is required as in (218). I will leave this question pending and refer to Valois's (1991) work arguing that the variation in word order there is due to the existence in French (and in Italian but not in English) of subject Inversion in NPs akin to what is found in the sentential system.

- Abney, S (1987) *The Noun Phrase in its Sentential Aspect*, unpublished Ph.D. Dissertation, MIT.
- Aoun, J. (1984) *The Logical Nature of Anaphoric Relations*, MIT press.
- Aoun, J. and D. Sportiche (1983) "On the Formal Theory of Government", *The Linguistic Review* 2, 211-236.
- Baker, M. (1988) *Incorporation*, University of Chicago Press, Chigago, Illinois.
- Baker, M. (1988a) "Theta Theory and the Syntax of Applicatives n Chichewa", *Natural Language and Linguistic Theory* 6, 353-389.
- Baker, M. and K. Hale (1990) "Relativized Minimality and Pronoun Incorporation", *Linguistic Inquiry* 21, 289-298.
- Baker, M., K. Johnson and I. Roberts (1989) "Passive Arguments Raised", *Linguistic Inquiry* 20, 219-251.
- Baltin, M. (1981) "A Landing Site Theory of Movement Rules", *Linguistic Inquiry* 13.1.
- Belletti, A. (1988) "The Case of Unaccusatives", *Linguistic Inquiry* 19, 1-34.
- Belletti, A. and L. Rizzi (1988) "Psych Verbs and Theta Theory", *Natural Language and Linguistic Theory* 6, 291-352.
- Borer, H. (1986) *The Syntax of Pronominal Clitics*, Syntax and Semantics 19, Academic Press.
- Bouchard, D. (1984) *On the Content of Empty Categories*, Foris, Dordrecht.
- Bresnan, J. and L. Moshi (1990) "Object Asymmetries in Comparative Bantu Syntax", 21, 147-185.
- Burzio, L. (1986) *Italian Syntax*, Reidel, Dordrecht.
- Campbell, R. (1989) *The Grammatical Structure of Verbal Predicates*, UCLA Ph.D. dissertation.
- Carstens, V. and K. Kinyalolo (1989) "On IP Structure: Tense, Aspect and Agreement", unpublished ms., Cornell University and UCLA
- Chomsky, N. (1970) "Remarks on Nominalizations", *Studies in Semantics in Generative Grammar*, Mouton, the Hague.
- Chomsky, N. (1973) "Conditions on Transformation", *A Festschrift for Morris Halle*, S. Anderson and P. Kiparsky, eds., 232-286, Holt, Rinehart and Winston, New York.
- Chomsky, N. (1976) "Conditions on Rules of Grammar", *Linguistic Analysis* 2, 303-351.
- Chomsky, N. (1981) *Lectures on Government and Binding*, Foris Publications, Dordrecht.
- Chomsky, N. (1986) *Barriers*, MIT Press, Cambridge, Mass.

- Chomsky, N. (1986a) *Knowledge of Language: Its Nature, Origin, and Use*, Praeger, New York.
- Chomsky, N. (1989) "Some Notes on Economy of Derivation and Representation", Laka, I. and A. Mahajan (eds.) *Functional Heads and Clause Structure*, MIT Working Papers in Linguistics 10, 43-74.
- Cinque, G. (1992) "Functional Projections and N Movement within the DP", paper presented at 15th GLOW Colloquium, Glow Newsletter 28, 12-13.
- Cortes, C. (1992) *Issues in Catalan Syntax*, Doctoral Dissertation, UCLA.
- Deprez, V. (1988) "Stylistic Inversion and Verb Movement", manuscript, MIT.
- Emonds, J. (1976) *A Transformational Approach to English Syntax*, Academic Press, New York.
- Emonds, J. (1985) *A Unified Theory of Syntactic Categories*, Foris, Dordrecht.
- Giorgi A. and G. Longobardi (1991) *The Syntax of Noun Phrases Configurations: Parameters and Empty Categories*, Cambridge University Press.
- Grevisse, M. (1980) *Le Bon Usage*, 11eme edition, Editions Duculot, Paris-Gembloux.
- Guéron, J. and T. Hoekstra (1988) "T-chains and the Constituent Structure of Auxiliaries", *Constituent Structure*, A. Cardinaletti, G. Cinque and G. Giusti, eds., Foris, Dordrecht.
- Haik, I. (1982) "On Clitic *en* in French", *Journal of Linguistic Research* 2.
- Hale, K. and J. McCloskey (1984) "On the Syntax of Person-number Inflection in Modern Irish", *Natural Language and Linguistic Theory*, 487-533.
- Huang, C-T. J. (1982) *Logical Relations in Chinese and the Theory of Grammar*, Doctoral Dissertation, MIT.
- Huang, C.-T J. (1984) "On the Distribution and Reference of Empty Pronouns", *Linguistic Inquiry*, 15.4., 531-575.
- Huang, C.-T J. (1993) "Reconstruction and the Structure of VP", *Linguistic Inquiry* 24.1, 103-138.
- Jaeggli, O. (1986) "Passive", *Linguistic Inquiry* 17, 587-622.
- Jaeggli, O. and K. Safir (1989) *The Null Subject Parameter*, Kluwer, Dordrecht.
- Johnson, K. (1990) "Object positions", manuscript appeared as Johnson (1991).
- Johnson, K. (1991) "Object positions", *Natural Language and Linguistic Theory* 9, 577-636.
- Kayne, R. (1975) *French Syntax: The Transformational Cycle*, MIT Press, Cambridge, Mass.
- Kayne, R. (1984) *Connectedness and Binary Branching*, Foris Publications, Dordrecht.

- Kayne, R. (1985) "L'accord du participe passé en français et en italien", *Modèles Linguistiques* 7, 73-80.
- Kayne, R. (1986) "Principles of particles Constructions", Pollock and Guéron, eds, *Levels of Syntactic Representations*, Foris, Dordrecht.
- Kayne, R. (1988) "Romance *se/si*", paper given at the GLOW conference, Budapest, *GLOW Newsletter* 20.
- Kayne, R. (1989) "Facets of Romance Past Participle Agreement", P. Beninca, ed., *Dialect Variation and the Theory of Grammar*, Foris Publications, Dordrecht.
- Kayne, R. (1989a) "Null Subjects and Clitic Climbing", *The Null Subject Parameter*, O. Jaeggli and K. Safir, eds., Kluwer, Dordrecht.
- Kayne, R. (1991) "Romance Clitics, Verb Movement and PRO", *Linguistic Inquiry* 22.4
- Kayne, R. (1993) "Toward a Modular Theory of Auxiliary Selection", in *Studia Linguistica* 47.
- Koster, J. (1978) "Why Subject Sentences Don't Exist", *Recent Transformational Studies in European Languages*, S. J. Keyser, ed., 53-64, MIT Press, Cambridge, Mass.
- Keyser, S. J. and T. Roeper (1984) "On the Middle and Ergative Constructions in English", *Linguistic Inquiry* 15, 381-416.
- Kinyalolo, K. (1990) *Syntactic Dependencies and the Spec/Head Agreement Hypothesis in Kilega*, Doctoral Dissertation, UCLA.
- Koopman, H. (1984) *The syntax of Verbs: from Verb movement rules in the Kru languages to Universal Grammar*, Foris Publications.
- Koopman, H. (1987) "On the absence of Case Chains in Bambara", manuscript, UCLA, published as Koopman (1992).
- Koopman, H. (1988) "The Internal Structure of Dutch VPs", Lecture(s) given at Université de Genève, Tilburg Katholieke Universiteit and MIT.
- Koopman, H. (1990) "The Verb Particle Construction and the Syntax of PPs", ms., UCLA.
- Koopman, H. (1992) "On the absence of Case Chains in Bambara", *Natural Language and Linguistic Theory*.
- Koopman, H. (1995) "The structure of Dutch PPs", manuscript, UCLA.
- Koopman, H. (in preparation) "The structure of Dutch PPs", now Koopman (1995).
- Koopman, H. and D. Sportiche (1985) "Theta Theory and Extraction", paper given at the 1985 GLOW colloquium in Brussels, *GLOW Newsletter*, February 1985, Foris Publications, Dordrecht.

- Koopman, H. and D. Sportiche (1988) "Subjects", manuscript, UCLA, published as Koopman and Sportiche (1991).
- Koopman, H. and D. Sportiche (1991) "The Position of Subjects" *Lingua* 85.2/3.
- Larson, R. (1985) "On the Syntax of Disjunction Scope", *Natural Language and Linguistic Theory* 3, 217-264.
- Larson, R. (1985) "Bare-NP adverbs", *Linguistic Inquiry* 16, 595-621.
- Larson, R. (1988) "On the Double Object Construction", *Linguistic Inquiry* 19, 335-392.
- Lasnik, H. (1985) "Illicit NP-movement; Locality Conditions on Chains?", *Linguistic Inquiry* 16.3.
- Lewis, D. (1975) "Adverbs of Quantification", *Formal Semantics of Natural Languages*, E. Keenan, ed., Cambridge University Press, Cambridge.
- Longobardi, P. (1987) "Extraction from NP and the Proper Notion of Head Government", unpublished ms., Scuola Normale Superiore, Pisa.
- Mahajan, A. (1990) *The A/A-bar Distinction and Movement Theory*, MIT Ph.D. Dissertation.
- Manzini, R. (1983) *Restructuring and Reanalysis*, Doctoral Dissertation, MIT.
- Manzini, R. (1992) *Locality*, MIT Press, Cambridge.
- Marantz, A. (1984) *On the Nature of Grammatical Relations*, MIT Press, Cambridge, Mass.
- Marantz, A. (1990) "Implications of Asymmetries in Double Object Constructions", manuscript, published as Marantz (1993).
- Marantz, A. (1993) "Implications of Asymmetries in Double Object Constructions", S.A. Mchombo, ed., *Theoretical Aspects of Bantu Grammar*, vol 1, CSLI Publications, Stanford, CSLI Lecture Notes No 38, 113-150.
- May, R. (1985) *Logical Form*, MIT Press, Cambridge.
- Milner, J-C. (1978) *De la Syntaxe à l'Interprétation*, Le Seuil, Paris.
- Milsark, G. (1974) *The Existential Construction in English*, Doctoral Dissertation, MIT.
- Mohammad, M. (1989) *The Sentence Structure of Arabic*, Doctoral dissertation, USC, Los Angeles.
- Pollock, J-Y. (1984) "Accord, Chaines Impersonnelles et Variables", *Linguisticae Investigationes* 7, 131-181.
- Pollock, J-Y. (1989) "Verb Movement, Universal Grammar and the Structure of IP", manuscript published as Pollock (1990).
- Pollock, J-Y. (1990) "Verb Movement, Universal Grammar and the Structure of IP", *Linguistic Inquiry* 20, p. 365-424.

- Riemsdijk, H. van. (1978) *A Case Study in Syntactic Markedness: the Binding Nature of Prepositional Phrases*, Foris Publications, Dordrecht.
- Rizzi, L. (1982) *Issues in Italian Syntax*, Foris Publications, Dordrecht.
- Rizzi, L. (1986) "On Chain Formation", *The Syntax of Pronominal Clitics*, H. Borer, ed.
- Rizzi, L. (1986a) "Null Objects in Italian and the Theory of *pro*", *Linguistic Inquiry* 17, 501-558.
- Rizzi, L. (1990) *Relativized Minimality*, MIT Press, Cambridge.
- Rizzi, L. and I. Roberts, (1989) "Complex Inversion in French", *Probus* 1, 1-30
- Rouveret, A. (1990) "X-bar Theory, Minimality and Barrierhood in Welsh", *The Syntax of the Modern Celtic Languages*, R. Hendrick, ed., Academic Press, San Diego.
- Ruwet, N. (1972) *Théorie Syntaxique et Syntaxe du Français*, Le Seuil, Paris.
- Saito, M. (1984) "On the Definition of C-command and Government", C. Jones and P. Sells, eds., *Proceedings of the 14th NELS Conference*, University of Massachusetts, Amherst.
- Schlonsky, U. (1990) "Quantifiers as Heads: a Study of Quantifier Float in Hebrew", ms. Haifa University
- Sportiche, D. (1981) "Bounding Nodes in French", *The Linguistic Review* 1.2.
- Sportiche, D. (1983) *Structural Invariance and Symmetry in Syntax*, Doctoral Dissertation, MIT, distributed by the MIT Working Papers in Linguistics.
- Sportiche, D. (1987) "Unifying Movement Theory", unpublished, UCLA.
- Sportiche, D. (1988) "A Theory of Floating Quantifiers and its Corollaries for Constituent Structure", *Linguistic Inquiry* 19.3.
- Sportiche, D. (1988a) *Conditions on Silent Categories*, manuscript, UCLA.
- Stowell, T. (1981) *The Origins of Phrase Structure*, Unpublished Ph.D. Dissertation, MIT.
- Stowell, T. (1983) Subjects across Categories, *The Linguistic Review* 2: 285-312.
- Stowell, T. (1988) "Determiners in NP and DP", manuscript published as Stowell (1991).
- Stowell, T. (1991) "Determiners in NP and DP", in K. Leffel and D. Bouchard, eds., *Views on Phrase Structure*, 37-56, Kluwer, Dordrecht.
- Szabolcsi, A. (1983) "The Possessor that Ran Away From Home", *The Linguistic Review* 3, 89-102.
- Tellier, C. (1990) "Universal Licensing", Ph.D., McGill University, published as Tellier (1991).
- Tellier, C. (1991) *Licensing Theory and French Parasitic Gaps*, Kluwer, Dordrecht.
- Travis, L. (1984) *Parameters and Effects of Word Order Variations*, Doctoral Dissertation, MIT.
- Valois, D. (1991) *The Internal Syntax of DP*, Doctoral Dissertation, UCLA.

- Vergnaud, J.R. (1974) *French Relative Clauses*, Doctoral Dissertation, Massachusetts Institute of Technology.
- Zubizarreta, M-L. (1979) "Extraction from NP and a Reformulation of Subjacency", unpublished ms., MIT.
- Zubizarreta, M-L. (1982) *On the Relationship of the Lexicon to Syntax*, Doctoral Dissertation, MIT.