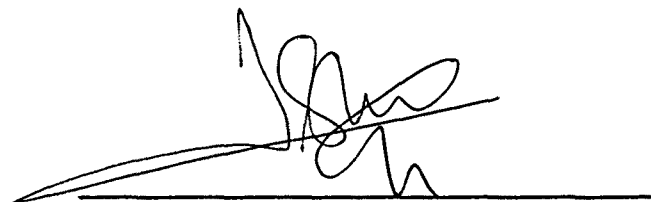


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VERBAL SEQUENCES: A GENERATIVE APPROACH

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A handwritten signature in black ink, appearing to be 'Mireia Llinas i Grau', written over a horizontal line.

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A note on English T- and N- auxiliaries

As postulated also in G&H's framework the classification into T-auxiliaries and neutral auxiliaries is also applied to English. The patent differences with Catalan and Spanish obviously call for an explanation. G&H themselves point out that "auxiliary verbs do not have the same syntactic properties over or within languages" (p.47). It was already noted - cf. section 2.4 - that Italian *essere*, although it is a T-auxiliary, may refrain from assigning its T-role, while another T-auxiliary, English *be*, may not. It is evident that the fact that there are properties which are shared and constant over languages is what has brought G&H to their dual classification of auxiliaries.

In this section I have linked the notion of N-auxiliary with the triggering of obligatory incorporation; i.e. in complex verb structures - and, possibly in epistemic verb structures -. English N-auxiliaries obviously do not trigger incorporation - cf. the differences pointed out in section 3.3.1.4-. English HAVE, the paradigmatic N- auxiliary, when occurring in equivalent complex verb structures, does not prevent interruption nor disallow preposing; moreover, there is not even marginality in the preposing examples of complex verb sequences in English, so incorporation is utterly unmotivated :

(229) *My son said he had passed his examination and
passed it he has*

(230) **El seu fill va dir-li que havia passat l'examen i passat l'ha*

(231) **Su hijo le dijo que había pasado el examen y pasado lo ha*

CHAPTER FOUR : *Prospects*

4.0 Introduction

This chapter is only intended to suggest some of the possible consequences of complex verb verbal sequences in view of the new phrase structure proposals - cf. especially Pollock (1987) - for clausal structure consisting in the isolation into different functional nodes of the previously assumed head of the clause, INFL. It is, thus, essentially a "question-raising" chapter .

Before I review Pollock (1987) , I think it worthwhile to look at two proposals which have attempted definitions of the "non-lexical" or functional nodes, which had up until now been postulated for syntactic reasons - as observed in Chapter 1 -, the explanation of syntactic phenomena - as is the case of Pollock (1987) - , but for which no extensive definition had been given. This is the reason why I have included section 4.1 which , in essence, provides a résumé of the definitions of functional nodes given by Abney (1986) and Fukui & Speas (1988). I do not intend to assess their theories, nor the consequences of their theories. This is beyond the aim of this chapter and thesis.

It must be noted that some recent proposals diverge from the basic Pollock proposal - cf. Chomsky (1988), Belletti(1988), (1990), Ouhalla (1988), (1989), Solà (1989) among others - in different ways; i.e. they either propose a different order of functional nodes, or add other functional nodes to clause structure. Some of these will be briefly revised in section 4.2. Other recent proposals do not consider the more articulated clausal structure - cf. for instance, Picallo (1990) - .

In section 4.3 several questions are raised as regards the status and structure of complex verb sequences for which incorporation was posited in chapter 3, within the new phrase structure framework. Within this new theory with more functional nodes in clausal structure some of the many possible questions as regards complex verb sequences are: Is it plausible to generate auxiliaries in complex verb sequences in functional nodes? Do they have the characteristics of functional nodes as defined in 4.1? Are other functional nodes plausible/needed? Would this lead to a change in the incorporation proposal? Does the FDC - cf. 2.4 and 3.4 - predict correct results irrespective of the addition of more functional nodes? Are there functional nodes intervening between V-1 and V-2 in complex verb sequences? Some of these will be tentatively answered in section 4.3

I must note that I will not take into consideration another recent debate which is the generation of the clausal subject in a VP-internal position and its movement to the specifier of some functional node - I, T, or AGR -. See basically Koopman & Sportiche (1988). - cf. footnote (19) in Pollock (1987) for a reinterpretation of this proposal in his framework -, although it will be mentioned on several occasions.

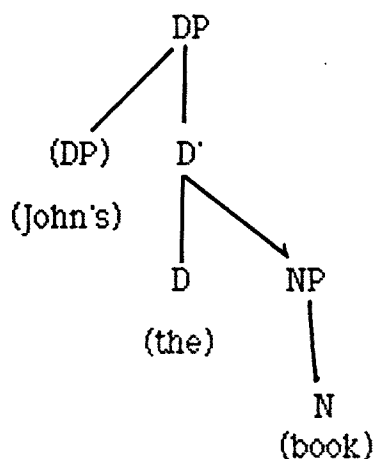
4.1 Some properties of functional and lexical nodes

In the section devoted to the regularization of phrase structure in Chapter 1, it was observed that no attempt at a substantial definition is made as regards to what is a functional node, as opposed to a lexical node. Since then, there have been several attempts and here I will mention two of them.

4.1.1 Abney (1986)

Abney (1986), (1987) makes the crucial proposal that DET may be considered a functional category, his "DP- analysis". In his theory, NPs are dominated by DP, and determiners head a functional projection of their own:

(1)



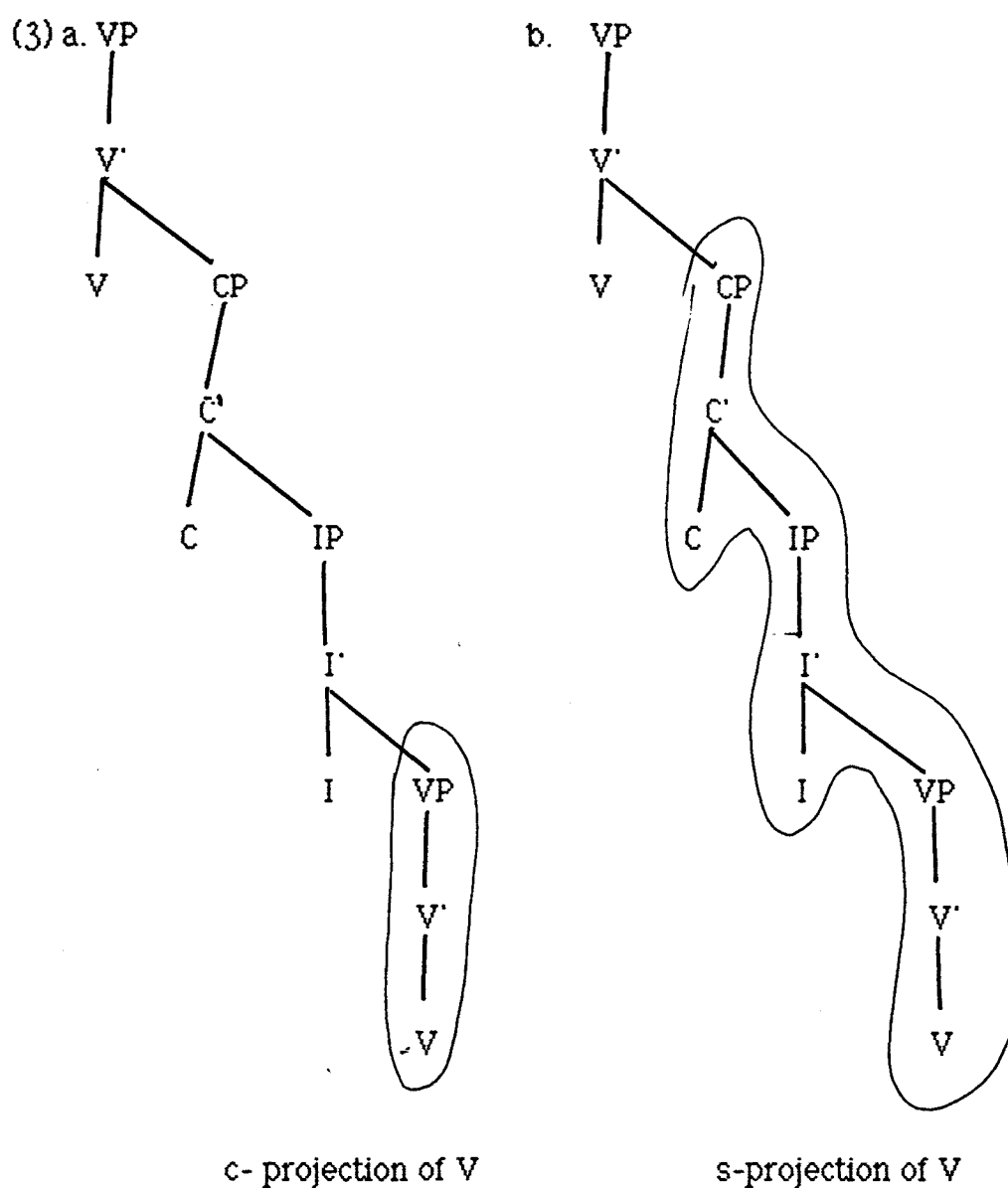
Without trying to assess his theory as presented in Abney (1987) *The English Noun Phrase in its Sentential aspect*, I will note the properties that he grants functional categories in Abney (1986):

(2)

- a. They are closed lexical classes
- b. They have only one complement, which may not be an argument -
i.e. as VP complement of INFL
- c. They lack "descriptive content"- "its link with the world" (p.5) -

and the way they contribute to the semantics of the phrase is "second-order", "regulating or contributing to the interpretation of their complement." In this sense, Abney considers the role of Comp and Infl: "The role of the complementizer is to mark features concerning how a sentence is to be understood: as subordinate, as a question, etc. Infl fixes the time, mode, etc., of the action designated by the VP." (p. 4)

In further explaining the notion of "descriptive content", Abney exemplifies this lack - (2)c. - with the modal "will" - as opposed to the N "ball" or the verb "hit" - with which "it is not possible to pick out some bit of the world in the same way." (p. 5). He further notes that not only words, but also phrases have descriptive content, whose "core" descriptive content is inherited from the head of the phrase. In this sense, IP inherits descriptive content from VP and, ultimately, from V, which Abney labels *semantic head* of the clause as it is the lexical source of its descriptive content. In a clause (IP), I is the structural head, and V the semantic head. In this sense, Abney posits two different types of projections: *c-projection* - the X-bar projection -, and *s-projection* - the semantic projection. The following diagrams illustrate the difference -(6)a. and b. in Abney (1986)-:



4.1.2 Fukui & Speas (1988)

Fukui & Speas (1988) (F&S) constitutes a major work within this distinction of functional versus lexical nodes. Their theory implies major reformulations in the framework, as will be seen by the properties they assign to one or the other type of category. As pointed out in the

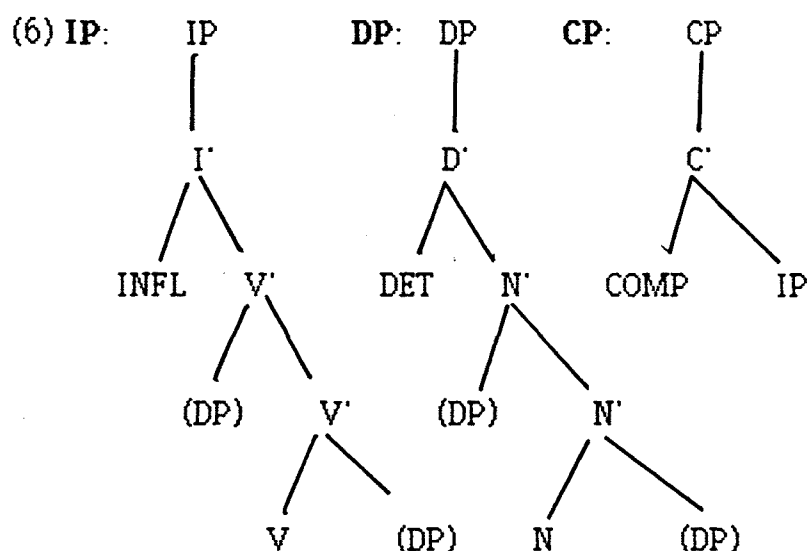
Introduction, it is beyond the aim of the thesis and chapter to assess their theory and its consequences; I will basically only refer to their classification of functional / lexical nodes. A few observations are due: a) they crucially diverge from Chomsky (1986b)'s uniform X-bar proposal for functional and lexical nodes, b) they call lexical, following the tradition, those categories which may be defined in terms of [+/- N, +/- V]; i.e. those which have a theta-grid, c) they purposely call non-lexical categories "functional" because these also have independent lexical entries in the lexicon.

F&S establish their classification on an asymmetry between lexical categories and functional categories; basically that functional categories have only one possible "specifier" position, as opposed to lexical categories which have iterable "specifiers", as (4) and (5) show - (1) and (2) in F&S -:

- (4) a. *the very very old man*
 b. *Mary's big red book*
 c. *Susan never could have been eating cabbage*
- (5) a. **the the old man*
 b. **Yesterday's Chomsky's book*
 c. **It Mary ate a bagel*
 d. **the John's cat*
 e. **What who did buy?*

Obviously, they must redefine the notion of "specifier", which differs from Chomsky (1986b)'s notion of Spec; i.e. an X_{max} daughter of an X_{max}. They note that the status of "subject" differs from category to category; that there are specifiers which may iterate - (4) -, and others which may not - (5) -. The explanation that they give diverges from Chomsky (1986) - where he also allows for more than one Spec position - cf. Chomsky (ibid). p.3 - because in *Barriers* there is no way to rule out the generation of more

than one specifier for any category - unless other principles are violated -; i.e. the contrast in (4)-(5) receives no direct explanation in his framework, in terms of functional versus lexical, which they consider crucial. For F&S a *specifier* is "an element that closes off a category projection" (p.132). Functional projections have this possibility; IP, CP, and DP have parallel structures - (p.133) -:



C differs from the other functional categories in that it has as a complement a functional category, a characteristic it shares with lexical categories.

The following is a list of structure characteristics that differentiate lexical from functional categories, based on empirical observations - note that the last three, as pointed out by F&S, coincide with Abney's -:

(7)

a. Functional categories have only one Spec position; lexical categories have iterable Spec positions.

b. Specifiers of functional heads are always moved from within their complement position.

c. Functional heads all have Spec positions; it is not clear whether all lexical categories have a Spec position.

d. Languages which lack functional heads also lack Spec positions

e. Functional heads are closed-class items.

f. Functional heads lack the semantic value associated with lexical categories.

g. Functional heads select a unique complement.

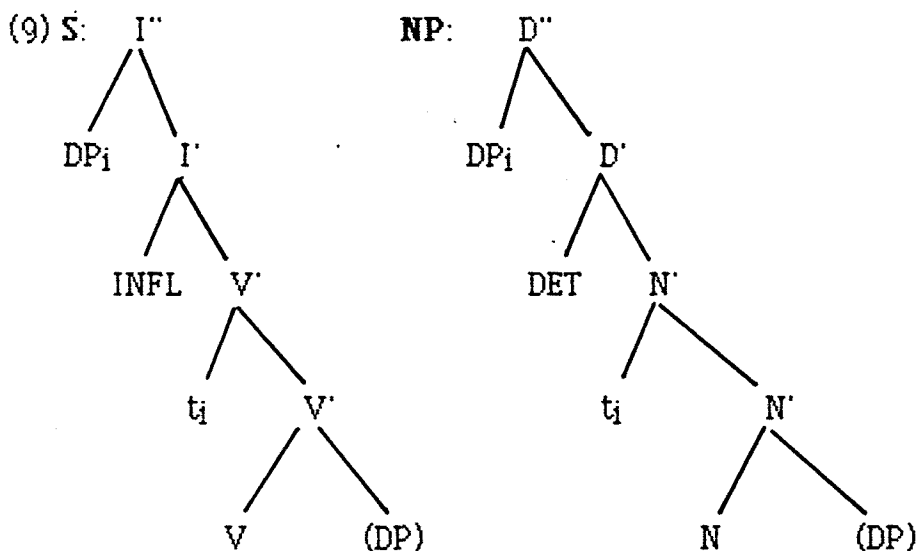
Claim (7) d. is substantiated from their study of Japanese where they argue that there are no functional categories - Det, C, or I - and where NPs are N' and Ss are V' - subjects may be iterated -.

F&S introduce the notion of *Kase*, which subsumes the F-features assigned by functional categories - nominative, genitive Case -, and objective Case assigned by a lexical head. This notion substantiates (7)b. above; the Spec position of a category may only appear if it is assigned Kase - either from a functional head (in which case it would be licensed by F-features) or from a lexical category (as in ECM cases). The following paradigm is obtained in their system - where the non-Kase assigners never allow a Spec position - (p.139) :

(8)

	CP	IP	DP
Kase			
assigner	WH	tns/agr	's
non-Kase			
assigner	that	to	the

One of the consequences of their relating the presence of Spec of a functional category to the fact that its head has a Kase to assign is to dissociate the existence of Specs from the Projection Principle. They also propose a Saturation Principle which assumes Kase-grids; i.e. if an element has a Kase to discharge it must discharge it. Note that if a functional head has a Kase to discharge, the Spec position will close off the projection; in this way, they relate movement in "S" and in "NP"; i.e. movement takes place if I and D, respectively, have a Kase to discharge - cf. (8) above - (p. 141):



As a last note to F&S(1988), they propose a *Functional Projection Theorem* - cf. p.154, (25) -, which leads to a revision of the concept of blocking category. Note also that VP is not projected; hence, VP-adjunction and coindexing mechanisms as in Chosmky (1986)b. are all due for revision.

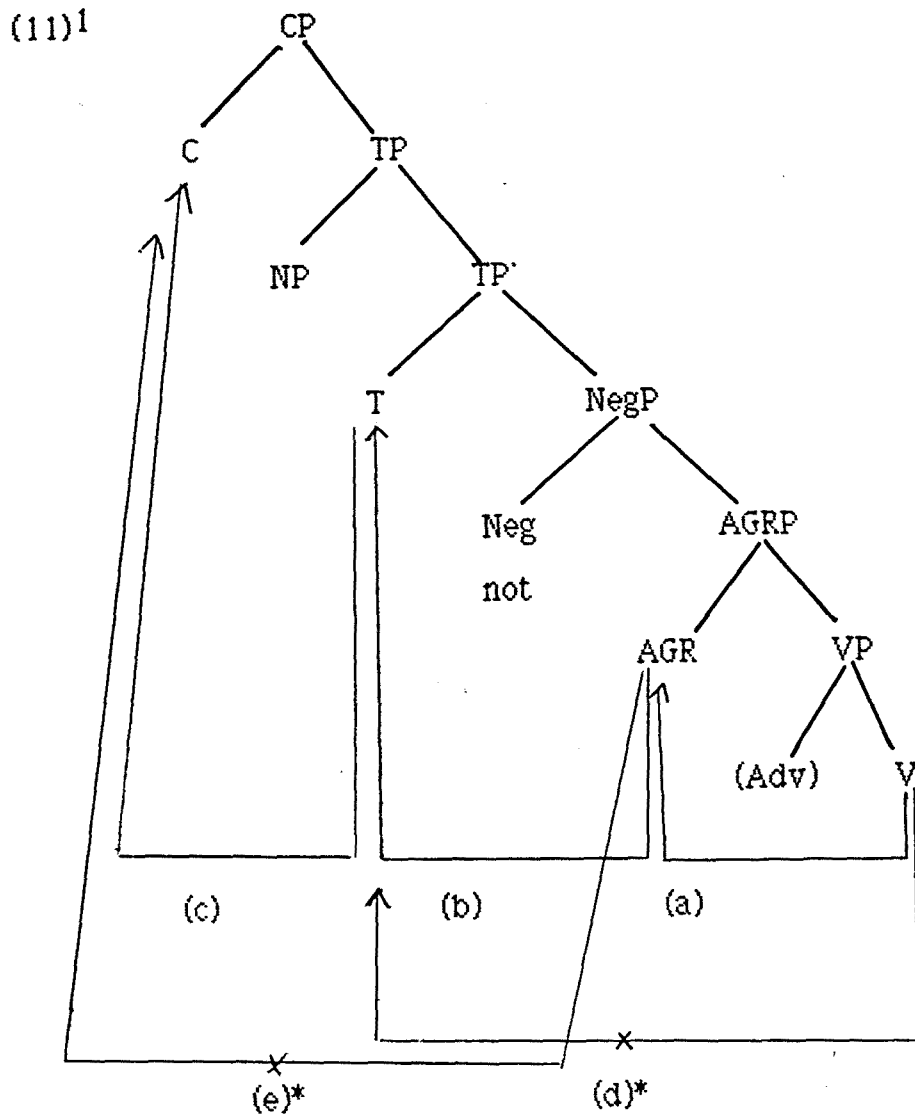
(10) *Functional Projection Theorem*

A Functional head projects to the X'' level iff
 there is Kase to be discharged to its spec position.
 Otherwise, it projects only to X'.

4.2 Clause structure and functional nodes

4.2.1 Pollock (1987)

What follows is a summary of the basic proposals in Pollock(1987) - i.e. some important proposals in this work have not been included for ease of exposition -. In order to explain a wide range of syntactic differences and similarities in French and English with regards to negation, questions, adverbs and floating quantifiers, Pollock (1987) relies on the distinction at D-structure of AGR and T as different syntactic nodes; the two morphemes which had been previously assumed to be generated under INFL. Quoting Pollock: "AGR I will assume is a category in its own right to be distinguished from Tense which is the head of what so far has been called INFL. We might more appropriately call the latter T(ense) and its maximal projection TP. AGR is also the head of a maximal projection AGRP..." (p.18). He also posits a NegP with the negative particle as its head - **ne** in French, and possibly **not** in English -. The full structure of a clause containing negation is, thus - (77) in Pollock (1987) -:



The comparative differences are explained, apart from assuming this structure, by assuming the *barriers* framework - especially the HMC/ECP, the concept of barrier, L-marking -, and by making intensive use of Theta-theory and Quantification Theory: Pollock proposes a parameter which gives a language the option of having an *opaque* or *transparent* functional node with respect to Theta-theory - mainly fixed on the basis of the richness of this functional node -, and refers to the universal ban on vacuous quantification - cf. (70) in Pollock (1987) *All operators must bind a*

variable in natural languages - His claim is based on crucial observations in Emonds (1976), (1978) and Jackendoff (1972): main verbs in French and auxiliaries in English are not in their original position ; they are in INFL - then, AUX - position. Move-alpha, where alpha is V, is thus the head-to-head movement proposed and analyzed in Pollock(1987). Another mechanism needed in the framework is Affix-movement - cf. Chapter 1 *Affix Hopping* -, which Pollock also addresses within this new perspective.

Different possibilities of verb movement - fixed by the mechanisms cited - in the two languages will explain crucial differences such as the following:

- (12) a. * *My brother reads not novels*
 b. *Mon frère (ne) lit pas de romans*
- (13) a. * *Reads he novels?*
 b. *Lit-il de romans?*
- (14) a. * *My friends read often novels*
 b. *Mes amis lisent souvent de romans*
- (15) a. * *My friends read all novels*
 b. *Mes amis lisent tous de romans*

As well as some important similarities:

- (16) a. *He has not read that novel / Has he read that novel?*
 b. *Il (n') a pas lu ce roman / A-t-il lu ce roman?*
 c. *He is seldom satisfied / They are all satisfied* (11)c.
 d. *Il est rarement satisfait / Ils sont tous satisfaits* (11)d.

The above sentences are all tensed, but Pollock also analyzes the behaviour of infinitival clauses in French and English :

- (17) a. *Ne pas être heureux est une condition pour écrire des romans*
 b. *N'être pas heureux est une condition pour écrire des romans*
 c. *Ne pas avoir eu d'enfance heureuse est une condition pour écrire des romans*
 d. *N'avoir pas eu d'enfance heureuse est une condition pour écrire des romans*
 e. *Ne pas avoir de voiture en banlieue rend la vie difficile*
 f. *N'avoir pas de voiture en banlieue rend la vie difficile (15)*
- (18) a. *Ne pas sembler heureux est une condition pour écrire des romans*
 b. **Ne sembler pas heureux est une condition pour écrire des romans*
 c. *Ne pas posséder de voiture en banlieue rend la vie difficile*
 d. **Ne posséder pas de voiture en banlieue rend la vie difficile*
 e. *Ne pas regarder la télévision consolide l'esprit critique*
 f. **Ne regarder pas la télévision consolide l'esprit critique*
 g. *Ne pas pleurer en lisant Les Misérables dénote de la sécheresse d'âme*
 h. **Ne pleurer pas en lisant Les Misérables dénote de la sécheresse d'âme (16)*
- (19) a. *Not to be happy is a prerequisite for writing novels*
 b. *? To be not happy is a prerequisite for writing novels*
 c. *Not to have had a happy childhood is a prerequisite for writing novels*
 d. *(?) To have not had a happy childhood is a prerequisite*

for writing novels

e. *Not to be arrested under such circumstances is a miracle*

f. ? *To be not arrested under such circumstances is a miracle*

(21)

(20) a. *Not to seem happy is a prerequisite for writing novels*

b. **To seem not happy is a prerequisite for writing novels*

c. *Not to get arrested under such circumstances is a miracle*

d. **To get not arrested under such circumstances is a miracle*

(22)

As the above examples show, English and French differ in tensed clauses in that only in French can main verbs precede negation, VP-initial adverbs, and quantifiers also occur in initial position in questions - cf. b. examples in (12)-(15) -; in English only auxiliaries *have* and *be* have these options (16). Pollock rephrases this descriptive observation as French not having lexically restricted verb movement in tensed clauses; English verb movement in tensed clauses is lexically restricted to auxiliaries.

On the other hand, the behaviour of infinitival clauses with respect to negation seems to obey similar lexical restrictions in both French and English. In both languages movement of HAVE/BE - (17) and (19) - is allowed - although not required -, but movement of lexical verbs - (18)b,d,f,h. and (20)b,d. - gives rise to clear ungrammatical sentences. Pollock relates the lexical restrictions in French in infinitival clauses with the general lexical restrictions in English. His proposal also accounts for the fact that infinitives in French do not show lexical restrictions with respect to quantifiers and adverbs - contrasting with their behaviour as regards negation, as just noted - (21)-(22), whereas English does (23):

- (21) a. Comprendre à peine l'italien après cinq ans d'étude dénote un manque de don pour les langues
 b. Perdre complètement la tête pour les belles étudiantes c'est dangereux
 c. Paraître souvent triste pendant son voyage de noce, c'est rare
 d. Oublier souvent son nom ça n'arrive pas fréquemment (27)
- (22) a. On voit mal le députés démissionner tous en même temps
 b. J'ai entendu mes enfants raconter tous une histoire différente
 c. Ne comprendre rien à la linguistique ce n'est pas un crime
 d. Oublier tout pendant les vacances, c'est normal (28)
- (23) a. *To understand hardly Italian after years of hard work means you have no gift for languages
 b. *To look often sad during one's honeymoon is not frequent
 c. *To lose completely one's mind for pretty students is dangerous
 d. *To forget almost one's name isn't very frequent (38)
- (24) a. (?) I believe John to be often sarcastic
 b. *I believe John to sound often sarcastic
 c. The English were then said to have never had it so good
 d. (?) John is said to be seldom on time at his appointments
 e. *John is said to arrive seldom on time at his appointments

(39)c,d,f,i,j

The following questions are raised by Pollock (1987) and answered gradually as he considers the differences and similarities illustrated by the above examples, and displays and argues for the structure given in (1):

A. Why is Verb movement to I lexically restricted in Modern English?

A different way of formulating the same question is:

A'. Why can't Affix movement apply in French tensed clauses?

B. How come UG allows for Affix movement, a lowering rule?

As is well-known there is a ban on "lowering rules"; i.e. rules which create a structure where the trace c-commands its antecedent, and not the other way around, as required.

C. Why does the negative particle not block Affix movement while other (negative) adverbs do not?

As is also well-known only *not* requires "do-support" for the affixes generated in INFL.

D. Why is verb movement obligatory whenever it can apply?

This question addresses ungrammatical examples of the following type:

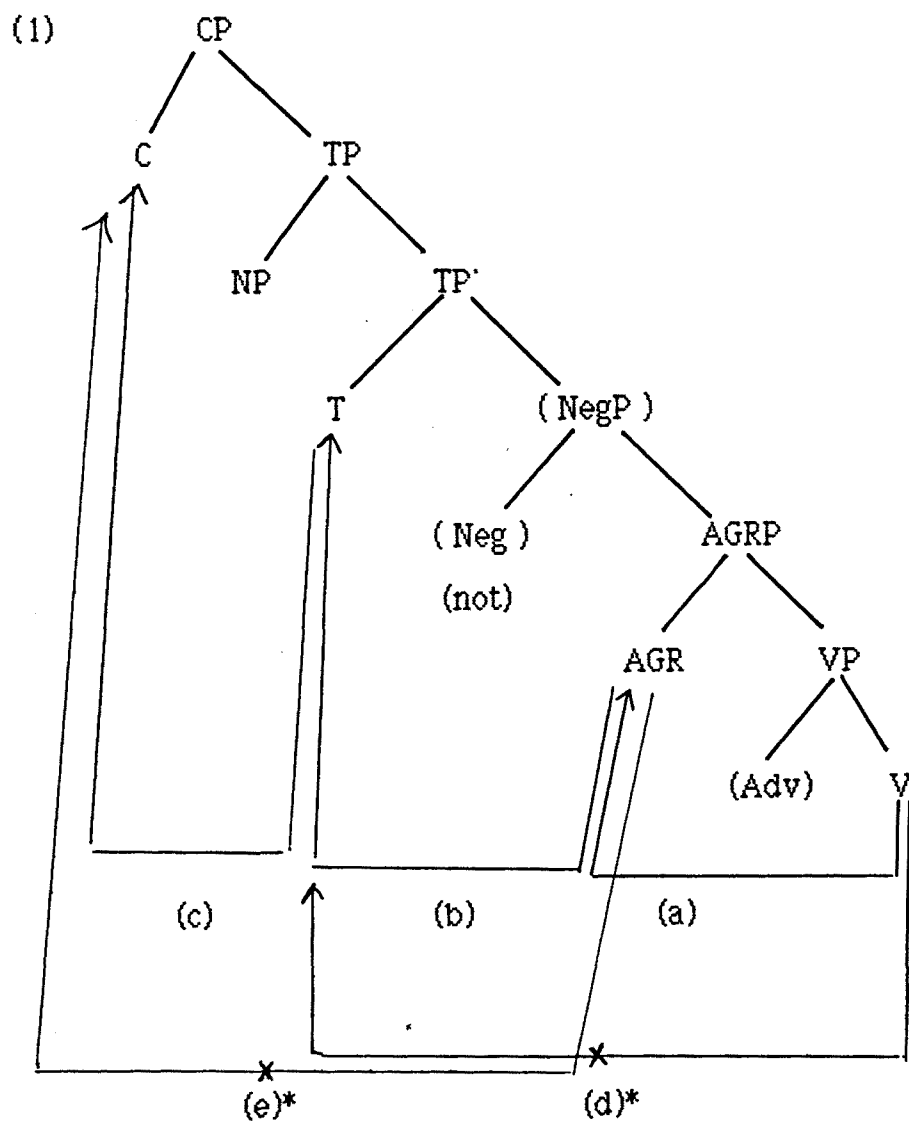
(25) a. **He doesn't have read that novel*

b. **She doesn't be satisfied with her thesis*

Among other facts that he also provides an answer for is the idiosyncratic *do-support* mechanism in Modern English, as well as the fact that British English lexical *have* allows verb movement optionally.

The answers to his questions are given, as mentioned, by reference to the HMC/ECP, Theta Theory and Quantification Theory interacting with the

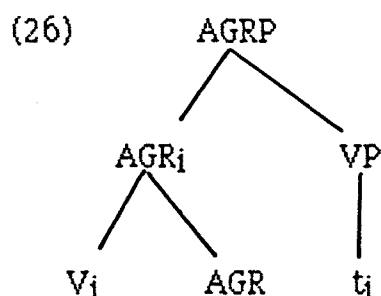
structure in (1), repeated here, noting that NegP is optional; i.e. only present in negative sentences. Note that V-movement is an instance of move alpha, and, as such, is not obligatory; its obligatory factor is due to its interaction with other modules.



As the arrows show, the HMC disallows movement of a head to another position other than the head which governs its maximal projection. Verb-movement is, thus, regarded as a two - or three if there is subsequent movement to C - step movement: V-to-AGR-to-T. Pollock

capitalizes on this fact since, if the first step is disallowed by some principle, then movement to T will also be ruled out - predicting the facts for English lexical verbs in tensed clauses - cf. (12)a-(15)a -. If movement to AGR is allowed, then movement to T will only be allowed if no principle is violated in this second step - predicting the facts for French (12)b -(15)b tensed clauses and the lexical restrictions in infinitival clauses.

Pollock's proposal is that rich AGR, as in French, is *transparent* for the percolation of the theta-grid of the lexical verb which moves to AGR, allowing theta-role assignment at any level; in other words, the theta-index of the lexical verb may percolate up to AGR if V is adjoined to it only if AGR is *transparent*. The following structure shows this first step, where V has adjoined to AGR, the first node on its way to T:



In English, AGR is *opaque* - due to its morphological poverty - and , thus, does not allow the transmission of the verb's theta-roles. For lexical verbs - verbs which have a theta-grid - the mechanism that English must have recourse to in order to allow any inflectional affixes to surface in V is Affix movement, an essentially different structure, where the head is the V and the affix adjoins to it:

(27) [v V aff]

(45)

The crucial difference with auxiliaries is that these do not have a theta-grid, so they may adjoin to AGR without violating the Theta-Criterion - i.e. there are no theta-roles to assign -. Therefore, this first step is allowed in English for HAVE/BE and in French for all verbs - because of its different parameter setting. The reason why infinitival sentences display lexical restrictions in French is related to the facts just mentioned; i.e. [-finite] Tense is *opaque* in French as well as in English, thus creating a Theta-Criterion violation if a lexical verb moves to it - cf. (18) and (20).

The assumption that Pollock makes as regards the other functional node in his structure, T, is that [+/- Past] - i.e. [+finite] Tense - is an operator. As such, it must bind a variable, and he considers the definition of what qualifies as a variable for it is the following :

(28) @ is a variable for [+/- Past] iff @ = [$\forall_i e$] bound by [+/-Past]
(60)

These two assumptions require movement to T, and disallow Affix movement in French - no variable would be bound by the operator -. (19)b. shows that the movement implies coindexation, so the V trace qualifies as a variable in V-to-AGR-to-T in tensed clauses in French:

(29) a. *Pierre ne mange pas*
b. [NP ne [Ti [AGR_i [\forall_i mang-AGR]-Past] pas e_i [vp e_i]
(65),(66)

Nevertheless, in infinitival clauses in French, Affix movement must be postulated - as (30) illustrates - so the claim is that [- Finite] Tense is not an operator. Pollock proposes several options, which he does not

explore, in order to avoid the downgrading movement that Affix movement implies: a) if it is an S-structure movement, deletion of empty functional nodes may be assumed; b) if it is a PF movement, then one might assume there is no trace left, c) or the structure might be argued to be "flat" at PF with no violation of the c-command requirement.

(30) a. *Ne pas manger*

(67)

b. [PRO ne e_i pas e_j [vP [v mang- [T_i -finite] +AGR_j]] (69)

The situation for English is quite different. Quoting Pollock: "Quantification Theory requires Verb movement to [+/- Past] but Theta-Theory and the ECP, because of the "opacity" of English AGR (i.e. its morphological poverty), forbid it." (p.31) The alternative that he proposes for English in order to explain such a contradictory situation is the generation of an auxiliary in AGR which counts as a substitute for the "immovable" main verb. This auxiliary is \bar{v} which has a non lexical counterpart, \bar{v} . The non lexical counterpart of \bar{v} is assumed to be the element which moves in "simple" declarative sentences - its trace counting as a variable for quantification. The "substitute" status of \bar{v} is formulated more precisely in Pollock's framework as being "a semantic copy of" the main verb; i.e. it copies the theta-grid of the main verb. Note that the movement of lexical \bar{v} over *not* L-marks NegP, and , thus, voids it of barrierhood. The non lexical counterpart of \bar{v} cannot L-mark so sentences such as (31) are ruled out:

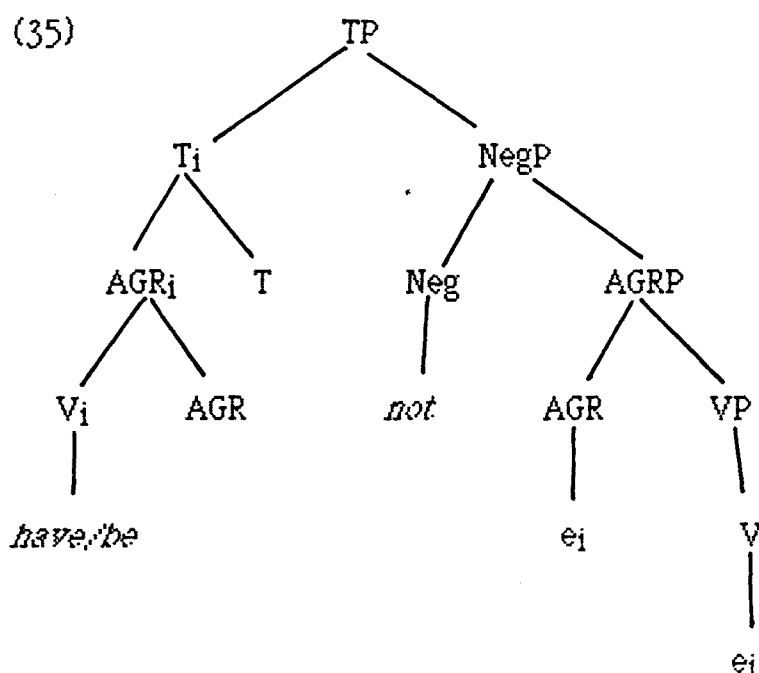
(31) **He not read that novel*

Note that obligatory movement is still maintained in English for verbs which may move - that is, they may go through *opaque* AGR for

reasons explained above - . This is illustrated with sentences containing VP-initial adverbs plus *have/be*:

- | | |
|--|--------------|
| (32)a. <i>John completely lost his mind</i> | (74)a. |
| b. <i>John very much objected to that</i> | (74)c. |
| (33)a. * <i>John completely is losing his mind</i> | |
| b. <i>John is completely losing his mind</i> | (75)a.(76)a. |
| (34) a. * <i>John very much has objected to that</i> | |
| b. <i>John has very much objected to that</i> | (75)b.(76)b. |

Note that Pollock assumes that AGRP is a barrier only by inheritance - the IP "deficiency" in *Barriers* - , but VP, TP and NegP are barriers intrinsically, so they must be L-marked in the process of V-to-AGR-to-T(to-C). An illustration of a derivation in a negative sentence is (35), where T_i L-marks NegP, and the fact that AGRP is not L-marked, as noted, is irrelevant. No violation of the Theta Criterion takes place, nor the ban on vacuous quantification.



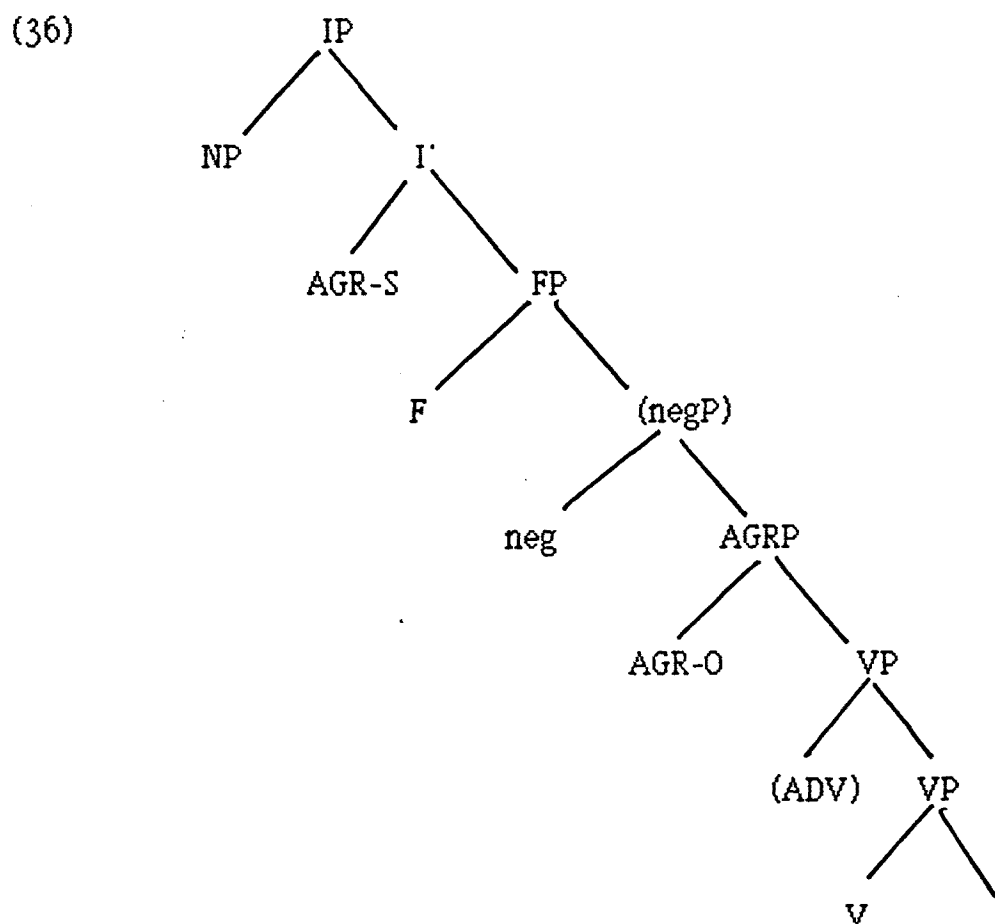
4.2.2 Some divergences

Among the proposals that have modified the basic ideas in Pollock (1987) taking it as a point of departure are Chomsky (1988), Ouhalla (1988), (1989), Belletti (1988),(1990) and Solà (1989). As mentioned in the Introduction, diverging may mean either changing the order of functional nodes proposed by Pollock, and/or adding more functional nodes to phrase structure. In this section I will only mention some of these divergences with respect to nodes in the phrase structure of the clause, without attempting to assess their theoretical superiority or inferiority as regards Pollock(1987) . It must be noted that Pollock himself implies that the structure he proposes may be subject to parametric variations, noting that mainland Scandinavian languages do not have any agreement morphology; i.e. they have lost AGR -footnote (32) p.32 -.

Chomsky (1988) assumes Pollock's proposal, adding to it, and modifying it in several ways. The order proposed by Pollock is modified . Quoting Chomsky (1988): " one might rather expect AGR to dominate tense, since it presumably stands in a government relation with the subject in tensed clauses, to yield the standard subject-verb agreement phenomena. There is morphological evidence suggesting the same conclusion: in a number of languages where it is possible to obtain the relevant evidence, the agreement element is "outside" the tense element in verbal morphology, as it would follow from successive adjunction if AGR dominates the tense element. "(p.15)

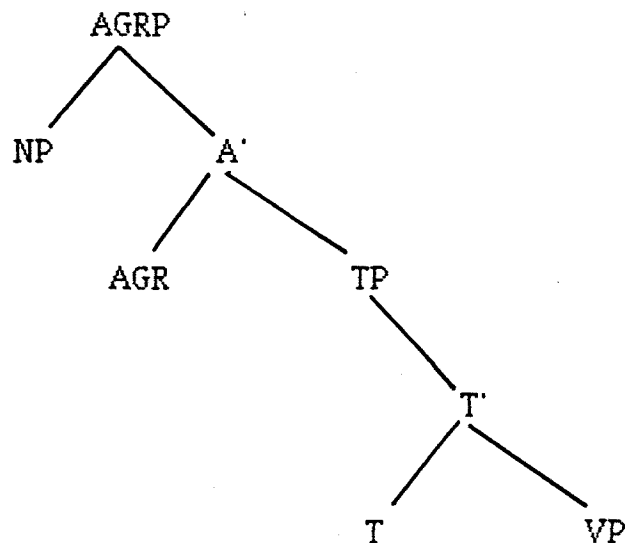
What Chomsky does is propose another clausal structure where this observation is reconciled with Pollock's observation that there must be a node between tense and VP. This node is considered to be another type of agreement, AGR-O(bject). This is consistent with Kayne (1987) -cf. 4.3 -,

who shows that participle agreement in certain constructions is accounted for by assuming an AGR node dominating a VP headed by the participle ; i.e. that object agreement also depends on a government relation between an agreement element and an NP, on a par with subject agreement. Generalizing this to all clause phrase structure, Chomsky assumes two types of agreement: AGR-S(subject) and AGR-O ." On general assumptions, AGR-O should be close to V, and AGR-S close to the subject, therefore more remote from V. " (p. 15). The following clausal structure is proposed in Chomsky(1988). Note that AGR-O is present even for non-transitive verbs - (28) in Chomsky (1988)-:



Belletti (1988) - cf. also Belletti (1990) , and section 3.3.1.4 - also diverges from Pollock (1987) in changing the order of the functional nodes proposed in this work. She follows Pollock's proposal adapting it to Italian, for which she posits a generalized verb movement; i.e. verbs move even in non-flected clauses. The following structure shows how verb movement and its successive movement to functional nodes following the HMC gives the expected morphological shape of the main verb - (4)a,b., and c. in Belletti (1988) (handout) -:

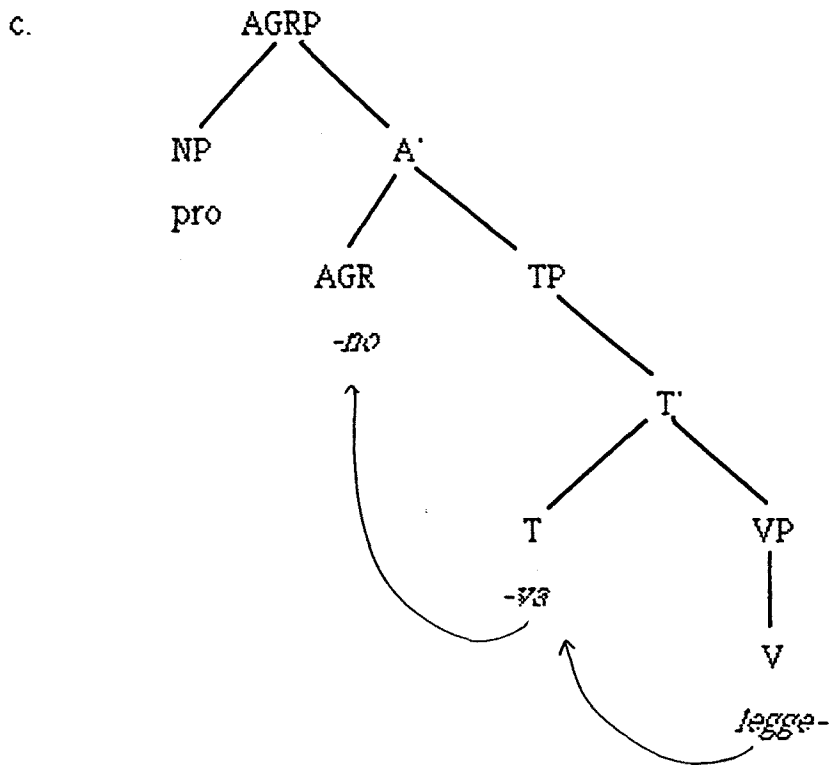
(37)a.



b. *Legge - va - no*

imp 3pers,pl

They read (imperfect)



Ouhalla (1988) and (1989) also considers AGR and T as categories in their own right with their corresponding specifier and complement positions, but relates the order of these categories with the basic word order of a language. In VSO languages Tense selects AGR, whereas in SVO languages it is AGR which selects Tense. This, again, implies a basic reversal of node hierarchical position with respect to Pollock (1987) - i.e. French and English being SVO languages -. Verb movement is triggered by the Affix Principle, and the subject moves to Spec-AGR giving the expected order in each language type.

In Ouhalla (1989) he clearly diverges from Pollock's proposal for French and English in accounting for the behaviour of negative clauses by assuming that Neg has different selectional properties in French and English, which give rise to the following structures - (3)a. and b. in Ouhalla(1989) (abstract)-:

(38) a. English:

[AGRP AGR [TNSP TNS [NEGP NEG [VP V (NP)]]]]

b. French

[AGRP AGR [NEGP NEG [TNSP TNS [VP V (NP)]]]]

Another different feature that Ouhalla's analysis presents is the introduction of another functional node ASP, with its corresponding projections. He assumes this node for French *avoir/être* and English *have/be*. For English modals he speculates on the possibility of a MODP.

Another paper which also posits a different functional node, namely ASPP is Carstens and Kinyalolo (1989). In their analysis of Bantu constructions, they propose that AGR does not project, but that Tense and ASP project in clausal phrase structure. The fact that AGR does not project is assumed on the basis of the Bantu agreement system, where every category contains agreement.

Solà (1989) also posits a change in the order of functional nodes for Catalan; i.e. the fact that AGR dominates Tense accounts for the expected morphological characteristics of verbs - as in Belletti (1988) - and the government relation needed for subject agreement. His structure is as in (39) - (30) in Solà (1989) -, basically a reversal of Pollock's structure:

(39) [AGRP AGR [NEGP NEG [TP T [VP Adv/Qf [VP V ...]]]]]

4.3 Reconsidering complex verb sequences

The complex verb sequences analyzed in Chapter 3 and for which an incorporation analysis was provided should be reconsidered in the light of the new proposals sketched in sections 4.1 and 4.2. As pointed out in the introduction to the chapter, and as the title of the chapter implies, the considerations here given are just "prospects", ideas in need of further analysis. As also pointed out in the introduction, there are many questions which arise within the new "functional phrase structure" framework, two of which will be the focus of speculation in this section:

1. Are V1s in complex verb sequences to be generated under a functional node?

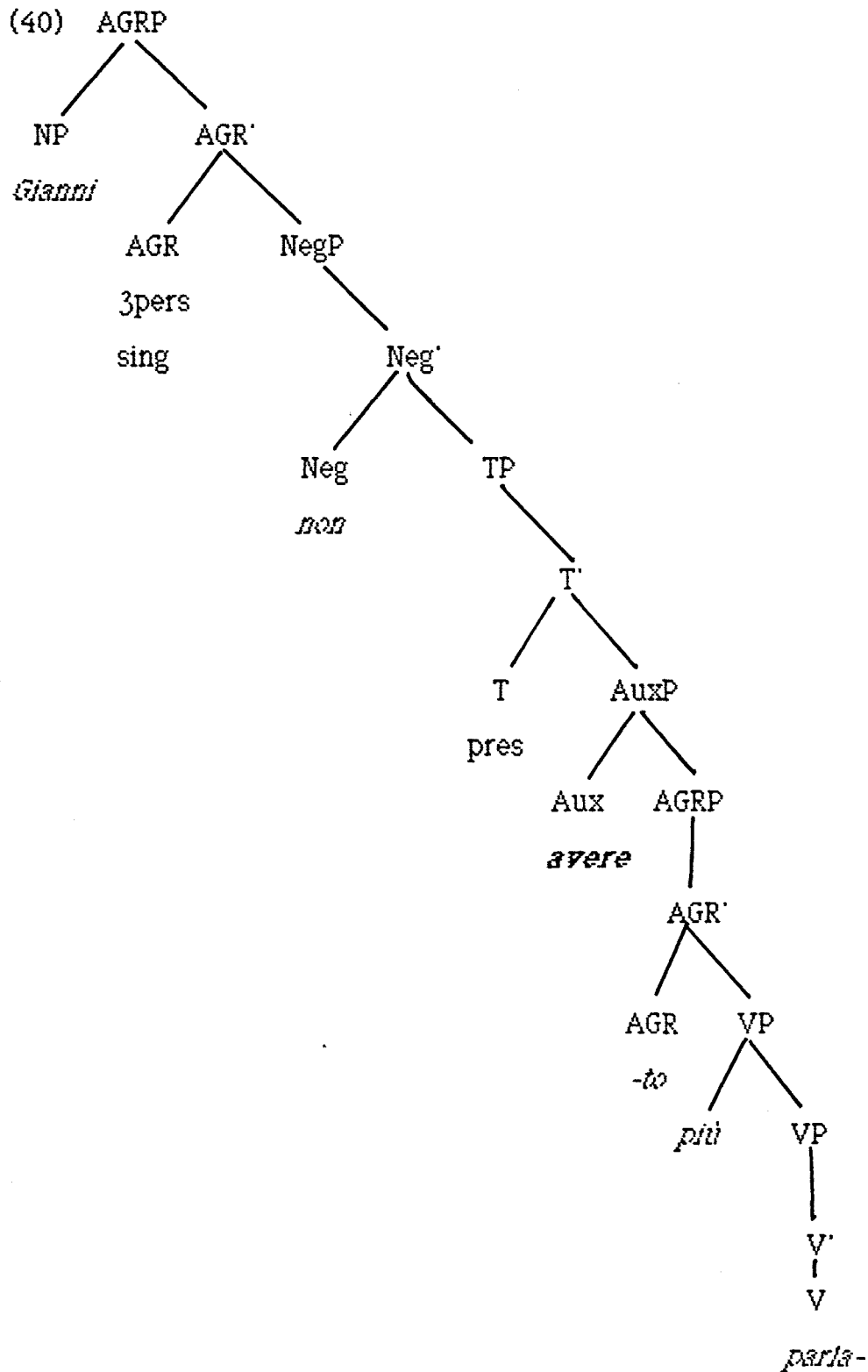
2. Are V1-V2 consecutive in a complex verb sequence, or is there a functional node intervening?

In trying to give a tentative answer to these questions I will, obviously, have to touch upon the influence of any new proposal on the incorporation hypothesis.

1. Are V1s in complex verb sequences to be generated under a functional node?

It would not be new in the theory to propose the generation of an auxiliary in a functional node. Modals in English had been given this status already in earlier models - cf. structures in section 2.2.2 where M is generated under AUX, together with T -, when AUX was granted a separate node - then, though, the debate functional / lexical was not yet an issue -.

Several authors in the present framework also propose this for other auxiliaries, not only for modals. Note, though, that in a very recent proposal, Belletti (1990), the auxiliary *avere* in Italian is generated under AUXP without specifying what type of node it is - (12) in Belletti (1990):



As noted in section 4.2, Ouhalla (1989) argues that *have/be* in English, and *be/être* in French may be generated under an ASP node. In English ASP should precede Neg - (41)and(42) below, (13) and(14) in Ouhalla (1989) (handout) - and in French ASP should follow Neg - (43)and(44) below, (16) and (18) in Ouhalla (1989) (handout) -. He argues for these structures observing the word order of negation with respect to the auxiliaries in each language.

(41)a. *John has not read the book*

b. [AGR [TNS [ASPP *have* [NEG [V NP]]]]]

(42)a. *John is not happy*

b. [AGR [TNS [ASPP *be* [NEG [AP *happy*]]]]

(43)a. *Jean n'a pas lu le livre*

b. [AGR [NEG [TNS [ASPP *avoir* [V NP]]]]]

(44)a. *Jean n'est pas content*

b. [AGR [NEG [TNS [ASPP *être* [AP *content*]]]]]

These, though, are precisely two languages for which incorporation cannot be posited - cf. section 3.3.1.4 -, their complex verb sequences having a radically different behaviour than in Catalan and Spanish. What we may assume for these languages should not directly affect what we posit for the other two languages.

The question of modals is somewhat different. As noted on several occasions throughout the thesis, English modals have been considered - within the respective changes in the model - elements in AUX, INFL, or T - some have even posited a MOD phrase cf. Ouhalla (1989) -.

In the present model, thus, there is no question as regards English modals being "functional" elements /heads. Abney (1986) exemplifies in his explanation of "functional" versus "lexical" the former with the modal "will". In this sense, there has been - to my knowledge - no distinction made between root and epistemic modals in English, both equally considered functional elements.

In Romance languages the distinction epistemic / root has been taken into account. Picallo (1990) capitalizes on this difference - cf. section 2.3.2.3 for Picallo (1985), which makes the same assumption - by arguing that epistemic modals are generated under INFL. Root modal interpretation implies a different structure; the modal being a V element. Note, though, that even for root modals, the question whether they head a VP or they do not is not straightforward - cf. Zubizarreta (1982), Picallo (1985),(1990), Pollock (1989) -. Following Zubizarreta (1982), Pollock notes that modal verbs are more like adverbial modifiers; i.e. they do not contribute to theta-role assignment in the same way as other predicates, the theta-roles are "secondary". Quoting Pollock: " ... *pouvoir*, *devoir*, and *vouloir* do not assign a theta-role to either their subject or their clausal complement. Obviously, though, unlike *be* and *have*, they contribute something to the interpretation of the sentence in which they occur, their root or epistemic meanings. Yet these readings, however one wishes to represent them, cannot be associated with ordinary theta-role assignment." (p. 24) His examples all imply root modals - (56)b.,d.,f., in Pollock (1987); the examples he gives to show that infinitive modals may move in French:

- (45)a. ? *Je pensais ne pouvoir pas dormir dans cette chambre*
 b. ? *Il avait estimé ne devoir pas donner suite à ma demande*
 c. ? *Il avait dit ne vouloir pas donner suite à ma demande*

The implicit assumption is that they are generated in V and moved to T. This assumption, anyway, does not touch upon our hypothesis since French is a non-incorporation language - with respect to complex verb sequences -, and V1 may be subject to move alpha without violating the HOC. Moreover, as noted his examples have all root readings. Recall that it was suggested in chapter 3 that epistemic modal verbs seem to function as part (\bar{V} i) of a complex verb sequence - and are subject to incorporation -. If Picallo's arguments are correct and integrated within this new framework, epistemic modal verbs might have a special status within the V1s of complex verb sequences, as will become clear in what follows.

We may now attempt to consider the first verbal elements of complex verb sequences in light of the definitions of Abney (1986) and Fukui&Speas (1988) given in section 4.1, repeated here:

(2)

- a. They are closed lexical classes
- b. They have only one complement, which may not be an argument -
i.e. as VP complement of INFL
- c. They lack "descriptive content"- "its link with the world" (p.5) -
and the way they contribute to the semantics of the phrase is
"second-order", "regulating or contributing to the interpretation
of their complement." (p. 4)

(7)

- a. Functional categories have only one Spec position; lexical categories
have iterable Spec positions.
- b. Specifiers of functional heads are always moved from within their
complement position.

- c. Functional heads all have Spec positions; it is not clear whether all lexical categories have a Spec position.
- d. Languages which lack functional heads also lack Spec positions
- e. Functional heads are closed-class items.
- f. Functional heads lack the semantic value associated with lexical categories.
- g. Functional heads select a unique complement.

(2)a and (7)e. characterize the first verbal elements in complex verb sequences, as they all belong to closed classes, a traditional criterion for the classification of auxiliaries. Note though that this is not only true of functional categories ; there is a - so far - considered lexical category which shares this property, namely P. P should be considered a lexical category following F&S's criterion - a traditional one in generative grammar -: lexical categories are those which may be characterized by the features [+/- N, +/- V], the preposition precisely having the negative value for both. Not considering the preposition a lexical element would have strong consequences on other areas of the theory - for instance, Case -. Auxiliaries HAVE/BE have so far been characterized as [+V, -N], a fact that does not give arguments in favour of considering these elements functional categories.

Characteristics (2)b. and (7)g. refer to the uniqueness of complementation of functional categories. Note that this again stands for prepositions, which have a unique NP complement. This NP, though , may be considered an argument - if assigned a theta-role by the preposition -, so in this sense V Is in complex verb sequences do differ from prepositions; their complement, VP- cf. section 3.3.1.2 - is not an argument². Uniqueness,

though, does not seem to be a crucial criterion. Note in this sense that there are many more monotransitive verbs than ditransitive verbs.

(2)c. and (7)f refer to the lack of descriptive content, or semantic value that functional categories have. The first verbal element in a complex verb sequence may be said to lack this descriptive content. It has been noted several times throughout the thesis that precisely in Catalan and Spanish HAVE has lost its "content" (=possess) meaning, and the same should be said of the periphrastic past simple sequence in Catalan for which incorporation has been postulated; in the past simple use, it also satisfies this requirement. In this sense we can state that their semantic contribution is "second order" - c.f Chapter 2 for similar semantic criteria within traditional grammars - . Nevertheless, we may once again make the parallel with a lexical element , the preposition, which may not "pick out a bit of the world" in the same way nouns or verbs like "ball" or "hit" do.

Nonetheless, are the facts that V Is in complex verb sequences a) belong to closed classes, b) have a unique complement, and c) lack descriptive content, sufficient to grant them a functional status? The extension of these three arguments to a lexical category - P - casts doubts on this alternative.

The other characteristics that Fukui & Speas give to functional categories are contingent on whether we grant V Is a functional status, and on whether we assume their theory - essentially, their definition of specifier -; i.e. they are, to my mind, theory internal arguments. Note, though, that Spec positions of functional elements are usually posited for movement to a the Spec of a higher functional node - as for instance, in a framework like Pollock's -. Basically, though, Spec positions of functional nodes are crucial for agreement relations to take place - cf. especially

Kayne (1987), Chomsky (1988) - , and for Case to be assigned - also Kase in Fukui & Speas' terms -. Since (7) a,b,c all refer to the specifier position, they are not directly relevant to the reconsiderations in this section - as I have not committed myself to assessing the theory posited by Fukui & Speas which, as mentioned, implies a reformulation of basic concepts in the *barriers* framework -.

Having briefly reviewed the properties that Abney and Fukui & Speas grant functional categories, it seems to me that there is no clear evidence to generate the first verb in a complex verb sequence in a functional node. I will, thus, keep to the assumption made so far; i.e. that they are generated in a V node and, possibly, moved to functional nodes dominating the VP, as is assumed in the new framework. Note that assuming this leaves the incorporation hypothesis unaffected in the sense that it is a V-to-V movement; i.e. not an inflectional process, although it may not be considered a proper derivational process either. In this sense I may refer back to the observation in Mascaró (1986) - cf. section 3.3.1.1 - that compounds have a lexical character, whereas "larger words" - clitics plus "smaller words" - have a syntactic character; i.e. complex verb sequences become a "larger word", a unit, by the application of a syntactic process, incorporation.

2. Are V1-V2 consecutive in a complex verb sequence, or is there a functional node intervening?

Kayne (1987) argues for a functional category AGR dominating active past participles plus an "extra" empty category in constructions where there is past participle agreement. His aim is to give a uniform account of agreement in both finite and non-finite clauses. Quoting Kayne:

"... all other things being equal, it is desirable to have a maximally unified theory of past participle agreement and finite verb agreement. The latter is generally analyzed as involving a node AGR: 'NP AGR [vp V . . .]', and we will do the same for the former:

(5) Paul les_i a [e]_i AGR_i repeintes [e]_i " (p.2)

In his paper, he does not choose between a lowering of AGR or a V-raising to AGR. He does mention - in parentheses - the fact that IP should more precisely be AGRP, but does not use this notation.

Kayne's basic idea is that participle agreement is not a direct agreement between the participle and its object, but that there is an empty category mediating between the participle and the object, responsible for this agreement - which is, for usual reasons subject to locality conditions -. Crucially, agreement in participles is found only in *wh*-constructions and clitic constructions in French - (3) and (2) in Kayne (1987) -:

(46) *Les chaises que Paul a repeintes*

(47) *Paul les a repeintes*

If there is no movement of the object, there is no agreement - (1)b. in Kayne (1987):

(48) **Paul a repeintes les chaises*

Therefore, in complex verb sequences which have not undergone extraction of the object, no functional node need be assumed between the two verbs in a sequence. This leads to the assumption of different structures for otherwise equivalent constructions - apart from participial agreement (22) and (23) in Kayne (1987) -:

(49) ... *combien de tables*_j Paul a [[e]_i [IP-AGR_j repeintes [e]_i]]

(50) ... *combien de tables*_j Paul a [VP repaint [e]_i]

Kayne assumes the second structure to be valid in Spanish, where no agreement is possible in any of the constructions given above. Quoting Kayne "The presence of AGR in (5) will allow us to distinguish French and Italian straightforwardly from Spanish, [...] by saying that Spanish active past participles are incompatible with AGR ..." (p.2) .

Note that he explains the two types of constructions where agreement is found in French in a different fashion. He only assumes there to be an ec in Spec-AGR position in clitic constructions ; the wh-agreement constructions are argued to be instances of the ec adopting to IP - as in (49) above - :

(a) [IP [e]_i AGR_i V_{pp} [e]_i]

(b) [IP [e]_i [IP AGR_i V_{pp} [e]_i]] (p.12)

(b) shows IP adjunction, which implies no improper movement, but leads to the conclusion that IP cannot be considered here an argument - cf. *barriers* -. Kayne observes that there is no language with only wh-agreement constructions - i.e. (b) -, but that there are many languages with only clitic agreement constructions - i.e. (a) -. He relates the two facts and suggests that if a language allows IP adjunction then the Spec-AGR position is automatically available. This difference in explanation precisely accounts for the fact that both types of agreement are not always found together . Clitic agreement construction only is exemplified in Italian - (42)-(44) in Kayne (1987):

(51) *Paolo ha visto le ragazze*

(52) *Paolo le ha viste*

(53) *Le ragazze que Paolo ha visto /' * viste*

It must be noted that G&H (1988) - cf. section 2.4, 3.4 - assume Kayne's structure, but note that in a framework which assumes the FDC, the IP (AGRP) is still construed as a VP in LF. They note that the structure assumed in Kayne (1985), (54) below - (78b) in G&H (1988) - where he assumes no functional node dominating the participle small clause - and Kayne (1987), (55) below - (79) in G&H (1988) where, as just noted, he does -, are equivalent in their framework:

(54) *Paul les_j a [VP repeintes e_j]*

(55) *Paul les_j a [IP e_j AGR_j repeintes e_j]*

Therefore, despite the intervention of a functional node, the FDC construes the IP as a VP in LF, as it is L-marked by the auxiliary. G&H assume that the Case assigned by the auxiliary - which, according to them, does have a Case to assign - is absorbed by AGR, which then may function as a pronominal. The verb moves up to AGR and the IP is construed as a VP in LF.

As already noted, Kayne assumes a different structure for agreement participle clauses and non-agreement participle clauses. Assuming Kayne's arguments, the fact that the AGR counterpart is not found in Spanish leads one to the conclusion that the two verbs in a complex verb sequence in Spanish are always consecutive; they are not separated by a functional node. The incorporation hypothesis is, thus, unaffected by the possibility of intervention of a functional node; i.e. it is a direct V-to-V movement in the syntax, as proposed in chapter 3.

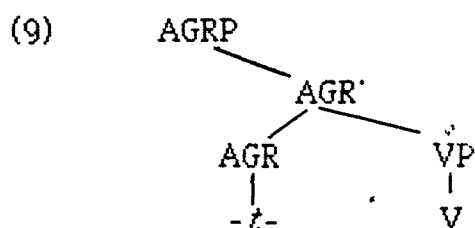
Kayne also notes that Catalan does have the agreement option:

(56)a. *Les nenes del Josep Maria, les has vist, / *vistes ?*

b. *La nena del Josep Maria, l'has vist, / *vista ?*

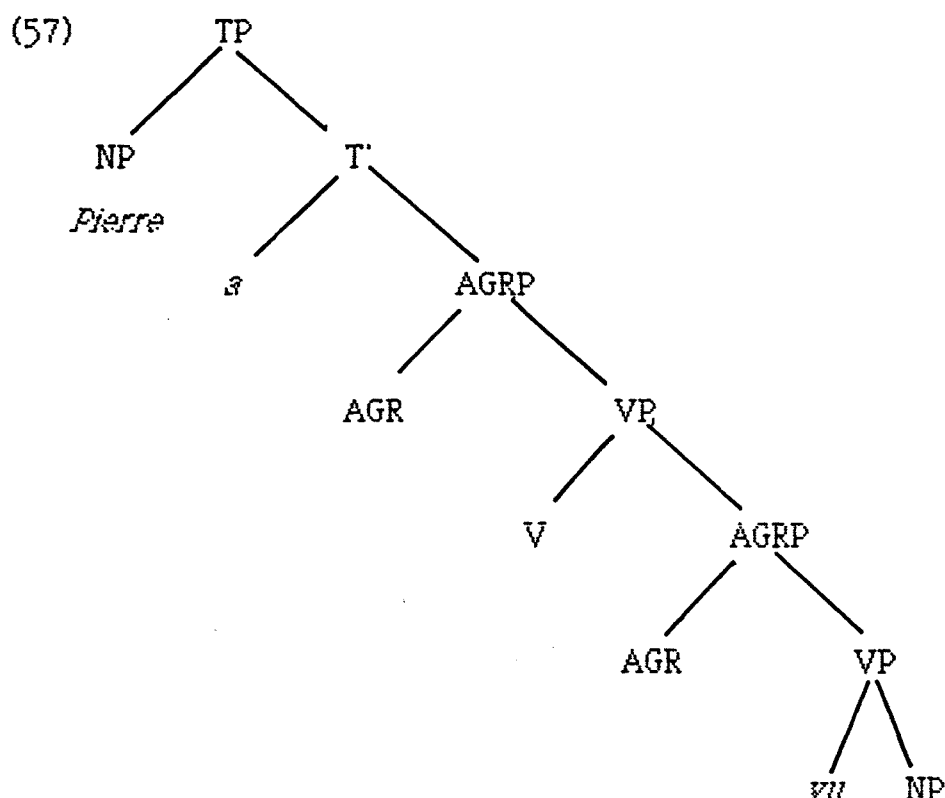
It must be noted, though, that the non-agreement option is much more natural than the agreement option. In this case, no AGR node need be postulated dominating the participle. The fact that there is the option of agreement, makes the two verbs non-consecutive as there is an AGR dominating the participle. In this case, the incorporation hypothesis would imply a previous step: movement of the participle to its AGR node, and subsequent movement to V.

A structure where AGR dominates a participle is generally assumed in Belletti (1990) - cf. also section 3.3.1.4 -. Quoting Belletti : " . . . a past participle can be viewed as an AGRP whose AGR head is the past participial morphology (-t- in Italian) taking the VP as complement. (9) illustrates this proposal:



Where V has to move to AGR to incorporate with the past participial morphology " (p.27-28)

Note that, as she points out this is already assumed in Pollock (1987) - adapted structure (129) in Pollock (1987) -:

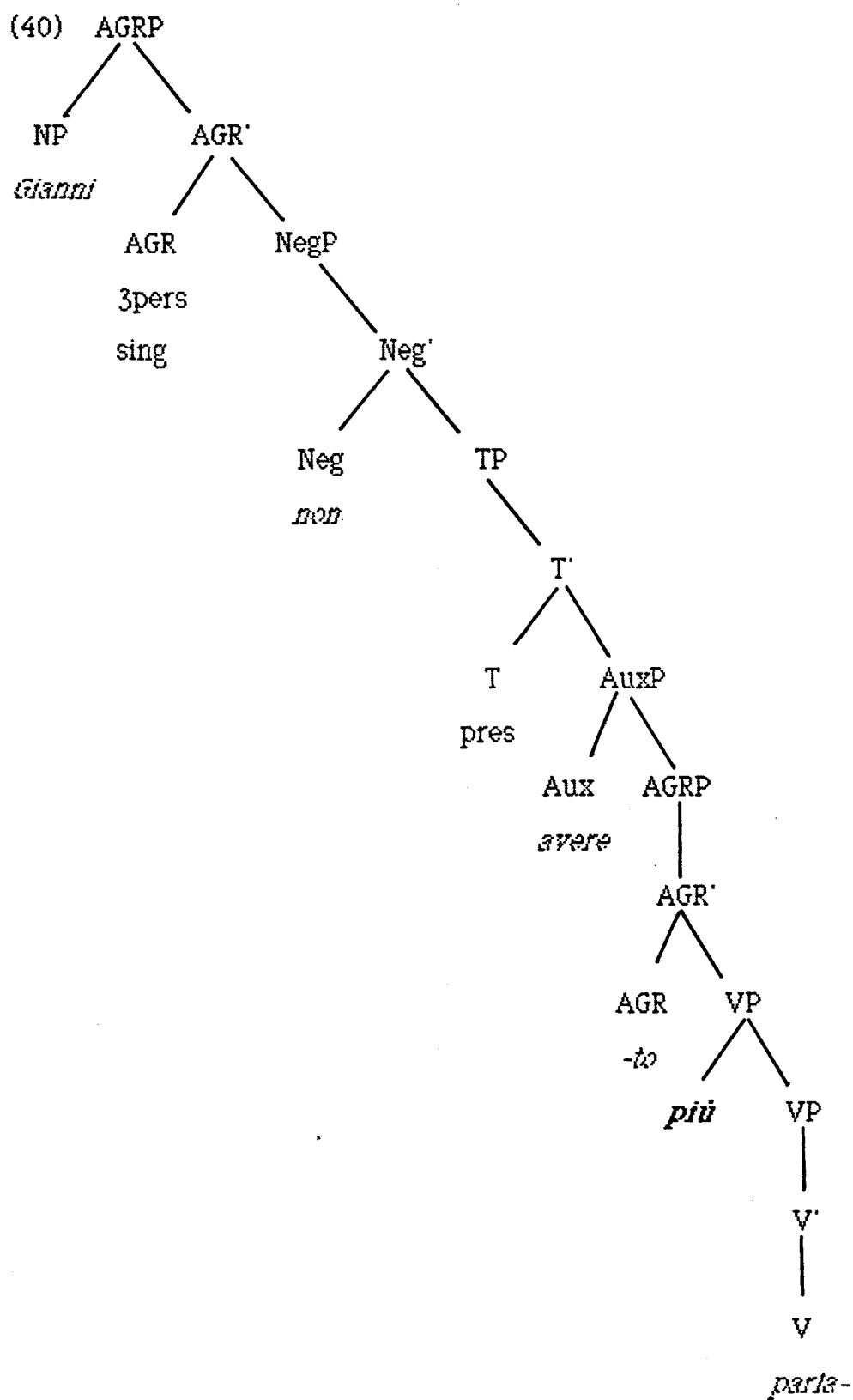


And in Chomsky (1988) - cf. section 4.2 - who, as noted, includes an AGR-O node in all clauses.

Recall that what leads Belletti to invalidate incorporation in Italian is the fact that structures like (58) exist - (14)a. and b. in Belletti (1990) -:

- (58) a. *Gianni ha probabilmente telefonato*
 b. *Maria è evidentemente partita*

As already noted, the very non-existence of the equivalents to these in Catalan and Spanish leaves the incorporation proposal in these two languages unaffected. Belletti chooses structure (40) above for Italian, repeated here, on the assumption that (negative) adverbs may occur in VP initial position:



Note that even if we allow adverbs to occur in VP-initial position in Catalan we account for structures like the following:

(59) *Ha perdut completament el cap*

Here we may assume that precisely, the incorporation of the participle to the auxiliary over the VP-initial adverb is what gives the expected order. The subsequent movement of this syntactically created unit to other dominating functional nodes is born out in the facts V-to-V-to-T-to-AGR-to-C $\bar{3}$:

(60) *Ha perdut completament el cap?*

Notes to Chapter 4

(1) In a footnote, Pollock notes that the recent proposals of generating the subject VP-internally might be accommodated in this new structure by generating it as Spec of AGR and subsequently moving it to Spec of TP.

(2) In Zagana (1988)'s framework, nevertheless, VPs are arguments in the sense that they are assigned a different type of theta-role, a temporal-role by certain auxiliaries. If one followed this, this criterion would be invalidated for functional categories having VPs as complements.

(3) See Solà (1989) for an account of Catalan data compatible with incorporation within this line of research.

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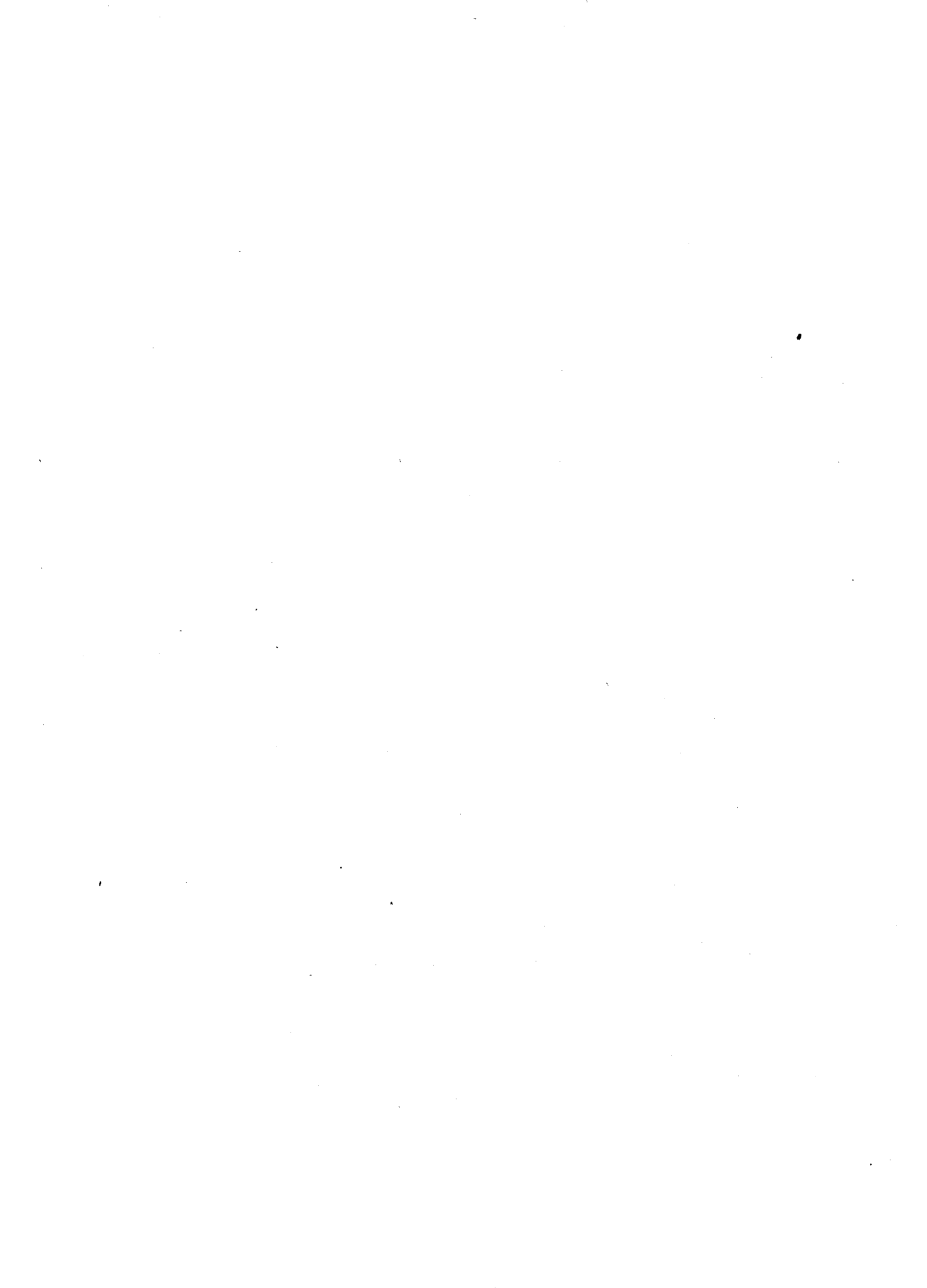
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