

THE FINE STRUCTURE OF THE LEFT PERIPHERY

1. INTRODUCTION¹

Under current assumptions, the structural representation of a clause consists of three kinds of structural layers, each layer an instantiation of the X-bar schema:

1. The lexical layer, headed by the verb, the structural layer in which theta assignment takes place.
2. The inflectional layer, headed by functional heads corresponding to concrete or abstract morphological specifications on the verb, and responsible for the licensing of argumental features such as case and agreement.
3. The complementizer layer, typically headed by a free functional morpheme, and hosting topics and various operator-like elements such as interrogative and relative pronouns, focalized elements, etc.

In the mid eighties, each layer was identified with a single X-bar projection (VP, IP, CP), but this assumption quickly turned out to be too simplistic. Under the impact of Pollock's (1989) influential analysis of verb movement, IP dissolved into a series of functional projections, each corresponding to a single feature specification overtly or abstractly expressed on the verbal system (Agr, T, Asp, . . .). Kayne's (1984) binary branching hypothesis naturally led to the postulation of multiple VP layers for multi-argument verbs, e.g. along the lines of Larson (1988) and much related work.

Various proposals in the recent literature indicate that the complementizer layer should share the same fate: much more than a single X-bar schema seems to constitute the left (pre-IP) periphery of the clause.²

In this article, I would like to explore some aspects of the fine structure of the left periphery. The first part (sections 2–6) is devoted to the identification of the basic configurational structure. Four kinds of elements typically occurring in the left periphery will be taken into account: interrogative and relative pronouns, topics and focalized elements. Studying the interactions between these elements, we will be led to postulate an articulated array of X-bar projections which will be assumed to constitute the complementizer system. The second part (sections 7–12) concerns a number of adjacency and anti-adjacency effects involving elements of the C system and different kinds of fillers of the subject position (overt DP, PRO, trace) which are amenable to an explanation in terms of the assumed structure of the C system. The core of the empirical material to be discussed is drawn from Italian, French and English, with occasional comparative extensions to other Romance and Germanic languages.

A preliminary word on the theoretical framework adopted in this work is necessary. An idea borrowed from the system presented in Chomsky (1993) will play a crucial role: syntactic movement (or, more neutrally, the formation of non-trivial chains in syntax) is "last resort" in the precise sense that it must be triggered by the satisfaction of certain quasi-morphological requirements of heads. As I will be concerned with the A' system, I will phrase such requirements in the style of the Criteria (Rizzi 1991, Haegeman 1995 and much related work), rather than as feature checking, the main reason for this choice being that such features have an interpretive import (Wh, Neg, Top, Foc, . . .): they determine the interpretation of the category bearing them and of its immediate constituents (e.g., see section 3), function as scope markers for phrases with the relevant quantificational force in a local configuration, etc. so that their role cannot simply be to trigger movement and disappear from representations. Independently from the particular style of presentation, the "last resort" intuition provides the conceptual justification for postulating a rich and articulated structure to host the different kinds of phrases moved to the left periphery: no free preposing and adjunction to IP is permissible, all kinds of movements to the left periphery must be motivated by the satisfaction of some criterion, hence by the presence of a head entering into the required Spec-head configuration with the preposed phrase. So, the "last resort" guideline will be critical for drawing the map of the left periphery; the presence and action of the system of heads involved will be independently detected by the various adjacency and anti-adjacency effects that we will focus on in the second part. A restrictive theory of adjunction (à la Kayne (1994) and related work) is also instrumental for this endeavor.

On the other hand, in the following discussion I will continue to assume that Relativized Minimality (RM) is a representational principle, and that one of the core structural relations allowed by UG is head government, as in Rizzi (1990) and contra Chomsky (1993). As for the second point, head government continues to be needed, as far as I can see, for optimally simple accounts of various familiar subject-object asymmetries of the *that-t* kind, as well as for many cases in which a head enters into some kind of "action at a distance" with the specifier of its complement (for Case assignment/checking or the licensing of different kinds of ec's). A number of examples of this sort are analyzed in what follows; we will adopt approaches based on head government and will occasionally allude to properties of possible alternatives not referring to head government, even though no systematic comparison will be attempted.

As for the representational view of RM, it is not the goal of the present article to argue for this theoretical option, and I intend to address the issue in independent work (see also Manzini (1992, 1995), Brody (1995) for relevant discussion). It should be clear though that there is a significant (even though not a necessary) connection between the two conservative

assumptions I am making. One consequence of the representational view of RM is that head government comes for free as the local environment within which a head can "act at a distance" upon a maximal projection. The action at a distance between a head and a maximal projection and the different kinds of chains obey the same fundamental locality principle under the representational view of RM, a unification that is missed if locality on chains is expressed derivationally.

2. THE FORCE-FINITENESS SYSTEM

One important question to be asked at the outset of a study on the complementizer system is: what is the role of the complementizer in the clausal structure?

We can think of the complementizer system as the interface between a propositional content (expressed by the IP) and the superordinate structure (a higher clause or, possibly, the articulation of discourse, if we consider a root clause). As such, we expect the C system to express at least two kinds of information, one facing the outside and the other facing the inside.

Consider first the information looking at the higher structure. Complementizers express the fact that a sentence is a question, a declarative, an exclamative, a relative, a comparative, an adverbial of a certain kind, etc., and can be selected as such by a higher selector. This information is sometimes called the clausal Type (Cheng 1991), or the specification of Force (Chomsky 1995). Here we will adopt the latter terminology. Force is expressed sometimes by overt morphological encoding on the head (special C morphology for declaratives, questions, relatives, etc.), sometimes by simply providing the structure to host an operator of the required kind, sometimes by both means (this is the rare case, presumably due to an economy of representation type principle favoring overt expression of a certain substantive specification on the head or on the specifier, but not simultaneously on both: see Cheng (1991), Sportiche (1992)).

The second kind of information expressed by the C system faces the inside, the content of the IP embedded under it. It is a traditional observation that the choice of the complementizer reflects certain properties of the verbal system of the clause, an observation formalized, e.g., by "agreement" rules between C and I, responsible for the co-occurrence of *that* and a tensed verb, of *for* and an infinitive in English (Chomsky and Lasnik 1977), etc. A straightforward manner to account for these dependencies would be to assume that C contains a tense specification which matches the one expressed on the lower inflectional system (an idea which goes back at least to Den Besten (1977)). On the other hand, the "temporal" properties encoded by C are very rudimentary. For instance, in Italian the form *che* co-occurs with present, past and future indicative, with present and past subjunctive and present and past conditional, thus distinguishing these

forms from infinitival, gerundival and participial clauses, a situation which is quite general in Romance and Germanic. So, it appears that, at least in these language families, C expresses a distinction related to tense but more rudimentary than tense and other inflectional specifications on the verbal system: finiteness.

I will assume here that the finiteness distinction is a valid linguistic one, even though its morphological realization can vary somewhat from language to language. Languages tend to split verbal paradigms into two classes of forms. Finite forms can manifest mood distinctions (indicative, subjunctive, conditional and/or other distinctions of the realis/irrealis type), manifest tense and subject (person) agreement, cooccur with overt nominative subjects. Non-finite forms do not manifest mood distinctions, in the core case they do not express person agreement, and do not co-occur with nominative subjects, they have a more rudimentary system of tense distinctions (e.g., in many languages non-finite forms do not have a morphological present/future distinction, can express past only through the periphrastic form *aux* + past participle, etc.). The first class of forms co-occurs with complementizers of the *that* kind, the second does not. Various dissociations from these core clusters are apparently tolerated,³ but a split along these lines is robustly attested cross-linguistically.

Following much recent work (e.g., Holmberg and Platzack 1988), I will then assume that the C system expresses a specification of finiteness, which in turn selects an IP system with the familiar characteristics of finiteness: mood distinctions, subject agreement licensing nominative case, overt tense distinctions (these specifications being subjected to some cross-linguistic variation, as we have seen).

Again, we should think of finiteness as the core IP-related characteristics that the complementizer system expresses; languages can vary in the extent to which additional IP information is replicated in the complementizer system: some languages replicate mood distinctions (special subjunctive complementizers in Polish, etc.), some replicate subject agreement (different Germanic varieties; Haegeman 1992, Bayer 1984, Shlonsky 1994), some seem to express genuine tense distinctions (Irish, Cottell 1994), negation (Latin, Celtic), etc.⁴

How does the CP system relate to the rest of the clausal structure? Recent proposals consider the IP system an extension of the V system: the different inflectional heads are V-related in that they attract the verb (overtly or covertly) to check its morphological specification (Chomsky 1993), so that the whole IP system can be seen as an extension of the verbal projection (an "extended projection", in Grimshaw's (1991) sense). Should the CP system be considered an analogous extension of the IP system, hence ultimately of the VP? I believe there is a substantial difference between the two cases. Whatever "inflectional" properties C reflects, they are not encoded in the form of verbal morphology, in the general case: they are

expressed on free functional morphemes (*that, que*, etc.) which, if anything, look nominal more than verb-like, as they often resemble demonstrative pronouns, *wh* elements, certain kinds of nouns ("fact", etc.), etc. So, I will continue to assume that the C system is fundamentally distinct from the I system, the latter but not the former being V-related in the general case.^{5,6}

3. THE TOPIC-FOCUS SYSTEM

If the force-finiteness system expresses the selectional relations between a C system and the immediately higher and lower structural systems, the C system can have other functions which are by and large independent from selectional constraints.

A traditional articulation of the clause that typically involves the left periphery is the articulation in topic and comment, as expressed by the English construction referred to as Topicalization:

- (1) Your book, you should give t to Paul (not to Bill)

The topic is a preposed element characteristically set off from the rest of the clause by "comma intonation" and normally expressing old information, somehow available and salient in previous discourse; the comment is a kind of complex predicate, an open sentence predicated of the topic and introducing new information.

Formally similar but interpretively very different is the focus-presupposition articulation:

- (2) YOUR BOOK you should give t to Paul (not mine)

Here the preposed element, bearing focal stress, introduces new information, whereas the open sentence expresses contextually given information, knowledge that the speaker presupposes to be shared with the hearer (see below for further refinements). If the interpretive relation of the preposed element to the open sentence is very different, virtually the opposite in the two cases, the form of the two articulations appears to be constant in English (even though significant differences emerge at a more refined analysis: see Culicover's (1992) discussion, based in part on Gundel's (1974) earlier analysis, and, on focus, Rochemont and Culicover (1990)).

Other languages sharply distinguish the form of the two articulations as well. We will briefly analyze here two Italian constructions which illustrate the point. In Italian, and more generally in Romance, the topic-comment articulation is typically expressed by the construction that Cinque (1990) has called Clitic Left Dislocation (CLLD), involving a resumptive clitic coreferential to the topic (this construction differs from left dislocation in languages which do not possess clitic forms in a number of respects, so that the English gloss, involving a non-clitic resumptive pronoun, is

somewhat misleading: see Cinque (1990: 57–60) for relevant discussion; see also Cecchetto (1994), Iatridou (1991)):

- (3) Il tuo libro, lo ho letto
 “Your book, I have read it”

The focus-presupposition articulation can be expressed in Italian by preposing the focal element (focalization) and assigning it special focal stress:

- (4) IL TUO LIBRO ho letto (, non il suo)
 “Your book I read (, not his)”

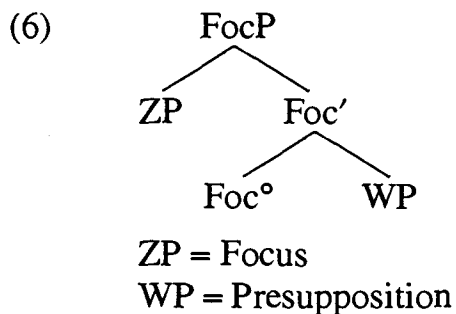
In Italian this structural option is restricted to contrastive focus, i.e., (4) presupposes that you believe that I have read something different from your book, and corrects this belief. It could not be felicitously uttered as conveying non-contrastive new information, i.e. as an answer to the question “What did you read?”. Other languages use the clause initial focus position for non-contrastive focus as well (Hungarian: Kiss (1987), Horvath (1985), Brody (1990, 1995b), Puskas (1992) and references quoted there; Albanian: Turano (1995), Greek: Tsimpli (1990)). Some other languages (e.g. French) do not seem to use a structural focus position, at least in the overt syntax (Spanish seems to have a focus construction similar to the Italian one: Laka (1990)).

I will assume here that these two articulations are expressed by the usual building block of syntactic representations: the X-bar schema (whether the schema is a primitive, or can be derived from more elementary principles (Kayne 1994, Chomsky 1995) is irrelevant for our purposes). I.e., topic-comment has the following structure:

- (5)
- $$\begin{array}{c}
 \text{TopP} \\
 \swarrow \quad \searrow \\
 \text{XP} \quad \text{Top}' \\
 \quad \quad \swarrow \quad \searrow \\
 \quad \quad \text{Top}^\circ \quad \text{YP} \\
 \text{XP} = \text{topic} \\
 \text{YP} = \text{comment}
 \end{array}$$

A Top° head, a functional head belonging to the complementizer system, projects its own X-bar schema with the following functional interpretation: its specifier is the topic, its complement is the comment. Top° defines a kind of “higher predication”, a predication within the Comp system; its function is thus analogous to the function of AgrS within the IP system, which also configurationally connects a subject and a predicate. The most basic difference between higher and lower predication is that the former involves a specifier which is an A' position.

Analogously, a Foc° head takes the focus as its specifier and the presupposition as its complement:



Here too Italian seems to possess a lower focalization, involving focal stress (possibly contrastive, but not necessarily so) on an element *in situ* (see Antinucci and Cinque (1977), Belletti and Shlonsky (1995), Calabrese (1982), Cinque (1993)):

- (7) Ho letto IL TUO LIBRO (, non il suo)
“I read YOUR BOOK, not his”

But it is conceivable that at LF (7) will have a representation involving (6) if the focal element must be moved to a peripheral position, as Chomsky's (1976) classical analysis of Weak Cross-over implies.

While Top° and Foc° are phonetically null in Italian, they may be pronounced in other languages. For instance, Aboh (1995) argues that the focus particle *wè* in Gungbe should be analyzed as Foc° , an analysis immediately plausible for many other cases of such markers found across languages (we will not analyze here other constructions involving focalization such as clefts and inverse copular sentences (Moro 1995)).

As for the topic or focus interpretations of the specifiers in (6) and (7), we will assume that a constituent endowed with topic or focus features must end up in a Spec/head configuration with Top or Foc , respectively; in other words, there are Topic and Focus Criteria, reminiscent of the Wh and Neg Criteria (Rizzi 1991, Haegeman 1995). Focus and Topic movement are then brought to line to the view that movement (or, in more neutral terms, the construction of non-trivial chains) is “last resort”, and must be triggered by the satisfaction of a criterion (or feature checking, in Chomsky's (1993) terminology). In fact, under such a restrictive theory we expect that no kind of (syntactic) movement to the left periphery may involve free, optional adjunction to IP (LF movement may still involve IP adjunction if it is triggered by the necessity of properly interpreting certain expressions, as in May (1985)); we will see later on that there are strong empirical reasons against this rather usual analysis of different kinds of preposing, and in favor of a uniform X-bar analysis involving (5) and (6).

How is the topic-focus system integrated into the force-finiteness system? We think of the latter as the essential part of the C system, so we assume

it to be present in all non-truncated clausal structures (i.e., except in ECM and other "S' deletion" contexts). On the other hand, it is reasonable to assume that the topic-focus system is present in a structure only if "needed", i.e. when a constituent bears topic or focus features to be sanctioned by a Spec-head criterion. If the topic-focus field is activated, it will inevitably be "sandwiched" in between force and finiteness, as these two specifications must terminate the C system upward and downward, in order to meet the different selectional requirements and properly insert the C system in the structure. So, we should have:

- (8) . . . Force . . . (Topic) . . . (Focus) . . . Fin IP

We will see later on that this positional property of the topic-focus system is instrumental for the explanation of several adjacency and anti-adjacency effects. For the time being we can simply observe two straightforward empirical reflexes of the theory of C that is taking shape.

In Italian, and more generally in Romance, prepositional elements introducing infinitives such as *di* in (9)b are generally considered the non-finite counterparts of the finite complementizer *che* of (9)a (see Kayne 1984, Rizzi 1982 for relevant evidence); still *che* always precedes and *di* always follows a left-dislocated phrase (examples like (11)b are slightly marked if compared to the corresponding cases of CLLD with finite embedded sentences, but the contrast with (11)a is very sharp):

- (9) a. Credo che loro apprezzerebbero molto il tuo libro
 "I believe that they would appreciate your book very much"
 b. Credo di apprezzare molto il tuo libro
 "I believe 'of' to appreciate your book very much"
- (10) a. Credo che il tuo libro, loro lo apprezzerebbero molto
 "I believe that your book, they would appreciate it a lot"
 b.*Credo, il tuo libro, che loro lo apprezzerebbero molto
 "I believe, your book, that they would appreciate it a lot"
- (11) a.*Credo di il tuo libro, apprezzarlo molto
 "I believe 'of' your book to appreciate it a lot"
 b. Credo, il tuo libro, di apprezzarlo molto
 "I believe, your book, 'of' to appreciate it a lot"

This distribution is hardly consistent with a theory assuming a unique C position, while it can be immediately expressed within the current articulated theory of C by assuming that *che* manifests the force position, while *di* manifests the finiteness position, hence they show up on opposite sides of the topic. We will come back to this peculiar distribution in section 6.⁷

A similar type of argument is provided by the distribution of different kinds of operators hosted by the C-system. In Italian, relative operators must

precede topics, while question operators must follow topics in main questions and can follow or (slightly marginally) precede them in embedded questions:⁸

- (12) a. Un uomo a cui, il premio Nobel, lo daranno senz'altro
 "A man to whom, the Nobel Prize, they will give it undoubtedly"
- b.*Un uomo, il premio Nobel, a cui lo daranno senz'altro
 "A man, the Nobel Prize, to whom they will give it undoubtedly"
- (13) a.*A chi, il premio Nobel, lo daranno?
 "To whom, the Nobel prize, will they give it?"
- b. Il premio Nobel, a chi lo daranno? *INT DIR (TRANS)*
 "The Nobel prize, to whom will they give it?"
- (14) a. Mi domando, il premio Nobel, a chi lo potrebbero dare
 "I wonder, the Nobel Prize, to whom they could give it"
- b.?Mi domando a chi, il premio Nobel, lo potrebbero dare *INT V/D (E.S.)*
 "I wonder to whom, the Nobel Prize, they could give it"

This distribution suggests that relative operators occupy the highest specifier position, the Spec of Force, while question operators can occupy a lower position within the Topic/Focus field (the ordering in (13)a being blocked by the fact that I to C movement is compulsory in main questions (Rizzi 1991)). See below for more detailed discussion of these positional properties. The crucial point here is again that a theory involving a unique C head and projection does not seem equipped to deal with such simple distributional constraints.

4. ON SOME DIFFERENCES BETWEEN TOPIC AND FOCUS

Topic and focus constructions are similar in several respects as A' constructions involving the left periphery of the clause, and their structural similarities are further stressed by the assumption that the same configurational schema is involved. Nevertheless, they differ in a number of respects, which highlight a fundamentally different nature. A detailed analysis of these two constructions is beyond the scope of this article. Drawing on Cinque's (1990) analysis, we will concentrate on five salient differences, which are directly relevant for our main topic.⁹

1. *Resumptive Clitic*. A topic can involve a resumptive clitic within the comment. If the topicalized constituent is the direct object, the clitic is obligatory. On the other hand, a focalized constituent is inconsistent with a resumptive clitic (Cinque 1990: 63):

- (15) a. Il tuo libro, lo ho comprato
 "Your book, I bought it"

b.*Il tuo libro, ho comprato t
 “Your book, I bought”

(16) a.*IL TUO LIBRO lo ho comprato (non il suo)
 “YOUR BOOK I bought it (not his)”

b. IL TUO LIBRO ho comprato t (non il suo)
 “YOUR BOOK I bought (not his)”

2. *Weak Cross-Over*. A topic never gives rise to any Weak-cross-over effect. Such effects are detectable with focus, even if the judgment is somewhat difficult (Culicover (1992) has observed an analogous distinction between topic and focus in English):

(17) Gianni_i, sua_i madre lo_i ha sempre apprezzato
 “Gianni, his mother always appreciated him”

(18) ??GIANNI_i sua_i madre ha sempre apprezzato t_i (non Piero)
 “GIANNI his mother always appreciated, not Piero”

3. *Bare Quantificational Elements*. Quantificational elements (*noone, all, etc.*) which are not associated to a lexical restriction within the DP cannot be topics in CLLD constructions, while they easily allow focalization (Rizzi 1986; on the special behavior of *qualcosa, qualcuno* (something, someone) see Cinque 1990: 74ff.):

(19) a.*Nessuno, lo ho visto
 “Noone, I saw him”

b.*Tutto, lo ho fatto
 “Everything, I did it”

(20) a. NESSUNO ho visto t
 “NOONE I saw”

b. TUTTO ho fatto t
 “Everything I did”

4. *Uniqueness*. A clause can contain as many topics as are consistent with its (topicalizable) arguments and adjuncts; on the other hand, there is a unique structural focus position, focalization of two elements as in (22) is excluded (Benincà 1988: 144):

(21) Il libro, a Gianni, domani, glielo darò senz'altro
 “The book, to John, tomorrow, I'll give it to him for sure”

(22) *A GIANNI IL LIBRO darò (non a Piero, l'articolo)
 “TO JOHN THE BOOK I'll give, not to Piero, the article”

A focus and one or more topics can be combined in the same structure.

In that case, the focal constituent can be both preceded and followed by topics:

- (23) A Gianni, QUESTO, domani, gli dovrete dire
 "To Gianni, THIS, tomorrow, you should tell him"

5. *Compatibility with Wh.* A Wh operator in main questions is compatible with a Topic in a fixed order (Top Wh), whereas it is incompatible with a Focus:

- (24) a A Gianni, che cosa gli hai detto?
 "To Gianni, what did you tell him?"
 b.*Che cosa, a Gianni, gli hai detto?
 "What, to Gianni, did you tell him?"
- (25) a.*A GIANNI che cosa hai detto (, non a Piero)?
 "TO GIANNI what did you tell (, not to Piero)?"
 b.*Che cosa A GIANNI hai detto (, non a Piero)?
 "What TO GIANNI did you tell (, not to Piero)?"

On the other hand, both Top and Foc are compatible with a preceding relative operator (see (12)a and (44) below).

The next section is devoted to showing that, in terms of a slight updating of Cinque's (1990) approach, the first three differences can be traced back to one basic distinction: focus is quantificational, topic is not. In section 6 we will tentatively suggest that also the fourth difference is directly linked to an interpretive distinction between the two constructions, and then we will address the fifth difference in the context of an articulated theory of the C system.

5. FOCUS IS QUANTIFICATIONAL, TOPIC IS NOT

Let us concentrate on the first three differences. Starting from the second property, we follow Lasnik and Stowell (1991) and assume that WCO is a distinctive characteristic of A' relations involving genuine quantification. So, A' dependencies must be split into those involving a quantifier which binds a variable and those that involve non-quantificational A' binding, binding of a null epithet or a null constant (*nc*, as in Rizzi 1994). The two cases are illustrated by questions and appositive relatives:

- (26) a.*Who does his mother really like t (=vbl)?
 b. John, who his mother really likes t (=nc) . . .

Chomsky (1986a) had proposed that the principle of Full Interpretation requires that variables be strongly bound, where strong binding means either assignment of a range or assignment of a value from an antecedent. We

can rephrase Lasnik and Stowell's (1991) proposal as distinguishing these two cases more sharply: A' dependencies, all sensitive to Strong Cross-Over (principle C), split into variable binding by a quantificational operator (assigning a range to the variable, as in (26)a) and binding of a null constant by an anaphoric operator (whose role is to connect the null constant to an antecedent, as in (26)b). The former, but not the latter, is sensitive to Weak Cross-Over.

Assuming WCO to be a diagnostic, the contrast in (17)–(18) leads us to conclude that Focus involves quantificational A' binding while Topic does not, as the interpretation of the two constructions suggests.

If Focus is quantificational and Topic is not, the first difference also follows: the focalized element in (16) must bind a syntactic variable (a non-pronominal empty X_{max} category in an A-position). This happens in (16)b, but not in (16)a, in which potential bindees are the clitic and its trace, neither of which qualifies as a syntactic variable: the clitic is an overt pronominal head, its trace is an X^o trace (if clitic movement involves an initial step qua X_{max} to SpecAgrO, the initial trace is a DP-trace and the one in Spec/AgrO is an X^o trace, neither of which qualifies as a variable). So, the structure is ruled out by the component of the principle of Full Interpretation which requires that quantifiers bind variables (Cinque 1990: 180, fn. 10).

Under classical assumptions on the typology of empty categories, (15)b is ruled out in a symmetric way: the topicalized element is not quantificational, as the lack of WCO shows; therefore, the empty category in object position has no legitimate status: it cannot be a variable, as there is no quantifier to bind it, nor can it fulfill the conditions of any other type of ec (PRO, pro or DP-trace). (15)a is fine, as the ec in object position has the legitimate status of a clitic trace (Cinque 1990: 71–72).¹⁰

If we accept Lasnik and Stowell's split within A' dependencies, the argument excluding (15b) should be sharpened. We must exclude the possibility that the ec in (15)b be a null constant, A' bound (hence identified) by the topic phrase. Consider some typical cases of A' chains not giving rise to WCO

- (27) a. John is easy [Op to please t]
 b. John has Mary [Op to talk to t]
 c. John is too stubborn [Op to talk to t]
 d. John, who I just met t
 e. Gianni, Op che ho appena incontrato t
 "Gianni, that I just met"
 f. Op habe ich schon t gesehen
 "(it) have I already seen"

(27)abc are familiar English constructions involving null operators; (29)d–e are appositive relatives in English and Italian, involving an overt and a null operator, respectively; f instantiates the discourse bound null operator construction of colloquial German and many other languages. Suppose then that the licensing of null constants is not freely available, but is restricted to a designated kind of A' binder, the anaphoric operator (an element inherently characterized as an operator but different from quantificational operators in that it does not assign a range to its bindee; rather, the anaphoric operator seeks for an antecedent, to which it connects its bindee); anaphoric operators are typically but not necessarily null (for instance, as we have just seen, relative pronouns involved in appositive relatives are anaphoric operators in general; still, they may – or must – be overt, depending on language specific conditions):

(28) A null constant is licensed by an anaphoric operator

So, (15)b continues to be excluded: it involves no genuine quantification, hence no licit variable, and no anaphoric operator, hence no licit null constant, under principle (28).

Why is the English gloss of (15)b well formed? Again, I will basically follow Cinque's (1990) updating of Chomsky's (1977) analysis of English topicalization and assume that it involves a null operator identified by the topic:

(29) Your book, [OP [I bought t]]

The null operator (a non-quantificational anaphoric operator) licenses the null constant under principle (28). The null constant status of the trace is further confirmed by the Lasnik and Stowell's diagnostic, the lack of WCO effects:

(30) John_i, his_i mother really likes t_i

So, I am assuming that the parameter differentiating English and Romance topic-comment structures resides in the non-availability of the null anaphoric operator in Romance topic-comment. Null operators and clitics are functionally equivalent here in that they establish the connection between the topic and the open position in the comment; Romance has the second device freely available while English, which lacks clitics in general, reverts to the first device.¹¹

Languages may choose whether the anaphoric operator in a given construction is overt or null; we have already seen that appositive relative operators are null in Italian and overt in English (this may in turn be the consequence of a more abstract structural difference, see Cinque (1982) and the recent discussion of the issue in Bianchi (1995)). Analogously, other Germanic languages differ from English in allowing the overt realization

(as a so-called D-pronoun) of the anaphoric operator involved in topic-comment structures:¹²

- (31) Den Hans, den kenne ich t seit langem
 "The Hans, whom I have known for a long time"

Let us now turn to the fact that the resumptive clitic becomes optional if the topic is a pronominalizable PP (as in (32)) and it is, of course, absent if the PP cannot be pronominalized as the benefactive in (33):

- (32) A Gianni, Maria (gli) ha parlato recentemente
 "To Gianni, Maria spoke to him recently"
- (33) Per Gianni, Maria lavora da molto tempo
 "For Gianni, Maria has worked for a long time"

Later on we will provide evidence suggesting that the clitic is not really optional in (32) and the two cases instantiate two distinct constructions. The question still remains why the PP topic can directly licence an empty category in these cases. Here again, we can follow Cinque and assume that the classification of null elements into anaphors, pronominals and variables determined by the feature system $\pm a$, $\pm p$ is a unique characteristic of DP's in A-position; it does not extend to PP's, either because they are not DP's, or they do not constitute A-positions. In fact, we do not have anaphoric or pronominal PP's; cases of clitic PP's such as *ne* and *ci* in Italian, for which pronominal status is often assumed, have been shown to behave like non-pronominal (and, of course, non-anaphoric) elements with respect to the binding principles (Belletti 1994).

So, the *ec* left in the VP in (32)–(33) must be chain connected to an antecedent in order to fulfill the identification requirement of the ECP, exactly as any other trace (see, e.g., Rizzi 1990, 1994 for discussion), but no further requirement is put on the nature of the antecedent, and the non-quantificational topic can fulfill this role.¹³

Consider now the third difference, i.e. the fact that quantified expressions cannot be topics, as in (19), whereas they can be focus, as in (20). These quantified expressions must bind a variable at LF, but they can't in (19): neither the clitic nor the clitic trace qualify and, if the quantified expressions are further moved by QR leaving a trace in Topic position, this trace does not qualify as a variable because it is an A' position; on the other hand, a well-formed variable is available at S-structure and at LF in (20), so these structures are fine. This is, in essence, the analysis in Rizzi (1986).

Things are complicated somewhat if we observe that CLLD of quantified expressions is significantly improved, sometimes to full acceptability, if the quantified expression includes a lexical restriction:

- (34) a.? Ciascun (ogni) membro della commissione, lo devi contattare personalmente
 "Each member of the committee, you should contact him personally"
 b. Tutti i tuoi libri, li ho rimessi a posto
 "All your books, I put them back"
 c. Molti libri, li ho buttati via
 "Many books, I threw them away"

Why is (34) different from (19)? I will assume that QR can further extract the quantifier from the DP, yielding such LF's as

- (35) Molti [ec libri] TOP°, [li ho buttati via]

Here the structure is fine: the quantifier binds the variable within the Spec of Top°, which in turn is connected to the pronoun. No principle is violated here. On the other hand, the same structure involving a bare quantifier is ill-formed, as before:

- (36) *Molto ec TOP°, [lo ho capito]
 "Much, I understood it"

If the bare quantifier does not move at LF, it will have no variable to bind, thus violating Full Interpretation. If it moves yielding (36), the structure will be ill formed: the *ec* is not in an A (or functional) position, hence it does not qualify as a variable and FI is violated again.¹⁴

6. SOME INCOMPATIBILITIES AND ORDERING CONSTRAINTS

The fourth difference between Topic and Focus is that there can be an indefinite number of Topics but only one structural Focus position per clause in Italian (see (22)). At first sight, this would seem to support more diverging structural analyses for the two articulations than we have proposed. An idea that immediately comes to mind would be to exploit the X-bar schema for Focus, thus deriving the uniqueness of Focus from the general uniqueness of specifiers under binary branching X-bar theory, and assume an adjunction analysis for Topic, under usual assumptions on the reiterability of adjunction (but see Kayne (1994) for a more restrictive view on adjunction). So, consider the following possible permutations of Topic and Focus:

- (37) a. Credo che a Gianni, QUESTO, domani, gli dovremmo dire
 C Top Foc Top IP
 "I believe that to Gianni, THIS, tomorrow we should say"
 b. Credo che domani, QUESTO, a Gianni, gli dovremmo dire
 C Top Foc Top IP

- c. Credo che domani, a Gianni, QUESTO gli dovremmo dire
 C Top Top Foc IP
- d. Credo che a Gianni, domani, QUESTO gli dovremmo dire
 C Top Top Foc IP
- e. Credo che QUESTO, a Gianni, domani, gli dovremmo dire
 C Foc Top Top IP
- f. Credo che QUESTO, domani, a Gianni, gli dovremmo dire
 C Foc Top Top IP

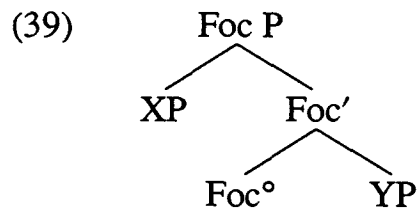
In between the phonetically realized complementizer *che* and the IP, we can have a sequence of Topics followed by a Focus, followed by another sequence of Topics:

- (38) . . . C° (Top*) (Foc) (Top*) . . .

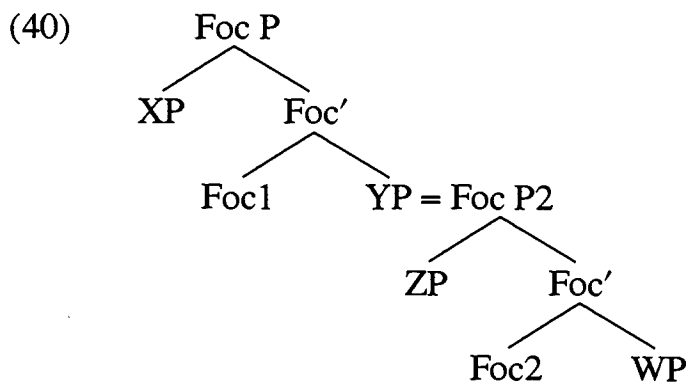
One could then assume that a unique focal head can project its X-bar schema (FocP) in between C and IP and that topics can be freely adjoined to IP (or, in the terms of the structure proposed in section 3, to FinP immediately above IP) and FocP.

In spite of its appeal, I will not adopt this analysis. There is empirical evidence in favor of the more symmetric theory of Topic and Focus presented in section 3. In short, the intervention of Topics induces certain locality effects which are best treated under the assumption that a whole X-bar projection is involved, rather than a simple adjunction structure. This argument is developed in the following sections. For the moment, let us just concentrate on the observed asymmetry: if both topic and focus involve an X-bar schema, the obvious way to express the asymmetry is to assume that the Top Phrase is recursive, while the Foc Phrase is not. But why should it be so? A simple inspection of the interpretive properties of the two constructions may provide an adequate answer.

Let us go back to the proposed interpretation of the projection of Foc, reproduced here for convenience:

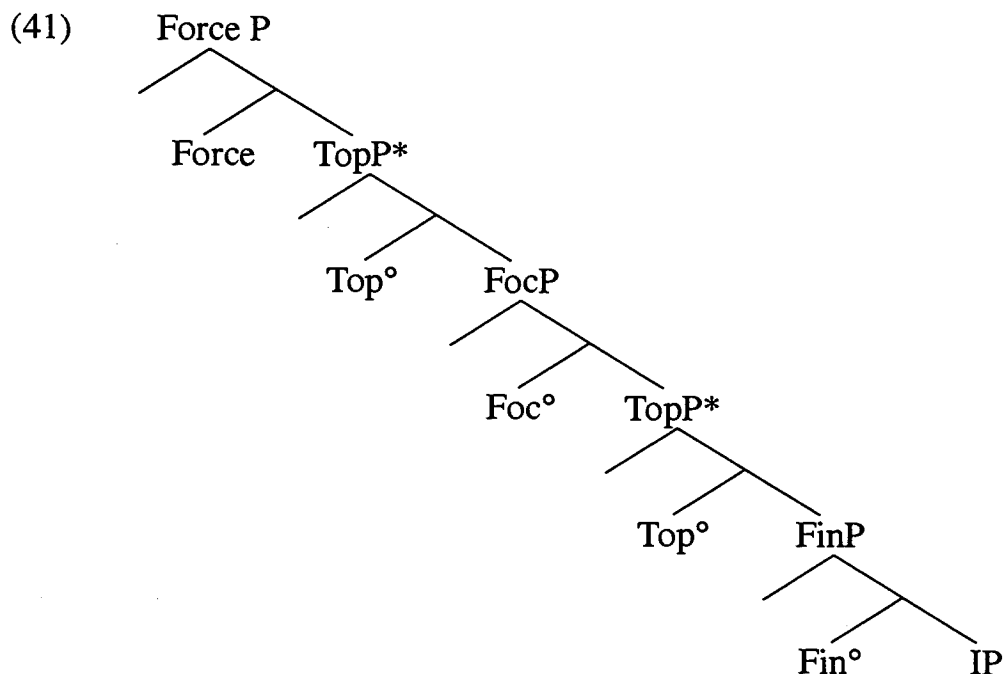


The specifier is the focal element, while the complement of Foc is the presupposition, the given information. Consider now a recursion of FocP, i.e., the option of realizing YP itself as a FocP.



Such a structure would contain a focus position ZP, the specifier of the lower focal head, Foc2. But this would be inconsistent with the proposed interpretation: YP is the presupposition of the higher focal head Foc1, and as such it can only specify given information. So, recursion of FocP is banned by the interpretive clash that would arise. No such interpretive problem arises in the case of a recursion of Top: nothing excludes that a comment (the complement of the topic head) may be articulated in turn as a topic-comment structure, so that the topic phrases can undergo free recursion. If this speculative proposal is correct, we can continue to assume a structurally uniform analysis for Top and Foc, and derive the observed difference with respect to recursion from an interpretive peculiarity of Foc.¹⁵

Based on the arguments of the preceding sections, we have proposed the following articulated structure for the complementizer system:



This structure can now be immediately used to account for a number of ordering constraints involving elements of the C system.

We have already seen that relatives sharply contrast with main questions in Italian in that relative and question operators must respectively precede and follow a topic:

- (42) a. Un uomo a cui, il premio Nobel, lo daranno senz'altro
 "A man to whom, the Nobel Prize, they will give it undoubtedly"
 b.*Un uomo, il premio Nobel, a cui lo daranno senz'altro
 "A man, the Nobel Prize, to whom they will give it undoubtedly"
- (43) a.*A chi, il premio Nobel, lo daranno?
 "To whom, the Nobel prize, will they give it?"
 b. Il premio Nobel, a chi lo daranno?
 "The Nobel prize, to whom will they give it?"

On the basis of (41) we are immediately led to conclude that relative operators occupy the specifier of Force, the one position which cannot be preceded by topics, while question operators occupy a lower position.¹⁶

Things get more precise as soon as we observe that relative pronouns are compatible with a focalized constituent in a fixed order, while question operators in main questions are not, regardless of the ordering (the contrast between (44) and (45) was referred to as the fifth difference between Top and Foc in section 4):

- (44) a. Ecco un uomo a cui IL PREMIO NOBEL dovrebbero dare (non il premio X)
 "Here is a man to whom THE NOBEL PRIZE they should give (not prize X)"
 b.*Ecco un uomo IL PREMIO NOBEL a cui dovrebbero dare (non il premio X)
 "Here is a man THE NOBEL PRIZE to whom they should give (not prize X)"
- (45) a.*A chi IL PREMIO NOBEL dovrebbero dare?
 "To whom THE NOBEL PRIZE should they give?"
 b.*IL PREMIO NOBEL a chi dovrebbero dare?
 "THE NOBEL PRIZE to whom should they give?"

If the relative pronoun is in the Spec of Force in (41), it is expected to be compatible with a lower focus, as in (44)a. As for the incompatibility of the question operator and a focalized constituent illustrated by (45), the possibility that immediately comes to mind is that the question operator sits in the Spec of Foc in main questions, hence focalized constituents and question operators compete for the same position and cannot co-occur. An apparent problem for this analysis is raised by the fact that there seems to be a positional asymmetry between question operators and focus: a focalized constituent can be followed by a topic, but a main question operator cannot:

- (46) (Domani,) QUESTO (a Gianni,) gli dovrete dire
 "(Tomorrow,) THIS (to Gianni,) we should say"

- (47) (Domani,) che cosa (*a Gianni,) gli dovremmo dire?
 “(Tomorrow,) what (to Gianni,) we should say?”

At first sight, this asymmetry seems to suggest that question operators do not move as far as Foc in (41) and fill a lower position, one that cannot be followed by a Top, such as the Spec of Fin in (41). But if this were correct, question operators would not be competing with focalized constituents for the same position; so, why should the incompatibility shown by (45) arise?

In fact, there are good reasons to think that the asymmetry in (46)–(47) is not due to a positional difference but follows from an independent factor: even a normal preverbal subject cannot intervene between the question operator and the verb, while it can intervene between a focalized constituent and the verb:

- (48) QUESTO Gianni ti dirà (, non quello che pensavi)
 “THIS Gianni will say to you (, not what you thought)”
- (49) *Che cosa Gianni ti dirà?
 “What will Gianni say to you?”

In Rizzi (1991) the impossibility of (49) is derived from the Wh Criterion: a Wh operator and a head endowed with the Wh feature must be in a Spec/head configuration at S-structure (or before Spell-out, if one opts for a formalization of things à la Chomsky (1993); for a reformulation of the Criterion approach within the guidelines of Chomsky (1993) see Friedemann (1995); see also Guasti (1994)); if the Wh feature is generated under T in main questions, I to C movement must apply to bring the feature to the C system, where the Criterion is satisfied. In (49) I to C has not applied, as the word order shows, hence the Criterion is violated. This analysis can now be immediately transposed to the more articulated C structure of (41). The question operator ends up in the Spec of Foc in main questions, where it competes with a focalized constituent, whence the incompatibility of (45). If that position is filled by a Wh element, the inflected verb, carrying the feature Wh, must move all the way up to Foc° to permit satisfaction of the Wh Criterion. Both (47) and (49) (when the lower Top is present) are excluded as violations of the Wh Criterion: in (49) the inflected verb has not moved out of the IP, as the intervening subject shows; in (47) it may have moved to FinP but not further, as the intervening Top shows; in neither case is the required Spec/head configuration created, so that the structures are ruled out by the Wh Criterion (I cannot move past the lower Top either, yielding the order Wh V+I Top IP, as Top blocks I movement: see section 7 below).

On the other hand, I to C movement is not triggered by focalization in Italian: if there is a Focus Criterion (as I am assuming here), the Focus feature is inherently possessed by the Foc° head and no movement of an inflectional head is required.¹⁷

So, when the Spec/Foc of (41) is filled by a non-Wh focal element, both a preverbal subject and one or more Topics can occur. In this way, the apparent asymmetry between questions and Focus of (47) can be reconciled with the natural hypothesis that they occupy the same position in main questions.¹⁸

7. ADJACENCY EFFECTS ON CASE

In this section we will discuss the following descriptive generalization: whenever the case properties of the subject depend on an element of the complementizer system, no preposed phrase of any sort can intervene between this element and the subject.

In order to explain this generalization, we must first extend our analysis of topic-comment structures from simple argumental topicalization to all sorts of cases of preposing, adverb preposing in particular (*Yesterday, John came back*, etc.).

A rather common analysis of adverb preposing in English assumes adjunction of the preposed element to IP (or S); sometimes this analysis is assumed for argumental topicalization as well: Baltin (1982), Rochemont (1989) Lasnik and Saito (1992). The approach we have adopted for argumental topicalization is, in essence, an updating of Chomsky (1977), Cinque (1990): the topicalized element is in the Spec of a Top head, with a null anaphoric operator in the immediately lower Spec to ensure connection with the open position in the sentence. Now, it is not plausible that adverb preposing may involve the anaphoric null operator, which appears to be restricted to argumental material; apart from that, the analysis of argumental topicalization can be extended. So, we can hold constant the assumption that adverb preposing involves a TopP, but we must assume that the adverb itself moves from its base position to the TopP, without the mediation of Op (alternatively, if the "preposed" adverb is a sentential adverb, it could be base-generated in the Top system: cf. Cinque (1990), Longobardi (1980), Rizzi (1990)). We will see later on that there are reasons to assume that the adverb is adjoined to the TopP, rather than moving to its Spec, but this refinement is unnecessary at the moment.

A straightforward conceptual motivation for the involvement of TopP in adverb preposing, and against the simple adjunction to IP is offered again by Chomsky's (1993) approach to movement (/formation of non-trivial chains): if movement is a last resort operation, and (at least syntactic) movement is always triggered by the satisfaction of some (concrete or abstract) morphological requirement, there can be no free adjunction to IP (or to any other category) in the overt syntax; adverb preposing, on a par with argumental topicalization, must be triggered by the satisfaction of a Topic Criterion; this naturally leads, under usual assumptions, to the postulation of a Top head and phrase also for simple adverb preposing.

An immediate empirical counterpart of this conceptual argument has to do with the selectivity of the landing site of preposing. The preposed element must land in an IP-peripheral position; but if the process involved simple adjunction to IP, what would prevent movement to other potential adjunction sites, i.e. in between the modal and the VP, a position which can host various kinds of adverbials (and, under May's (1985) analysis, is a possible landing site of QR), but not a topicalized constituent, as in (50)b? And what would prevent adjunction to the whole CP, as in (50)c?

- (50) a. Around Christmas, John will come home
 b.*John will, around Christmas, come home
 c.*I think, around Christmas, that John will come home

Standard accounts of (50)b involve the assumption that adjunction cannot apply to arguments (Chomsky 1986b, McCloskey 1992), while the problem raised by (50)b is hardly even mentioned (but see McCloskey (1992: 2)). Both problems disappear at once under the criterial approach to adverb preposing: movement is to an IP-peripheral position because the TopP is a component of the C system; it cannot be external to the Force marker *that* because the higher verb selects the specification of Force, not the TopP: verbs select for declaratives or questions, not for clauses with or without topic (or focus).¹⁹

If preposed phrases of all kinds (not just topicalized arguments) always detect a TopP projection in the C system, many adjacency effects discussed in the literature are amenable to a straightforward explanation. Consider first the fact that a preposed adverb can intervene between a tensed complementizer and the subject, but not between *for* and the subject in English:

- (51) a. . . . that John will leave tomorrow
 b. . . . that, tomorrow, John will leave
- (52) a. . . . for John to leave tomorrow
 b.*. . . for, tomorrow, John to leave

Case theory provides a natural explanation in conjunction with our assumptions on preposing of the adverbial phrases. In order to be able to determine case on the subject, *for* must be in a sufficiently local configuration with it, hence it must be in the lowest head of the C system, finiteness. Therefore, there is no room for a TopP in between *for* and the IP (see structure (41)), hence the order in (52)b cannot arise. If we were to assume that *for* could be generated under a higher head of the C system, the occurrence of a lower TopP would give rise to the following structure:

- (53) [for [tomorrow Top° . . . [John . . .

in which *for* would be too far away from *John* to determine its case, under

Relativized Minimality (that UG must allow for the possibility of a prepositional complementizer higher than *Fin* is shown below).²⁰

The same explanation can extend to the adjacency constraint between absolutive *with* and the subject of the small clause:

- (54) a. With John unavailable in the week-end, . . .
 b.*With, in the week-end, John unavailable, . . .

(cf. “. . . that, in the week-end, John is unavailable”). If the small clause has no C system (see note 3), then there cannot be any TopP to host the preposed phrase. Even if the TopP could be present, it would disrupt the local relation between *with* and *John* which is necessary for case assignment.

That case is crucial for determining the ill-formedness of (52)b (and (54)b) is suggested by the contrast with (51)b, in which the overt complementizer *that* is not involved in case assignment to the subject (which is determined by the T-Agr complex), hence it can occur in a higher head of the C system, Force, compatible with a lower TopP.

The contrast between (51) and (52) is not minimal, though, as we are comparing a finite and a non-finite structure. A more minimal pair with (52) would be provided by a construction with the following characteristics: an infinitival complement involving a lexical subject and a prepositional complementizer, but with the case of the subject not determined by the preposition. The relevant construction exists in West Flemish (Liliane Haegeman, p.c.; see Haegeman (1986) for discussion):

- (55) Mee (?gisteren) zie nie te kommen, . . .
 “With yesterday she not to come, . . .”

These infinitives introduced by *mee* (with) have the lexical subject marked with nominative case, which is presumably determined by abstract Agr, not by the prepositional complementizer (which would be expected to govern accusative or oblique). So, under the case approach it comes as no surprise that adverb interpolation is possible (if somewhat marginal): the prepositional complementizer is not involved in case assignment to the subject, so it can occur on a higher head of the C system, and it is consistent with the occurrence of a lower TopP. The contrast between English and West Flemish then strongly suggests that the adjacency effect observed in (52)b should be closely tied to the case properties, rather than to some general distinction between finite and non-finite clauses.

Even more straightforward evidence for the role of case is provided by Brazilian Portuguese. The infinitive introduced by preposition *pra* (for) has its subject marked nominative or, in colloquial registers, oblique; in the former case, but not in the latter, an adverb can interpolate (Cristina Figueiredo-Silva, Lucienne Rasetti, p.c.; see Figueiredo-Silva (1994) for further discussion):

- (56) a. Ela me deu o livro pra (amanha) eu ler
 "She gave me the book for tomorrow I to read"
 b. Ela me deu o livro pra (*amanha) mim ler
 "She gave me the book for tomorrow me to read"

While in (56)a nominative case is determined by Agr in the infinitival structure, oblique case is plausibly determined by the preposition *pra* in (56)b. So, under a Case approach, it is expected that adverb interpolation will be excluded in (56)b and possible in (56)a.

If nominative case is assigned by the auxiliary in C in the Italian Aux-to-Comp construction (Rizzi 1982), the fact that an adverb cannot intervene is amenable to the same explanation:

- (57) a. Essendo egli improvvisamente tornato a casa, . . .
 "Having he suddenly come back home, . . ."
 b.*Essendo improvvisamente egli tornato a casa, . . .
 "Having suddenly he come back home, . . ."

(cf. ". . . poiché improvvisamente egli è tornato a casa" = Because suddenly he has come back home).²¹

This case is apparently akin to the well-known fact that in Aux inversion structures in English nothing can intervene between the inflection moved to C and the overt subject, even though the role of Case is not obvious here (but see Rizzi and Roberts (1989)):

- (58) a. . . . that yesterday John came
 b.*Did yesterday John come?

If I to C movement involves movement to Fin, then there is no intervening TopP to host the preposed adverb in between I and the subject, under structure (41). On the other hand, in some cases it is plausible that I moves to a higher head of the C system, e.g. in conditionals:

- (59) a. If (yesterday) John had done that, . . .
 b. Had (*yesterday) John done that, . . .

Here the preposed auxiliary alternates with *if*, which can precede a preposed adverb, hence must be higher than Fin. If the auxiliary actually replaces *if*, as is plausible here, then at least this instance of I to C may be able to move higher than Fin.

So, what rules out the following representation?

- (60) Had [yesterday Top° [John I° done that]] . . .

We are lead to assume that Top° in English is not a suitable host for I movement, so that (60) is excluded by the Head Movement Constraint (the ECP under RM): I cannot move to Top° by assumption, and the higher

head of the C° system normally filled by *if* is too far away for the required antecedent government relation to hold.²²

8. ADJACENCY EFFECTS ON PRO

An apparently different kind of adjacency effect exists in control structures between a head of the C system and PRO in subject position. As was briefly discussed in section 3, in Italian, *di* is often considered the infinitival counterpart of the finite complementizer *che*; but the distribution of topics is the opposite in the two cases: a topic must follow *che*:

- (61) a. *Penso, a Gianni, che gli dovrei parlare
 "I think, to Gianni, that I should speak to him"
 b. Penso che, a Gianni, gli dovrei parlare
 "I think that, to Gianni, I should speak to him"

On the other hand, a topic is strongly disallowed in between the prepositional complementizer *di* and the infinitival IP, while it can precede *di*:

- (62) a. Penso, a Gianni, di dovergli parlare
 "I think, to Gianni, 'of' to have to speak to him"
 b. *Penso di, a Gianni, dovergli parlare
 "I think 'of', to Gianni, to have to speak to him"

The contrast (61)a–(62)a clearly shows that *che* and *di* do not occupy the same position: at S-structure, *che* occupies the highest position of the C system, the Force head, preceding the topic string, while *di* occupies a lower position, presumably the finiteness head. Why should it be so? and, in particular, why should *di* be forced to occur on the lowest head of the C system?

It is a remarkable fact that control infinitives pattern with infinitival (and finite) clauses in which the case of the lexical subject is determined by some element of the C system in that they both require adjacency between this element and the subject position:

- (63) *C° [XP Top° . . . [PRO . . .

The traditional approach to the distribution of PRO in terms of the PRO Theorem does not seem to be well equipped to capture this constraint: it is not clear why the intervening TopP should determine a violation of the PRO Theorem (particularly in cases of CLLD, in which, as the subject/object asymmetries discussed in section 9 show, Top° clearly does not have the capacity to govern a lower Spec position). The null case approach to PRO of Chomsky and Lasnik (1991) looks more promising in this respect, if properly adapted.

The null case approach captures the distribution of PRO by stipulating

that PRO requires a null case, sanctioned by the minimal inflection, the inflection of infinitives; its occurrence is then restricted to the subject position of non-finite clauses.

As such, the null case approach has nothing to say on the descriptive constraint (52).

On the other hand, as Watanabe (1993) has observed, this variant of the null case approach has the weakness of not expressing one of the fundamental distributional constraints on PRO, i.e., the fact that it cannot occur in non-finite structures not protected by a CP layer:

- (64) a.*It seems [PRO to be happy]
 b.*John believes [PRO to be happy]
 c.*John considers [PRO happy]

These predicates select IP complements or small clauses in the non-finite paradigm. The non-occurrence of PRO here immediately follows from the PRO theorem (PRO is governed by the higher predicate), but not from the null case approach: why should these non-finite inflections not license the null case? In order to deal with this problem, Watanabe stipulates that null case checking in AgrS creates a new feature [+F] which in turn must be checked by movement of AgrS to the C system. But this follow up operation and the feature involved have no independent status or justification, apart from the fact of expressing a dependency C° – PRO in a system which disallows head government.

As we are admitting head government for other reasons (cf. introduction), we can directly rephrase the null case approach in a way consistent with Watanabe's observation by stipulating the following principle:²³

- (65) Null Case is sanctioned by [-fin] under government

So, the different cases of (64) can be excluded, under (65), because of the lack of the C system (implying the lack of the required -fin specification). The adjacency effects summarized in (63) can now be treated on a par with the adjacency effects in cases in which the lexical subject has its case sanctioned by a non-finite complementizer ((52)b, (54)b, (56)b, etc.). The similarity of the adjacency effects in the two cases thus seems to lend straightforward support to the null case approach to PRO (with the proposed revision).

9. ADJACENCY EFFECTS ON TRACES

If Topicalized elements involve an independent X-bar projection in the C system, we expect that the presence of a topicalized element will interfere with subject extraction, under standard assumptions on the licensing of traces. In fact, we find two opposite, almost contradictory, kinds of interactions: some proposed elements block subject extraction; other

preposed elements alleviate *that*-trace violations and make subject extraction possible. We shall call these two effects adjacency and anti-adjacency effects on traces, respectively. Let us concentrate on the former in this section.

First of all, intervening CLLD phrases induce subject-object asymmetries in French:

- (66) a. ? Je ne sais pas à qui, ton livre, je pourrais le donner t
 "I don't know to whom, your book, I could give it t"
 b.*? Je ne sais pas qui, ton livre, t pourrait l'acheter
 "I don't know who, your book, t could buy it"
- (67) a. ? Un homme à qui, ton livre, je pourrais le donner t
 "A man to whom, your book, I could give it t"
 b.*? Un homme qui, ton livre, t pourrait l'acheter
 "A man who, your book, t could buy it"

A verbal complement can be moved across a Topic with slightly marginal results in questions and relatives; movement of a subject across a Topic determines a clear decrease of acceptability. These asymmetries are obviously reminiscent of the familiar subject-complement extraction asymmetries (*that*-trace effects, which produce somewhat sharper contrasts; on this, see below):

- (68) a. A qui crois-tu que Marie va parler t?
 "To whom do you believe that Marie is going to speak t?"
 b.*? Qui crois-tu que t va parler à Marie?
 "Who do you believe that t is going to speak to Marie?"

Comparative evidence supports the hypothesis that (66)–(67) are parallel to (68). Italian, a language which does not show subject-complement asymmetries of the kind illustrated in (68) (ultimately as a function of the positive fixation of the Null Subject Parameter, see Rizzi 1982, ch. 4, 1990: 62–65 for discussion), also allows subject and complement extraction across a Topic at the same level of acceptability:

- (69) a. Un uomo a cui, il tuo libro, lo potremmo dare
 "A man to whom, your book, we could give it"
 b. Un uomo che, il tuo libro, lo potrebbe comprare
 "A man who, your book, could buy it"

As for English, a language which typically shows *that*-trace effects, Lasnik and Saito (1992) observe that topicalization also determines detectable asymmetries, in spite of the fact that even complement extraction across a topic is quite degraded:

- (70) a.??The man to whom [that book [I gave t t]]

- b. *The man who [that book [t gave t to me]]
 (adapted from Lasnik and Saito 1992)

Some cases of complement extraction across a topic are more natural (Baltin 1982); this produces sharper asymmetries (on the effect of stress on the acceptability of such cases see below):

- (71) a.? A man to whom [liberty [we should never grant t t]]
 b.* A man who [liberty [t should never grant t to us]]

Let us first consider the French paradigm. In Rizzi (1990, ch. 2) the following analysis of standard subject-complement asymmetries is proposed: the ECP requires that traces must be properly head-governed (governed by a head within its immediate projection); a trace in complement position is properly head governed (by the verb), but a trace in subject position normally is not, as C is inert for government; so, (68)b is excluded as an ECP violation. Movement of the subject may be well-formed in cases like (72):

- (72) Je ne sais pas [qui C° [t pourrait l'acheter]]
 "I dont know who could buy it"

Here the analysis, expressed within a traditional theory of C, assumed that the Wh element in the Spec of C could trigger abstract agreement on C (sometimes with audible morphological effects) which turned C into a proper head-governor for the trace in subject position. Under the current assumptions on a structured C system, it must be the case that finiteness, the lowest C head interfacing the IP system and structurally adjacent to the subject, can be endowed with Agr features to ensure well-formedness of the subject trace (if the Wh elements end up in a Spec higher than Spec/Fin in (72), there must be a higher head endowed with Agr features to license the subject trace in Spec/Fin; a more precise characterization of the possible occurrence of Agr features on a given head is proposed in section 12). Consider now the structural representation of such examples as (66)b, etc. under the X-bar analysis of Topics (C here is whatever head of the complementizer system has the Wh element in its Spec in indirect questions):

- (73) Je ne sais pas [qui C° [ton livre Top° . . . [t pourrait . . .]]]

Here, even if C is turned into a governor via agreement, it is too far away to license the subject trace, due to the intervening head Top°, a standard case of Relativized Minimality effect. If Fin, lower than Top, is endowed with Agr features, things do not change: the trace in subject position t would be well-formed, but the subject should move through the Spec of Fin to license the Agr features on this head, and the trace in the Spec of Fin, t', would now be the offending trace:

- (74) Je ne sais pas [qui C° [ton livre Top° [t' Fin+Agr [t pourrait . . .]]]]

(66)b with representation (74) is close enough to (68)b to make it possible to appeal to the same structural explanation for both cases of subject/non-subject asymmetries; on the other hand, it is different enough to leave room for an account of the different strength of the effect with respect to ordinary *that*-trace effects. Assuming uniform strength for all ECP violations, the somewhat weaker deviance of (66)b could be due to the possibility of resorting to a deviant device of a different kind to avoid the ECP violation. For instance, if t' is omitted from representation (74), no ECP violation would arise, and the source of the deviance would be the fact that Agr in Fin is not locally licensed by its specifier (alternatively, it could be that the structure resorts to an unlicensed occurrence of the null operator Op, a null element which does not fall under the ECP, to support the Agr features in Fin; or that the structure makes an improper use of the "bypassing" device to be introduced in section 12). None of these (deviant) devices is available for the subject position, so that (68)b can only produce a straight ECP violation.

If we had assumed that Topics in the CLLD construction are adjoined to IP, such contrasts as (66)a–b would be unexpected. One could deal with them through the stipulation that adjunction creates a barrier for government (Lasnik and Saito 1992). Since, under the X-bar analysis of the topic-comment articulation, the result follows straightforwardly from core principles of locality, I take these asymmetries to provide evidence for the X-bar analysis.

The same analysis accounts for the ill-formedness of English examples such as (70)b and (71)b (modulo the independent differences between Romance CLLD and English Topicalization). Under the null operator analysis of English topicalization, the complete representation of (71)b would be, for the relevant part:

(75) A man [who C° [liberty Top $^\circ$ [Op [t should never grant to us]]]]

Suppose that the null Op sits in the Spec of the Fin head. Then, no Agr features can occur in Fin to satisfy the ECP on t : among other things, such features would have to agree with Op, hence disagree with t , and we continue to assume that Agr features have their governing capacity restricted to elements coindexed with them. If Agr features were specified on some higher head of the C system (say, under Force), they would be too far away from t to have any beneficial effect, under RM (see the following sections for additional discussion of this case). Again, an analysis of English topicalization based on simple IP-adjunction would not offer an equally principled analysis of the asymmetries.

Moreover, a generalized adjunction analysis is not selective enough to lead one to expect the following asymmetry. Adverb preposing contrasts sharply with argument topicalization in that it does not affect subject extraction:

- (76) a. *I wonder who, this book, would buy around Christmas
 b. I wonder who, around Christmas, would buy this book

In the face of this contrast, and restricting one's attention to adjacency effects on traces, one could be tempted to assume that adverb preposing differs from argumental topicalization in that it does involve simple adjunction to IP, a structure which is transparent to government relations, so that the well-formedness of the subject trace is not affected:

- (77) I wonder who C+Agr [around Christmas [t would buy this book]]

On the other hand, this analysis is inconsistent with the conceptual argument for assuming the involvement of a TopP also with adverb preposing, and the supporting empirical evidence provided by the adjacency effects on Case, with respect to which argument topicalization and adverb preposing pattern alike. We are then left with the question why adverb preposing involves a structure which triggers adjacency effects on case but is transparent for adjacency effects on traces. This point is addressed in the next section in the context of the anti-adjacency effects.

In order to conclude the survey on the adjacency effects on traces, I will now take a brief look at some such effects involving traces in A-chains. We have seen in (69) that Italian differs from French in that CLLD does not induce subject-object asymmetries in A'-chains, a fact that is amenable to other similar contrasts between the two languages as a consequence of the different fixation of the Null Subject Parameter. On the other hand, adjacency effects are detectable in Italian if we look at A-chains. Here the relevant contrast is between raising and control: control infinitives are compatible with CLLD (with the dislocated element preceding the infinitival complementizer, as we have seen), while raising infinitives are not: compare, in particular, the different behavior of the control and raising use of *sembrare* (seem):

- (78) a. Gianni pensa, il tuo libro, di PRO conoscerlo bene
 "Gianni thinks, you book, of to+know it well"
 b. Mi sembra, il tuo libro, di PRO conoscerlo bene
 "It seems to me, your book, of to+know it well"
 c. *?Gianni sembra, il tuo libro, t conoscerlo bene
 "Gianni seems, your book, to know it well"

If raising infinitives must involve a bare IP in order to allow the subject trace to be properly governed by the main V, there is no room for a TopP to occur in such structures; on the other hand, control infinitives can (and must) involve a CP system, so that they are compatible with a TopP.²⁴

A more subtle case of incompatibility with a dislocated phrase is provided by the special Romance construction involving Wh extraction of the subject

from the infinitival complement of an epistemic verb, a complement which does not allow an overt subject *in situ* (Kayne 1984, Rizzi 1982, 1990):

- (79) Un uomo che ritengo (*a Gianni,) potergli parlare
 "A man whom I believe (to Gianni) to be able to talk to him"

Here a C structure (say, minimally, a -Fin head) is needed to ensure, on the one hand, the fact that the subject trace satisfies the ECP, and, on the other hand, the case-licensing of the chain of the subject by the higher verb:

- (80) Un uomo che ritengo [t' -Fin [t potergli parlare]]

But then, if a TopP occurs, it will make t' inaccessible to V for case licensing and satisfaction of the ECP, so that the structure will be ill-formed. Again, no such effect is found with the control structure, normally possible with epistemic verbs in Italian:

- (81) Ritengo, a Gianni, di potergli parlare
 "I believe, to Gianni, to be able to speak to him"

Here, no special relation must be established between the main V and (the chain of) PRO, hence a TopP can occur in the C system.

10. ANTI-ADJACENCY EFFECTS

In the previous sections the intervening head of the TopP was detected through a negative effect, the blocking of a locality relation that was required to hold between a higher head and a lower subject position. Interesting complementary evidence for the postulation of such a head is the positive effect to be discussed here: in a nutshell, in some cases an otherwise ill formed occurrence of a subject trace is made possible by the presence and action of an intervening Top layer (in an indirect way, as we shall see in a moment).

Consider a typical *that-t* effect, as in (82)a below. In this context, argument topicalization and adverb preposing differ sharply. If embedded argument topicalization applies (with comma intonation and the pragmatics of topic-comment), as in (82)b, the effect is not alleviated (on the other hand, if the preposed element bears focal stress, the acceptability improves; see below on this effect):

- (82) a.*A man who I think that t knows this book very well
 b.*A man who I think that, this book, t knows t very well

On the other hand, Bresnan (1977: 194) observed that an adverb interpolating between *that* and the subject trace renders the structure clearly more acceptable (thanks to Kinsuke Hasegawa for bringing Bresnan's observation to my attention in the context of his comment paper to Rizzi (1993), Tokyo, November 1992); these facts have been analyzed independently in

Culicover (1992, 1993), Fukui (1993)). Consider the following examples from Bresnan's article:

- (83) a.* An amendment which they say that t will be law next year
 b. An amendment which they say that, next year, t will be law
- (84) a.* Which doctor did you tell me that t had had a heart attack during an operation?
 b. Which doctor did you tell me that, during an operation, t had had a heart attack?

Bresnan considers such examples "mildly awkward". Culicover appears to consider them fully grammatical. In any event, there seems to be a consensus that a clear contrast exists between the two cases.

We will call this improvement effect an "anti-adjacency effect", in that it arises when an intervening adverb or adverbial PP makes the subject trace non-adjacent to *that*. That the adverb must be higher than the subject trace is shown by the fact that a lower (IP internal) adverb does not give rise to the effect, Hasegawa points out:

- (85) *Who did she say that t hardly speaks to her?

And the effect is selective enough to distinguish between argument topicalization (82)b and adverb preposing ((83)b, etc.).

Here I will develop an analysis along the lines of the approach proposed by Culicover (1992) (but rejected in Culicover (1993) for reasons that we will come back to) and, more directly, of the independent proposal sketched out in Rizzi (1993: fn. 6) in response to Hasegawa's point. As a first approximation, we can think that the preposed adverb or PP has the effect of licensing a head of the C system (in an indirect way, as we shall see in a moment) which in turn licenses the subject trace, thus alleviating the ECP violation.

- (86) . . . that . . . next year . . . X° [t will be law

Various questions arise at this point: What is X°? Why is its presence contingent on the preposed adverbial? Why does it license the subject trace?

As for the first and third questions, we clearly want to unify this case as much as possible with other successful cases of subject extraction. If in such cases subject extraction is made possible by an agreeing Fin specification, this should be the device involved in (86) as well. But why should an agreeing Fin be allowed to cooccur with *that* just in case an adverb has been preposed?

So far we have not taken a position as to the question whether force and finiteness must be specified on distinct heads of the complementizer system or can be specified syncretically, on a single head. We have only observed that these two specifications must be structurally adjacent, respec-

tively, to the lower IP and higher VP structure in order to meet selectional constraints. Suppose that the force-finiteness system can be expressed by a single item drawn from the functional lexicon. In English, for embedded finite declaratives we have the alternation *that/0*; I will continue to assume that the latter, but not the former, is consistent with Agr:

- (87) That = +Decl, +fin
 0 = +Decl, +fin, (+Agr)

The analysis of the simple cases of subject extraction then proceeds as in Rizzi (1990). If the form *that* is selected, the trace in subject position remains non properly governed and ECP is violated. If *0* is selected, it is turned into a governor by the Agr specification (which, in turn, is sanctioned by the passage of the subject through its specifier, where it leaves *t'*), and it properly governs the subject trace *t* (in turn, *t'* is properly governed by the higher verb):

- (88) a. *Who do you think [*t'* that [*t* will win the prize]]?
 b. Who do you think [*t'* 0 [*t* will win the prize]]?

Suppose now that the Topic-Focus field is activated in the C system. Then, the force-finiteness system cannot be realized on a single C head any more because either one or the other specification would not be adjacent to its selecting or selected domain. The force-finiteness system must then split into two heads which sandwich the topic-focus field. So, in examples like the following:

- (89) a. I think that next year John will win the prize
 b. Bill said that your book, he really liked

the force specification, which interfaces the C system (and the whole clause) with its selector (the higher V) must be manifested by *that* above the topic; on the other hand, finiteness, which interfaces the C system with the IP, must be manifested by a zero C head (Fin) under the topic. So, we should revise (87) in the following way:

- (90) That = +decl, (+fin)
 0 = (+decl), +fin, (+Agr)

That expresses declarative force and may optionally express finiteness; *0* expresses finiteness, and may optionally express declarative force (as well as agreement). In simple cases, in which the force-finiteness system can be expressed on a single head, *that* and *0* are functionally equivalent and alternate (there are further restrictions on the occurrence of *0* that we will come back to in section 12); in complex cases in which force and finiteness must split because the topic-focus system is activated, the higher head, expressing pure force, must be realized as *that* and the lower head, expressing pure finiteness, must be realized as *0*:

(91) . . . [that [next year Top° [0 [John will win the prize]]]

As expected under this analysis, the two specifications do not alternate in the “splitting” case: the lower specification cannot be realized as *that* and, more importantly, the higher specification cannot be realized as *0* (Rochemont (1989), Nakajima (1993), Grimshaw (1995)):

(92) I think *(that) next year, (*that) John will win the prize

We are now in a position to explain the anti-adjacency effect. When the Topic-Focus field is activated by a preposed adverbial, force and finiteness must split, and we get a representation like (91). If the subject is extracted, as the lower *0* expressing Fin can be associated with Agr, we get (93)a; *t* is properly governed by Fin with the Agr specification; what about *t'*, whose presence in the Spec of Fin is needed to license the Agr specification? I will assume here that Fin can move head to head to the next available head, here Top, yielding representation (93)b, and from that position it can properly govern *t'*, thus satisfying the ECP.²⁵

(93) a. . . . that [next year Top° [t' Fin° +Agr [t will be law]]]
 b. . . . that [next year [Fin° +Agr [Top°]] [t' Fin° +Agr [t will be law]]]

According to this analysis, whether or not the moved subject ultimately passes through the Spec of *that* is immaterial for the anti-adjacency effect, as the critical actions (licensing of Agr in Fin and of the two traces of the subject) take place under *that* in these complex structures. This predicts that we should find anti-adjacency effects also in indirect questions (abstracting away from the independent subjacency effects), in which the Spec of Force, filled by the Wh operator, would not be available for movement of the subject. In fact, Culicover (1993) detects an anti-adjacency effect in such cases as well (his example (20)b is adapted here):

(94) It is this person that you might well wonder whether for all intents and purposes dislikes you

Here the structure would be

(95) . . . whether [for all intents . . . Top° [t' Fin+Agr [t . . .

and the analysis would proceed exactly as in the case of the declarative (Fin° endowed with Agr moves to Top°, from where it can license *t'*; its trace licenses *t*).

We should now make sure that the analysis is selective enough to account for the difference between adverb preposing and argument topicalization. Remember that the latter in English must involve a null operator, which we have assumed to be sitting in the Spec of Fin. So, a relevant representation with subject extraction across a topicalized phrase would be:

(96) . . . that [this book Top° [Op Fin° [t knows . . .

Here the Fin head is not available to salvage *t* (if it hosted Agr features, they should agree with Op in its Spec, hence they would disagree with *t*, and *t* could not be licensed).²⁶

The question which remains to be answered is: why is this technique contingent on the presence of the preposed adverbial? i.e., why couldn't one always violate the *that-t* constraint by separating force and finiteness, hence have a lower agreeing *0* finiteness head licensing the subject trace and cooccurring with a higher *that* (with *t'* licensed by head movement of Fin°+Agr to *that*)?

(97) Who do you think [that [t' Fin°+Agr [t will win the prize]]]

This representation must be barred, otherwise we would have free violations of *that-t*. So, the descriptive generalization appears to be that we can have the split between Force and Finiteness (and the consequent salvaging of the subject trace) only if the split is forced by the activation of the topic-focus field. This state of affairs has an obvious "last resort" flavor, and as such is reminiscent of much discussed economy constraints (Chomsky 1991, 1993, 1995, etc.). I will assume the following economy principle to constrain the structure-building process:

(98) Avoid structure

much in the line of analogous proposals by Safir (1992), Grimshaw (1993), Speas (1994), Giorgi and Pianesi (1994), Crisma (1992) and other recent work (the principle has no exact equivalent in Chomsky's system, but is akin to his Economy of representations).

The effect of principle (98) in the case at issue is intuitively clear: as the grammar of English has the option of expressing Force and Finiteness in a single head, this option wins over the option of selecting two separate heads (which would imply two X-bar projections); the latter becomes permissible only if the former is not available because of the activation of the topic-focus field, which forces the split (otherwise, selectional constraints would be violated). This happens in (93), (94), but not in (97), which is barred by principle (98). So, (98) is operative up to the satisfaction of selectional constraints, as is obvious: a principle of structural parsimony cannot win over the fundamental structure building principles. On the other hand, the ECP is weaker than (98): a structural layer cannot be added to a representation just to salvage an ECP violation.²⁷

This is rather straightforward intuitively, but the question arises as to how (98) may work formally. Let us assume the basic idea of Chomsky's (1995) approach: economy is computed by comparing derivations within a given reference set, and selecting the simplest. The question then reduces to how the reference set is defined. Chomsky's proposal is that it is fixed on the

basis of the numeration, the set of items picked from the lexicon to act as heads in the syntactic representation to be formed. But this definition does not help in our case: (97) and (88) would have different numerations (the latter with a syncretic Force-Fin head, the former with two separate heads for force and finiteness, a permissible option in English, as the well-formedness of (93) shows), so there could not be any blocking effect of (88) over (97) if the reference set is defined on the basis of the numeration.

On the other hand, it may be desirable to consider less strict definitions of the reference set. Consider, for instance, the basic distributional constraint on *do* support: *do* can occur only when it is needed (Grimshaw 1993). It is natural to try to express this constraint in terms of an economy principle like (98) (Rizzi 1995), but this is not possible if the reference set is restricted by the numeration: structures with and without *do* would always have distinct numerations. The same problem may be raised, e.g., by the distributional constraints on certain kinds of expletives (in German, Icelandic, etc.), which are limited to positions in which they are needed to satisfy the V-2 constraint. So, our case seems to belong to a larger family of cases having this structure: functional element X can occur only if it is needed to satisfy some structure-building principle. It is natural to try to explain these constraints through principle (98), but this requires a less strict definition of the reference set. A simple modification which achieves the desired result here is that we define the reference set exclusively on the basis of the *lexical* elements of the numeration: functional elements do not define the reference set, rather their occurrence is limited by principle (98) (this is very similar to the approach, expressed within Optimality Theory, by Grimshaw (1995)).²⁸

11. ANTI-ADJACENCY EFFECTS WITH NEGATIVE PREPOSING

Culicover (1993) discusses a problem for his own (1992) analysis of what we have called the anti-adjacency effect: the effect is triggered by preposed negative elements as well:

- (99) Leslie is the person who I said that at no time would run for any public office

Even though in such cases the linear order cannot show whether I to C has applied or not, the negative element has clausal scope here (with licensing of a phrase-external polarity item), a state of affairs in which inversion is normally required

- (100) a. At no time would Leslie run for any public office
 b.*At no time Leslie would run for any public office

Culicover concludes that inversion must have applied in (99) as well, so that the representation must be

(102) . . . that at no time would [t I run . . .

On the other hand, it is well-known that in other contexts in English I to C does not licence a subject trace. For instance, Hiberno English embedded interrogatives, which allow I to C movement, strongly disallow subject extraction, as McCloskey (1992) points out (see also Henry (1995)):

(103) a. I wonder would she do that
 b.*Who do you wonder would t do that

So, Culicover's conclusion is that cases like (99) raise an intractable paradox: on the one hand we observe the anti-adjacency effect, with the preposed negative element able to license an otherwise ill-formed subject trace; on the other hand the preposing should have triggered I to C movement, a context which in general precludes the occurrence of a subject trace. This problem leads Culicover to abandon his own analysis of anti-adjacency, and the whole underlying approach to the licencing of subject traces.

I would like to show that the above facts can be integrated into the analysis of anti-adjacency developed in section 10, which shares the background and many elements with Culicover's original analysis; in fact the phenomenon provides important (if intricate) evidence for that family of approaches.

The key empirical observation is provided by Culicover himself (fn. 4): if we take a structure like (99) but involving no modal or auxiliary, the variant with (unstressed) *do* is deviant and the variant without is fine:

(104) a.??Leslie is the person who I said that only in that election did
 run for public office
 b. Leslie is the person who I said that only in that election ran
 for public office

If subject extraction does not apply, the judgment is reversed, with *do* insertion and inversion obligatorily applying:

(105) a. I think that only in that election did Leslie run for public
 office
 b.*I think that only in that election Leslie ran for public office

If we take, as seems reasonable, the ill-formedness of the structure with *do* and, even more clearly, the well-formedness of the structure without *do* as evidence that inversion has not applied in (104), we reach a rather surprising conclusion: inversion with a preposed negative element must apply except in case the subject has been extracted, as in (104) (and, by analogy, (99)). Why should it be so?

In fact, there is another familiar case in which I to C movement, otherwise obligatory, does not apply in connection with movement of the subject. This happens with main questions on the subject:

- (106) a. Who did you see t?
 b. *Who you saw t?
- (107) a. *Who did see you?
 b. Who saw you?

I will reproduce here the basic elements of the analysis of Rizzi (1991): I to C movement is compulsory in (106) in order to carry the Wh feature, generated under T, to C, as is required to fulfill the Wh Criterion at S-structure (or before Spell-out); in fact, if I to C does not apply, as in (106)b, the structure is ill-formed; on the other hand, I to C movement cannot apply in the case of a subject question (107)a because the subject trace does not satisfy the ECP in that environment (see the discussion of (103)b above); nevertheless, the Wh Criterion is satisfied: as the subject has been moved from its base position in the VP to the Spec of C through the Specs of T and AgrS, we obtain the following representation:

- (108) [Who_i C°_i [t_i AgrS°_i [t_i T°_i [t V° . . .]]]]
 +wh

C, AgrS and T have specifiers belonging to the same chain, so that, assuming Spec-head coindexation, they share the same index. As they are in the appropriate local relation (no other head intervenes), they can form a representational chain which possesses the Wh feature (still sitting under T); if we define the Wh criterion on chains (a Wh operator must be in a Spec head configuration with a head whose chain possesses the Wh feature), we achieve the desired result: I to C is not required to fulfill the Wh Criterion just in case the questioned element is the subject. This device is not available in (106)b: the specifiers of C and AgrS (and T) are contra-indexed, so that the heads are contra-indexed, too, and no representational chain connecting C to T can be built. The only option to satisfy the Wh criterion with non-subject main questions then is to move I (T) to C, as in (106)a.

Going back to negative preposing, I will assume that I to C movement in this case is triggered by the Negative Criterion (Rizzi 1991: 11–12, Haegeman and Zanuttini (1991), Haegeman (1995)): the Neg feature, which I assume to be generated under T on a par with the Wh feature, must be brought up to the C system if a negative element is preposed in order to create the required Spec/Head configuration. So, for instance, (105)a is fine and (105)b is ruled out as a violation of the Neg Criterion because the Neg feature has not reached the C system. Consider now the representation associated to (104)b (and (99)). I will assume for concreteness that the preposed negative element is moved to a Foc phrase, but labels don't matter much here. Assuming the technique adopted for ordinary anti-adjacency effects, we would have the subject passing through Spec/Fin (leaving trace t''), from which it can license agreement features in Fin,

which in turn license the subject trace t'' in Spec/AgrS; Fin° then moves to Foc° , from where it licenses t''' :

- (109) . . . [only in that election $\text{Foc}^\circ [t'''; \text{Fin}^\circ + \text{Agr}_i [t''; \text{AgrS}^\circ_i [t'; \text{T}^\circ_i [t \text{ ran } \dots]]]]]$
 $+neg$
-

Remember that the Neg feature is under T. Now, T is coindexed with the subject trace in its Spec t' and both AgrS and Fin are coindexed with other traces of the subject chain, t'' and t''' . So, exactly as in the case of a subject question, there is a representational chain connecting Fin, AgrS and T through the transitivity of indexation. As Fin further moves to Foc° , we end up with a representational chain connecting Foc° (to Fin to AgrS) to T, the head endowed with the negative feature. Hence, the Neg Criterion can be fulfilled without I to C movement, in parallel with the satisfaction of the Wh Criterion with subject questions. If the subject had not been extracted, the option of the representational chain would not arise:

- (110) . . . [only in that election $\text{Foc}^\circ [\text{Fin}^\circ [\text{Bill AgrS}^\circ [t' \text{T}^\circ [t \text{ ran } \dots]]]]]$

Here Agr in Fin cannot be activated, as it would not be supported by a specifier, hence there is no way to build a representational chain connecting Foc° to the negative feature under T, so that the only option to satisfy the Neg Criterion is to apply I to C movement (in fact, T to AgrS to Fin to Foc). In conclusion, the system deals with Culicover's observation that anti-adjacency effects are determined by negative preposing without raising any paradox. At the same time, it offers an explanation for the surprising observation that I to C movement, generally obligatory with negative preposing, does not apply when the subject is extracted; it does so by drawing a close parallel with the other major gap in the application of I to C movement: main questions on the subject.

12. SOME DIFFERENCES BETWEEN ENGLISH AND FRENCH

French does not show anti-adjacency effects of the English kind. Remember that in cases of successful subject extraction in French the agreeing complementizer is not *Ø*, but the overt form *qui*; if the agreeing form does not occur and C is in the unmarked form *que*, an ECP violation is produced, as in (111)a:

- (111) a.*Voici l'homme que je crois t que t pourra nous aider l'année
 prochaine
 "Here is the man who I believe that will be able to help us
 next year"

- b. Voici l'homme que je crois qui t pourra nous aider l'année prochaine
 "Here is the man who I think 'qui' will be able to help us next year"

The paradigm remains essentially unchanged if an adverbial interpolates between C and the subject trace; the ECP violation is not alleviated and the agreeing form of C must occur:

- (112) a.* Voici l'homme que je crois que, l'année prochaine, t pourra nous aider
 "Here is the man who I believe that, next year, will be able to help us"
 b. Voici l'homme que je crois qui, l'année prochaine, t pourra nous aider
 "Here is the man who I think 'qui', next year, will be able to help us"

Some speakers do not find any improvement in (112)a in comparison to (111)a; other speakers find a very slight improvement (say ?* vs *) which does not seem comparable to the robust effect found in English, which appears to hold systematically across speakers. We will come back to this nuance in a moment after giving an analysis of the core comparative fact, the essential lack of anti-adjacency in French. Consider the structure of (111)a–b under our analysis, assuming maximal uniformity with what was proposed for English:

- (113) . . . je crois [que [l'annee prochaine Top° [t' Fin° [t . . .]]]]

Assume that Fin can also be endowed with Agr features in French, an option which is presumably what permits simple subject questions such as *Quel garçon t est venu?* (Which boy came?). Then, the offending trace could not be t, and should be t' here. Remember that t' is licensed in the English equivalent (93), under the proposed analysis, by the option of having Fin jump by head movement to Top, from where it can properly govern t'. We are then led to locate the difference between the two languages in this device: if Fin cannot jump to Top in French, t' would remain in violation of the ECP, and the lack of anti-adjacency effects would be expected. But why should this instance of head to head movement be permissible in English and barred in French? I would like to speculate that this subtle contrast is related to a more conspicuous difference between the two grammatical systems.²⁹

English has null complementizers for subordinate declarative clauses, whereas French does not.

- (114) a. I think (that) John will come
 b. Je crois * (que) Jean viendra

The zero finite complementizer of English has the characteristic distribution of traces, as Kayne (1984: ch. 3), Stowell (1981) pointed out; it is possible in clauses that are internal arguments, but not in subject or preposed clauses:

- (115) a. I didn't expect [0 [John could come]]
 b.*[0 [John will come]] is likely
 c.*[0 [John could come]], I didn't expect

A natural way to express this distribution is to assume that a trace is actually involved. Pesetsky (1995: 8) proposes that the null finite complementizer is affixal, and incorporates onto the higher V. The observed distribution then follows from the ECP. Our analysis of subject extraction in cases like *Who do you think came?* remains unchanged, except that it is now *the trace* of the agreeing Fin which properly governs the subject trace. In anti-adjacency configurations, things continue to work essentially in the same way, with the affixal (and agreeing) Fin moving to the next higher head, except that here the target is not the higher V, but another head of the C system, Top (or perhaps Foc in cases like (104)b, and possibly the cases mentioned in the last paragraph of note 26).

In the corresponding French structure (112)a, as French complementizers are not affixal, the agreeing Fin head cannot jump further, and *t'* continues to violate the ECP. So, if our speculation is on the right track here, the English-French contrast (103)–(113) may be reduced to the more conspicuous and familiar contrast (114)a–b.

We still have to account for the well-formedness of (112)b in French: if the higher C element is in the agreeing form *qui*, subject extraction is fine across a preposed adverbial. This is not expected on the basis of what we have been assuming so far. The structure would be

- (116) . . . *t''* qui [l'année prochaine Top° [*t'* Fin°+Agr [*t* pourra . . .]]]

Here *t* is properly governed by Fin, but *t'* violates the ECP: Fin cannot jump to Top, Top itself is unable to license *t'* (otherwise (112)a would be well-formed too), and the agreeing form *qui* is too far away from *t'* to have a beneficial effect on it, under RM.

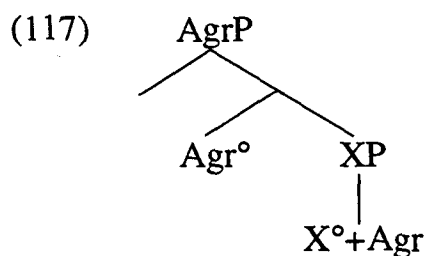
In short, paradigm (112) shows that adverb preposing is transparent to subject extraction in French, which is not affected either positively or negatively, and this transparency is not fully expressed by our analysis. In order to account for the well-formedness of (112)b within our frame of assumptions there are two basic possibilities. Either structure (116) is made more impoverished, to the effect that *t'* becomes close enough to *qui* to be licensed by it;³⁰ or the structure is made richer than (116), and there is a device which

allows the subject chain to bypass the Top layer without damage, and to benefit from the presence of *qui*. As the second possibility seems to involve a less radical departure from assumptions that we have adopted so far, I will pursue it here.

Let us then focus on the second possibility. How can the subject chain successfully bypass the TopP in (112)b? Clearly, Top should have the quality of licensing t' here, but in such a way that the higher agreeing C *qui* should continue to be relevant for the global well-formedness of the chain. So, we can try to use the same method, and ascribe to Top the same governing device that we attributed to Fin: Agr. This gives us the opportunity of rethinking the distribution of Agr in somewhat more general terms.

What makes an abstract (sometimes concrete) Agr specification available to the C system and, more generally, to any structural system? Following Shlonsky (forthcoming), I will assume that Agr specifications are available to heads containing certain substantive specifications: tense (AgrS), aspect (Agr of Past Participle), perhaps V (AgrO), and so on. In the C system, a natural substantive specification that Agr can occur with is finiteness. So, the AgrFin technique to allow subject extraction just is a particular case of the general distributional property of Agr.

Going back to (116), suppose that also the null Top head is among the substantive heads (with finiteness, tense, aspect, etc.) which can combine in a similar way with an Agr specification. At first sight, this does not seem to help for our problem: in general, Agr is able to govern an element it agrees with, but an Agr specification in Top would not be in an agreement configuration with any member of the chain of t' (if anything, it could agree with the topicalized adverb, not what we need here). On the other hand more structure may be involved here. A fairly standard assumption on the structure of the IP system is that, when a substantive head X is endowed with Agr features, an independent Agr projection can crop up on top of it:



This extra projection has the function, among others, of making a specifier available for checking the Agr features with a phrase in the required local configuration. For instance, in Romance past participle agreement the aspectual head hosting the participial morphology (with its Spec possibly filled by an aspectual adverbial) is assumed to license an Agr projection where agreement is checked with the object (with clitics and in other

constructions preposing the object). Suppose this possibility exists for the C system as well.³¹

The structure of (112)b could then be:

- (118) . . . t''' qui [t'' Agr^o [l'année prochaine Top^o+Agr [t' Fin+Agr [t pourra . . .]]]]

here t' is licensed by the Agr features in Top, these features in turn are licensed in a configuration like (117) by the passage of the subject through the Spec of the Agr (Top) projection; t'' is licensed in turn by agreeing *qui*, etc. In this way, the Top phrase is successfully bypassed and the crucial effect of *qui* made compatible with our analysis of Adverb preposing. (112)a remains excluded because we still have an offending trace, t'' in the equivalent of (118) with the non-agreeing form *que*.

We should now make sure that the proposed device does not overgenerate. In particular, we do not want to lose the important fact that CLLD blocks subject extraction in French (see section 9): how can this fact be reconciled with the device that we have just introduced to allow the subject chain to bypass a TopP with adverb preposing? Clearly, adverb preposing and CLLD differ in that the latter but not the former blocks extraction of the subject; so, there must be at least one structural property distinguishing the two cases, and making the "bypassing" device unavailable with CLLD.

A further facet of the problem is added by an observation due to Christopher Laenzlinger. In section 5 we have discussed the fact that the resumptive clitic, obligatory when the dislocated element is the direct object, becomes optional when the dislocated element is a PP:

- (119) Au Pape, personne n'oserait (lui) parler ainsi
 "To the Pope, nobody would dare to talk to him like that"

Now, Laenzlinger has observed that the two cases pattern differently with respect to the licensing of a subject trace:

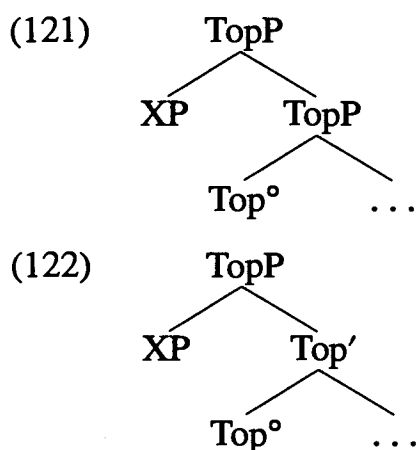
- (120) a.?* Je me demande qui, au Pape, t oserait lui parler ainsi
 "I wonder who, to the Pope, would dare to talk to him like that"
 b. ? Je me demande qui, au Pape, t oserait parler ainsi
 "I wonder who, to the Pope, would dare to talk like that"

Movement of the subject across a preposed PP is slightly marginal, but the presence of the resumptive clitic makes the structure detectably more degraded. The contrast in (120) immediately invites the conclusion that it is not appropriate to analyze these structures as involving an optional clitic; rather, we should postulate two distinct structural representations: simple PP preposing, which does not affect subject extraction (except a weak subjacency-like effect), and CLLD of the PP, which does. The first

construction is the only device available to create a topic-comment configuration with a non-cliticizable PP (an adverbial PP, for instance), and it is not available with the object DP for the reason discussed in section 5. Cliticizable PP's allow both devices, CLLD and simple preposing, and this gives rise to the apparent optionality of the clitic. In sum, argumental PP preposing in French patterns by and large with adverb preposing in not blocking subject extraction, and contrasts with CLLD (but see note 32).

How can we express this contrast? The structural difference between Spec and adjoined position suggests itself again: we continue to assume that the Topic in CLLD is in the Spec of a TopP, a structural layer that interferes with subject extraction in the way that we have discussed. It could be that the preposed PP is adjoined, hence in a configuration transparent to government relations. On the other hand, we do not want to lose the conceptual and empirical arguments which have led us to postulate a TopP for every kind of preposing involving a Topic-comment interpretation. But we can use the Specifier/Adjunct distinction in a more subtle manner.

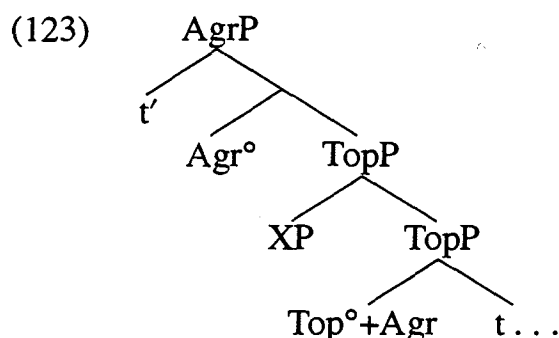
Suppose that the Top projection may optionally have a specifier (I assume this option to be the general case, unless special principles hold such as the extended clause of the EPP for AgrS). If Spec is not projected, the topicalized element is adjoined to TopP; I will assume that the adjunction configuration is adequate to satisfy the Top Criterion (Chomsky 1993 explicitly assumes that the adjoined position is a part of the checking environment of a head). So, a topic XP can be in one of the two following configurations, both sufficient to satisfy the Top Criterion:



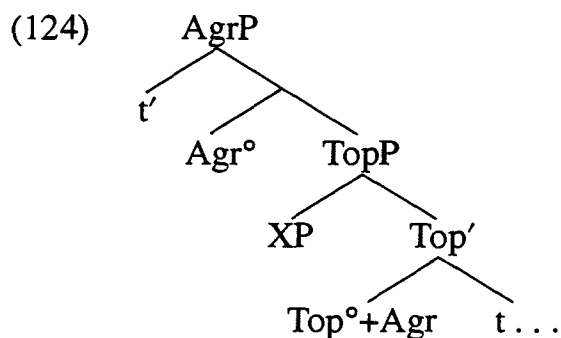
The analysis to be proposed will have the following form: Simple preposing may involve structure (121), a configuration which can be bypassed by the subject chain. On the other hand, CLLD must involve configuration (122), which blocks the subject chain by determining an ECP violation on the subject trace.

Let us consider how this idea can be implemented. As for configura-

tion (121), we continue to assume that it can be bypassed by the subject chain in the way suggested for (118): Top° may be endowed with Agr features, hence license a higher AgrP through whose specifier the subject can be moved.



Now, suppose that this option is not available in case the topic phrase occupies the Spec of TopP, as in (122). A natural motivation for this may be that if an agreeing head has a specifier, it can't refrain from agreeing with it (see Chomsky (1995) for relevant discussion expressed in slightly different terms); so, in the equivalent of (123) but containing substructure (122) instead of (121)



the presence of Agr features on Top could not have any beneficial effects on the subject trace, as the Agr specification would be taken up by the topic XP. On the other hand, if the agreeing head does not have a Spec, as in (123), the Agr features on Top are not taken up by XP and can be related to a licensing specifier (t') through the mediation of the independent Agr projection, thus bypassing the adjoined topic XP; the Agr features in Top° can then be construed with t' in (123), hence fulfil the proper government requirement on t .

Then, in order to account for Laenzlinger's contrast, we have to make the assumption that CLLD must necessarily involve configuration (122), while (121) is restricted to simple preposing. Again, there seems to be a natural motivation for this. Simple preposing plausibly involves a single chain, from the position in which the PP is selected to the position in which it satisfies the Top Criterion (possibly through a number of intermediate steps). CLLD, on the other hand, appears to involve two arguments,

the topic phrase and the clitic pronoun, hence two chains; as only one theta role is available for them, the construction must then involve some kind of chain composition (Chomsky 1986b) forming a single composed chain at LF. In other cases of chain composition (the *easy to please* construction for instance), both chains entering the composition operation must meet certain conditions, must be independently licensed in some sense. Suppose that a minimal licensing requirement is that each chain must be selected, must have one member in a selection configuration (specifier or complement) with a selecting head. So, the dislocated phrase must be in configuration (122), in the Spec of Top, in order to be available for composition with the clitic chain. But so, the dislocated phrase is incompatible with an agreement specification which could license a subject trace, hence CLLD, contrary to simple PP preposing, always blocks subject extraction.³²

13. CONCLUSIONS

1. The complementizer system minimally consists of a specification of force, accessible to higher selection, and a specification of finiteness, selecting a finite (or non-finite) IP.

2. It may also consist of a topic and a focus field, expressing the topic-comment and focus-presupposition articulations, respectively. Within "movement as last resort" guidelines, there is no free optional preposing and IP adjunction: all instances of preposing to the left periphery must be triggered by the satisfaction of a Criterion. Topic-comment and focus-presupposition articulations involve two instances of the larger family of A' Criteria. These guidelines naturally lead one to assume special Top and Foc heads and projections for topic and focus constructions.

3. In English topic-comment structures, the topic sits in the Spec of TopP and is locally construed with a null operator mediating the topic and the comment; in Romance, topic-comment is typically expressed by the CLLD construction. A number of properties differentiating topic and focus (compatibility with a resumptive clitic, sensitivity to WCO, . . .) follow from the assumption that only the latter involves genuine quantification, the former involving a non-quantificational A' dependency.

4. The global articulation of the topic-focus field in Italian involves a FocP surrounded by recursive TopP's, this configuration being in turn sandwiched in between the Force-Finiteness system, as in tree (41). The non-recursiveness of FocP may be a consequence of its own interpretive characteristics. Different types of elements fill different positions in (41). Straightforward distributional evidence suggests that relative pronouns are in the Spec of Force, while interrogative pronouns in main questions compete with focussed phrases for the Spec of Focus. Complementizers such as *that*, *que*, etc. are in Force^o (when the topic-focus field is activated), while prepositional complementizers in Romance are in Fin^o.

5. In non-finite structures in which the Case properties of the subject are determined by an element of the C system, this element must be under Fin; if it was on a different head (and a lower head of the C system was activated), the required local configuration (head government) would not hold, under Relativized Minimality. So, many well-known adjacency effects are immediately explainable. The adjacency effect between a prepositional complementizer and PRO in Romance is amenable to the same explanation under a slight revision of the null case approach to PRO.

6. Extraction across French CLLD gives rise to subject-object asymmetries, as is expected under the X-bar analysis of Top: in this construction, at least one trace member of the chain of the extracted subject inevitably violates the head government requirement of the ECP under Relativized Minimality, hence subject extraction is blocked.

7. Argumental topicalization in English also blocks subject extraction, as is expected. On the other hand, adverb preposing gives rise to an apparently opposite effect: a *that*-t violation is alleviated by the intervention of a preposed adverbial (an anti-adjacency effect). Under our interpretation, the preposed adverbial licenses enough C structure to ensure the survival of the subject trace. More precisely, force and finiteness, normally expressed as a syncretic head, must split when the topic field is activated by a preposed adverbial. The lower Fin, endowed with Agr features, properly governs the subject trace, as in all successful cases of subject extraction. In the absence of the preposed adverbial, a principle of structural economy enforces the choice of a minimal C structure with the syncretic force-finiteness head, which gives rise to an ECP violation if the subject is extracted across *that*. The fact that negative preposing gives rise to anti-adjacency effects, as well as the surprising fact that I to C movement with negative preposing ceases to be obligatory exactly when the subject is extracted, receive a unitary analysis under the proposed framework.

8. The lack of anti-adjacency effects in French is related to the lack of affixal complementizers in this language. The fact that (the structure associated to) a preposed adverbial is nevertheless transparent to subject extraction is interpreted by sharpening the assumptions on the possible occurrence of Agr features: they can be associated to every substantive head, and an independent AgrP can be projected; this makes it possible for the subject chain to “bypass” the TopP associated to the preposed adverbial. The apparently optional occurrence of the clitic in certain cases of CLLD is shown to determine the blocking of subject extraction, thus suggesting that two distinct constructions with different structural properties are signalled by the presence or absence of the clitic.

NOTES

¹ Preliminary versions of this paper were presented in class lectures at the University of Geneva (1993–94, 1994–95), at the 3ème Cycle Romand on Syntax and Pragmatics, Neuchâtel, January 1994, and in talks at the University of Florence, June 1994, April 1995 and at DIPSCO, Istituto San Raffaele, Milan, February 1995. This research is part of the FNRS project n. 11-33542.93. Thanks are due to Adriana Belletti, Guglielmo Cinque, Brent De Chenes, Grant Goodall, Maria Teresa Guasti, Liliane Haegeman, Ur Shlonsky, Michal Starke for helpful comments.

² One class of attempts to integrate into the CP system more material than a single X-bar schema can contain involves the assumption that CP may undergo a limited recursion (Rizzi and Roberts 1989, Rizzi 1991, McCloskey 1992); other attempts directly involve the postulation of heads of the C system distinct from the lexical complementizers (Culicover's (1992) Polarity head, Shlonsky's (1994) agreement in C (a development of Cardinaletti and Roberts' (1991), Roberts' (1993) idea of AgrS recursion), as well as much recent literature on focus (see below)). See also Nakajima's (1993) explicit reference to a Split-C hypothesis. Work on V-2 languages has also envisaged the possibility of a structured C-system (e.g. Muller and Sternefeld (1993)). Reinhart's (1981) earlier proposal for a multiple C structure was motivated by bounding theoretic considerations.

³ As for agreement, certain paradigms do not manifest any overt morphological form of subject agreement (English past and future, English subjunctive, the normal verbal paradigms in Mainland Scandinavian) and still cooccur with *that* type complementizers; conversely, inflected infinitives in Portuguese possess morphological marking for subject person agreement, and still do not cooccur with *that* type complementizers. As for tense, Latin infinitives express the present/past (and periphrastic future) distinction, and still we do not want to consider such forms finite (no nominative case assigned to subjects, etc.). In spite of these and many other cases of dissociation, the generalization still holds that finite forms are more richly specified for features of the Tense-Person Agreement-Mood complex (the latter presumably being a unique characteristic of finiteness). See also George and Kornfilt (1981) for an earlier discussion of this notion.

⁴ If a finite verbal form must be selected by a C system bearing the feature [+fin], we account for the fact that direct selection of IP from a higher verb is limited to non-finite verbal forms. This is shown by the absence of exceptional case marking with finite structures, as well as by the impossibility of Heavy NP Shift (under the analysis of Rizzi 1990: 34–35)

- (i) a. *I believe [him is smart]
- b. *I believe [t is smart] every student who. . . .

cf.

- (ii) a. I believe [him to be smart]
- b. I believe [t to be smart] every student who. . . .

ECM-like constructions appear to be possible with subjunctive complements in languages with missing or highly restricted non-finite verbal forms: see Guasti (1993), Turano (1993) on the Albanian causative construction, Rivero (1991) on Rumanian. Perhaps V can directly select IP's with the minimal specification of finiteness that the language allows, which is subjunctive in languages basically lacking infinitives.

One should also observe that indirect questions can be finite or infinitival clauses, but not small clauses:

- (iii) a. John does not know of what he can be proud
- b. John does not know of what to be proud
- c. *John does not know of what proud

Presumably, if the C system always starts from \pm fin, it must select an IP on which the

feature can be defined; as finiteness is a verbal feature, non-verbal small clauses cannot have a C system, hence they offer no structural slot in which a Wh element could be hosted, so that small clause questions are predicted not to exist. Another consequence of the lack of C system for small clauses is that there are no control argumental small clauses (**John wants PRO rich*), if PRO is licensed by -fin, as is argued in section 8 (the ill-formedness of (iii) could then also fall under this larger class of cases). Control small clauses appear to be possible in adverbial position in such expressions as *while PRO at home, if PRO in doubt*, etc., in which presumably the adverbial subordinator is different enough from the ordinary clausal C system to be consistent with a propositional content not specifiable for finiteness, and still capable of licensing PRO. The C-like particles introducing certain small clauses analyzed in Starke (1994) could perhaps be treated as subordinators (in the sense of note 6) rather than as markers of -fin.

⁵ Things may be different in full V-2 languages, in which the inflected verb typically moves to C in certain tensed clauses; presumably in such cases one particular choice of +fin attracts the finite verb to have its finiteness feature checked by the tense specification on V; even this case differs from verb movement to an inflectional head, though, in that, V movement is not sanctioned by any special affix on the verb.

⁶ As for the assumption that the force head closes off the C system upwards, it should be noticed that operators do not always fill the highest Spec of the C system, e.g. interrogative operators are placed in a lower Spec position in Italian, see section 6. I will continue to assume that also in such cases the highest head of the C system expresses Force, as is required if selection takes place in a strictly local configuration; the actual position of the operator is determined by the relevant A' Criterion (on which see the next section), and may or may not coincide with the Spec/Force. An alternative is suggested by Bhatt and Yoon's (1991) distinction between type markers (our Force heads) and simple subordinators, heads which make a clause available for (categorical) selection independently of its force. If this proposal is combined with ours, a tripartite system would result (subordinator, Force, Finiteness). This possible refinement will not be developed here.

⁷ Additional straightforward evidence for an articulated C system is provided by the existence, in some languages, of strings of complementizers occurring in a fixed order, e.g. the Danish case discussed in Vikner (1991).

⁸ (13)a becomes more acceptable if the Wh element is stressed; in that case, the structure receives a kind of echo interpretation (e.g., to express surprise or disbelief in reaction to somebody else's statement). The contrast (12)–(13) was already noticed and discussed by Cinque (1979: 113–114), who argued on this basis for a different position of relative and interrogative pronouns (thanks to Guglielmo Cinque for drawing my attention to this reference); see also Grosu (1975) for an early discussion of the topic.

⁹ It should be noted here that my terminology is slightly different from Cinque's: he follows the traditional terminology in using the term "Topicalization" to refer to the English constructions (1) and (2); he then extends this term to cover the Italian construction (4). I try to avoid the term Topicalization, and refer to (1) and (3) as Topic (Comment) structures and to (2) and (4) as Focus (Presupposition) structures.

¹⁰ The possibility of a topic-comment structures of the following kind in French:

- (i) Les gâteaux, j'adore
"The cakes, I love"

is presumably related to the capacity that a restricted class of verbs (*aimer, adorer, connaître, . . .*) has of licensing *pro* in object position with a referential interpretation, a capacity shared by certain French prepositions (see Zribi-Hertz 1984 for discussion). With most verbs the French paradigm is like the Italian one, with the clitic obligatorily present:

- (ii) Les gâteaux, je *(les) ai mangés à midi
"The cakes, I ate (them) at lunch"

¹¹ As for the focus construction in English (as in (2)), it could have the same syntax as the topic construction and involve a null operator, sitting in the Spec of the complement of Foc° (much as a cleft construction); on the other hand, the mediation of the null operator is not needed in this case under our assumptions, as the focal element should be able to directly bind a variable in (2), on a par with the Italian equivalent (16)b. So, a priori we would expect a possible structural difference between Top and Foc in English as well. In fact, Culicover (1992) observes that Top induces subjacency-like effects (on which see also Rochemont (1989), Lasnik and Saito (1992) and references quoted there), while Foc does not (at least, not to the same extent), a contrast which suggests the existence of a structural difference between the two constructions. See also note 26 for the different behavior of the two constructions with respect to anti-adjacency.

¹² See Koster (1978: 199ff.) for an analysis of this construction in Germanic. As for the possibility of non-focal topicalization in V-2 Germanic, we should either follow the reference quoted (see also Cardinaletti (1984)) and assume that a null operator identified by a topic is always involved in such cases, or assume that V-2 endows the specifier of the head attracting the inflected verb of the capacity to license a null constant.

¹³ Of course, we want to be able to admit that the preposing of a PP can determine a genuine operator variable structure in some cases, e.g. in questions like *To whom did you talk?*, or a genuine null constant interpretation, e.g. in appositive relatives like *A man to whom I talked*, but here we could invoke a reconstruction process à la Chomsky (1993) and maintain that variable and null constant interpretation are restricted to DP's.

¹⁴ Moreover, the entire Spec of Top is moved out in (36), but this does not seem to be a well formed option: in general, A' criteria cannot be satisfied "in passing", e.g., a Wh element cannot satisfy the Wh Criterion in an embedded C and then be moved to the main C system.

¹⁵ Other functional categories like T, Asp, D, Agr do not admit recursion, under economy of representations, because one specification is sufficient, hence maximal. This does not apply to Top or Foc though, as there can be n constituents involved.

The proposed analysis of the impossibility of FocP recursion also correctly predicts that a FocP can be activated in a main clause (i), in an embedded clause (ii), but not in both simultaneously (iii):

- (i) A GIANNI ho detto t che dovremmo leggere il tuo libro
"TO GIANNI I said that we should read your book"
- (ii) Ho detto a Gianni che IL TUO LIBRO dovremmo leggere
"I said to Gianni that YOUR BOOK we should read"
- (iii) *A GIANNI ho detto che IL TUO LIBRO dovremmo leggere
"TO GIANNI I said that YOUR BOOK we should read"

(iii) is excluded because the embedded clause is part of the presupposition of the main Foc, hence it cannot contain a Foc position. Predictably, Topic-comment structures of the CLLD kind are possible in main and embedded clauses simultaneously:

- (iv) A Gianni, gli ho detto che il tuo libro, lo dovremmo leggere
"To Gianni, I said to him that your book, we should read it"

¹⁶ This is only a first approximation: on the position of relative operators, see the detailed discussion of Bianchi (1995), conducted within the guidelines of Kayne (1994) and based in part on a previous version of the present article, an analysis which I will not be able to discuss here.

¹⁷ The location of the Foc feature may vary across languages, as many languages (Hungarian, . . .) require I to C movement with left-peripheral focalization. In this case, the lower Top position of (41) is not activated (its presence would block I to Foc movement), exactly as in main questions in Italian. Perhaps a reflex of this UG option is found in the fact that

some speakers of Italian find the activation of the lower TopP (e.g., in (37)b) marginal if compared to the activation of the higher TopP (as in (37)d). For such speakers the Foc feature may preferentially be located in the inflectional system, whence the preferred application of I to C with Focus (alternatively, these speakers may be (more) sensitive to a weak subjacency-like effect induced by the lower TopP on the movement of the focal element: cf. the marginality detected by speakers of French in examples like (66)a).

¹⁸ As we have already seen (ex (4), repeated here) a topic preceding the Wh element is fully acceptable, and a topic following the Wh element is marginal in embedded questions:

- (i) a. Mi domando, il premio Nobel, a chi lo potrebbero dare
"I wonder, the Nobel Prize, to whom they could give it"
- b. ?Mi domando a chi, il premio Nobel, lo potrebbero dare
"I wonder to whom, the Nobel Prize, they could give it"

The marginal acceptability of the latter is not surprising, as the obligatoriness of I to C movement is weakened in embedded questions (Rizzi 1991: 17). The fact that the Wh element is marginally compatible with an embedded focalized element in embedded questions, in clear contrast with main questions,

- (ii) a. ?Mi domando A GIANNI che cosa abbiano detto (, non a Piero)
"I wonder TO GIANNI what they said (, not to Piero)"
- b. *A GIANNI che cosa hanno detto (, non a Piero)?
"TO GIANNI what did they say (, not to Piero)?"

may suggest that the Wh element can sit in an independent position distinct from Spec/Foc in embedded questions. The properties of this position, as well of the other special positions filled by certain Wh elements (*perché* (why) and Wh with lexical restriction: Rizzi (1991, fn. 16), exclamative Wh elements: Benincà (1995)) or of the other kinds of C elements in different Romance varieties discussed in Poletto (1993), Bianchi (1995) and references cited there, could lead to further extensions of the maximal structure of C along lines that will not be investigated here.

¹⁹ McCloskey (1992: 15) points out that "external" preposing of a whole adverbial clause is marginally possible in some cases:

- (i) ?He promised, when he got home, that he would cook dinner for the children

Here one could assume, with McCloskey, that this case involves genuine CP recursion, as is particularly plausible for cases in which *that* occurs twice (McCloskey 1992, fn. 12):

- (ii) She maintained that when they arrived that they should be welcomed

I will leave open here the question of why this option seems to be restricted to full adverbial clauses.

²⁰ If Case Theory does not appeal to the notion of head government, as in the system of Chomsky (1993), some other notion of locality will be needed to express the fact that the intervening X-bar structure in (53) disrupts the required case configuration. For instance, in a move feature analysis à la Chomsky (1995), one could assume that the case features on *John* cannot reach *for* at LF because of the intervention of Top.

On the other hand, the environment for a potential violation of Case Theory of the kind illustrated in (53) may simply not arise here: in fact, preposing of an element to a position external to *for* does not seem to give rise to an acceptable structure either (* *I would very much prefer, this book, for you to read immediately*), so one seems to be led to conclude that *for* always expresses force and finiteness syncretically (in the sense of section 10), and therefore no topic-focus field can be activated with this choice of C. In this respect, *for* is different from the infinitival complementizer *di* in Italian, which is compatible with an external topic (see section 8).

²¹ The impossibility of (57)b is sharper than in the corresponding structure with a lexical subject NP presumably because *egli*, as a weak pronoun (Cardinaletti and Starke 1994), strongly disallows being left in a position lower than the highest subject position.

²² Actually, a weaker assumption is sufficient: Top does not allow I to move through it to Force, i.e., there is no Top to Force movement (direct movement of I to Force being barred by RM in (60)).

It should be noticed that, even in main questions like (58)b, it is not obvious that I to C movement stops at Fin: if it is the case in general that the Wh element sits in the Spec of Focus in main questions (see section 6), then the auxiliary should reach Foc^o in order to satisfy the Wh Criterion, a position that may be followed by a TopP if structure (41) is transposed to English. So, the HMC analysis seems to be needed to exclude (58)b on a par with (59)b.

²³ This analysis can be straightforwardly expressed within Chomsky's (1995) move features approach, which comes very close to reintroducing the head government relation in Case Theory. Alternatively, if one assumes that C systems can be normally endowed with concrete or abstract Agr features (Rizzi 1990, Haegeman 1992, Shlonsky 1994, etc.) one could think that it is the non finite Agr in the C system which licenses PRO in a Spec-head configuration.

²⁴ Speakers of French are reluctant to accept CLLD with infinitives. Nevertheless, a detectable contrast exists between control and raising (Ch. Laenzlinger, p.c.):

- (i) ??Je pense, ton livre, pouvoir le comprendre
"I think, your book, to be able to understand it"
- (ii) *Marie semble, ton livre, pouvoir le comprendre
"Marie seems, your book, to be able to understand it"

²⁵ This way of satisfying the ECP on *t'* by moving the head agreeing with it to the next higher head position seems to be in contrast with the fact that, in an analogous configuration, I to C movement does not license a subject trace (Rizzi 1990: 40, 1991, and the following section). Still, we can express the difference between the two cases by observing that with I to C a governing head (I) moves to a head of a different categorial type (C), whereas in the structure derived from (93) a head of the C system (Fin) moves to another head of the C system (Top) from where it can properly govern *t'*, if we intend proper government as government within a projection of the same categorial type (slightly modifying Rizzi (1990: 32). In order to express this distinction we must now crucially appeal to the assumption (section 2) that the I and the C systems are distinct.

Postulating head movement of Fin^o solves the technical problem raised by Culicover (1993) on the status of the trace licensing agreement in C. The assumed head movement is not simply a "local" technical solution, as it crucially contributes to the explanation of the difference between English and French with respect to the anti-adjacency effect (section 12).

The assumption that Fin can move to Top is not inconsistent with the assumption that an intervening Top blocks (further) movement of a lower head to Force (section 7): Top may be able to host a lower head without being itself movable to a higher head position (see note 22).

²⁶ Here it becomes crucial to assume that Op goes to Fin; this hypothesis is in fact supported by the fact that if argument topicalisation and adverb preposing take place in the same structure, the preferred order is with the topicalized argument internal ((i) is more acceptable than (ii)):

- (i) Around Christmas, this book, you should buy
- (ii) This book, around Christmas, you should buy

This order is expected if Op goes to Spec of Fin, and if only argument topicalization, not adverbial PP preposing, involves the null operator. On the other hand, (ii) is not totally excluded; moreover, if the argumental topic and the preposed adverbial appear in that

order, there seems to be a detectable anti-adjacency effect (even though the judgment is difficult):

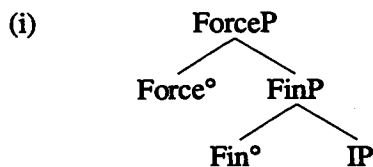
- (iii) This is the man who I think that, this book, around Christmas, should buy

All this then suggests the following interpretation: the null Op involved in argumental topicalization normally goes to Spec/Fin; this explains the preferred order of (i) over (ii) and the lack of anti-adjacency effects with argumental topicalization (as per the discussion in the text); on the other hand, Op can survive in a higher position as a marked possibility if the Top position immediately higher than Fin is taken up, as is shown by the marginal possibility of the order in (ii); in this case, if the subject is extracted an anti-adjacency effect is expected, and indeed it seems to exist in structures like (iii) (with all the caveats justified by the complexity of this kind of judgment).

The idea that the null operator is responsible for the lack of anti-adjacency effects with argumental topicalization in English has one additional interesting consequence. Ian Roberts (p.c.) observes that structures like (96), excluded with the topic intonation on the preposed object, improve if the preposed object bears focal stress. Culicover (1993, fn. 1), observes the same improvement effect of focal stress with preposed argumental PP's. The existence of anti-adjacency effects with English focalisation is expected, under our analysis, if focalization, contrary to (English) topicalisation, does not involve a null operator, as suggested in note 11 (if no null operator is involved in the equivalent of (96), Fin can be endowed with Agr features licensed by the passage of the subject in its spec, and capable of licensing the subject trace, etc.). So, there are two significant, if subtle, differences between English topicalization and focalization with respect to subjacency (see note 11) and anti-adjacency effects which may both be related to the absence of a null operator in the second construction. See also de Chenes (1995) for discussion of other factors alleviating *that-t* violations.

²⁷ I remain agnostic here as to the question whether the theory should contain an explicit statement of relative strength, or this selective interaction just follows intrinsically from the fact that selectional constraints are directly invoked in the structure building process, where (98) is operative, while ECP applies on representations that are already formed.

²⁸ The proposed analysis assumes that force and finiteness can be expressed in a single head, and that this option is enforced by economy unless the activation of the topic-focus field makes it non viable. Alternatively, one could consider the possibility that the force-finiteness is "agglutinative" as many other syntactic subsystems seem to be, hence it always involves two distinct heads



The analysis can then be rephrased in the following form: in (i) the representation can involve a single item from the functional lexicon (*that* or *0*, one of the two options (90)a–b), generated under Fin and moved to Force to check the force features. If the Top-Foc field is activated (assuming that Fin° would not be allowed to move through the heads of the Top-Foc field all the way up to Force), two distinct items from the functional lexicon are needed (both (90)a and b, *that* for force and *0* for finiteness), a possibility which gives rise to the anti-adjacency effects in the way we have discussed. This possibility is not freely available due to Economy, whence the lack of free *that-t* violations.

²⁹ The slight improvement that some speakers find in (112)a, compared to (111)a, could be related to the possibility of not leaving a trace in the Spec of an agreeing Fin. Then there would be no ECP violation, at the price of leaving in the structure a non-licensed occurrence of Agr features, a violation which may be felt by these speakers as slightly less severe than an ECP violation.

³⁰ E.g., it could be that adverb preposing, contrary to our assumptions so far, does not necessarily involve an independent TopP: one could consider the possibility that Fin itself can be endowed with Top features, and a preposed adverbial can satisfy the Top Criterion by adjoining to the FinP. If this alternative is adopted, the analysis of anti-adjacency would become less straightforward than in section 10: it should express the fact that a syncretic force+fin head cannot bear the required Top features, so that the split is required when a preposed adverb is to be integrated, with the consequence of determining anti-adjacency effects in English along the lines indicated in section 10. See note 32 below for potential empirical support for the alternative proposed in this footnote.

³¹ We do not take a position here on whether the double structure (117) is compulsory whenever a substantive head is endowed with Agr features, or it is simply an option, which is taken just in case an extra specifier is needed to license the Agr features. In the latter case, everything that has been said so far can be left unchanged; in the former, all the structures involving Agr features associated to a substantive head should involve the extra Agr layer, with no significant additional modification of the analysis.

³² Adverbial PP preposing in French still differs from argument PP preposing in a subtle way: the latter, but not the former, determines a weak subjacency-like effect (see (120)b) when something is extracted; this suggests that the two cases should not be fully assimilated. One possibility is to restrict the adjunction analysis proposed in the text (adjunction to the TopP) to argumental PP preposing, and go back to the proposal of note 30 for adverbial PP preposing (direct adjunction to a FinP endowed with Top features); so, both adverbial and argumental preposed PP's can be bypassed by the subject chain (as in both cases the preposed element can sit in an adjoined position, to FinP and TopP, respectively), but only the latter involves an autonomous TopP, which may be deemed responsible for the weak subjacency effect. CLLD cannot be bypassed by the subject chain for the reason discussed in the text, and determines a weak subjacency effect on non-subject extraction (cf. (66)a, etc.) because a TopP is involved.

The tripartite system of Romance (CLLD, argument PP preposing, adjunct PP preposing) appears to reduce, in English, to the bifurcation between argument topicalisation (of both DP's and PP's) and adverbial PP preposing, the first blocking subject chains and determining subjacency-like effects on non-subject extraction, the second not blocking subject chains (in fact, determining anti-adjacency effects) nor determining subjacency-like effects for non-subject extraction. For the first case, we continue to assume the null operator construction, which is inconsistent with the "bypassing" device, as we have seen. For the second, we may also adopt the proposal of note 30. What appears to be missing in English is the option of adjoining a preposed argumental PP to TopP, an option apparently blocked by the generalized availability of the null operator structure for all cases of argumental topicalisation in this language.

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