

Strategies of Subject Extraction

Luigi Rizzi, University of Siena
Ur Shlonsky, University of Geneva

1. Introduction.

A major motivation for the classical ECP is the explanation of subject-object asymmetries, illustrated by the French examples in (1). Traces must be properly governed, the core case of proper government being government by a lexical head (Chomsky 1981). Subject traces fail to be properly governed, so that subject extraction is often problematic cross-linguistically. No comparable problem arises for object traces, which are properly governed by the verb:

- (1) a *Qui crois-tu que t_{qui} va gagner?
‘Who do you believe that will win?’
- b. Qui crois-tu que Paul va aider t_{qui} ?
‘Who do you believe that Paul will help?’

Contrary to the principles licensing other types of null or overt elements (overt DP’s, pro or PRO,) the ECP is hard to state in terms fully compatible with minimalist guidelines.

Minimalism envisages two fundamental types of principles, interface-driven and economy principles. The ECP is not naturally amenable to either (reliance on “government” is another frequently-mentioned problem, but, apart from terminology, the issue doesn’t really seem to arise in variants of minimalism allowing direct relations to be established between a head and a local DP in its domain, as in Chomsky 2000 and subsequent work). A separate and more theory-neutral problem is that it is hard to find a natural characterization of the class of proper governors going beyond a simple enumeration of cases: Why should local c-command by certain functional heads license a trace in some cases and not in others? For instance, why should Agr, T and other inflectional elements suffice to license subject movement from the Theta position to the EPP position, possibly through intermediate positions, while normal C (*que, that, for*, etc.) would not? Why would only special complementizers such as French *qui* and English \emptyset count as proper governors?

In this article, we would like to explore a different analytic path to subject-object asymmetries which eschews the pitfalls of the ECP approach. We adopt two ideas presented in Rizzi 2003:

- (2) a. An element moved to a position dedicated to some scope-discourse interpretive property, a criterial position, is frozen in place (Criterial Freezing).

- b. Classical EPP, the requirement that clauses have subjects, can be restated as a criterial requirement, the Subject Criterion, formally akin to the Topic Criterion, the Focus Criterion, the Q or Wh Criterion, etc., Rizzi 1996, 1997.

In accordance with (2b), thematic subjects move to the criterial subject position. By (2a), they are frozen there by Criterial Freezing. Thus, the non-extractability of subjects in cases like (1a) is explained. Movement of objects and other complements is not similarly constrained since there is no Object Criterion, parallel to the Subject Criterion.

From this viewpoint, subject extraction is only possible when the thematic subject is allowed to skip the criterial Subject position. Strategies of subject extraction that different languages use amount to ways of skipping the freezing position. Alternatively, languages may develop strategies for forming A' chains on embedded subjects without moving them. In section 2, we introduce the basic theoretical background of this analysis. Sections 3-9 describe some of these ploys. Section 10 concludes the article.

2. Criterial Freezing and the Subject Criterion.

Rizzi 2003 observes that a phrase meeting a Criterion (= reaching a position dedicated to a particular scope-discourse interpretive property in the terms of Chomsky 2001), is frozen in place and resists further movement to a distinct and higher criterial position (Criterial Freezing). For instance, a wh-phrase satisfying the Q-Criterion in an embedded question cannot undergo further focus movement to the main clause as in (4b), an operation which is normally available in Italian, i.e., to the direct object in (3a).

- (3) a. Pensavo che avessero scelto la RAGAZZA, non il ragazzo
'I thought they had chosen the GIRL, not the boy'
- b. La RAGAZZA pensavo che avessero scelto ____, non il ragazzo
'The GIRL I thought they had chosen ____, not the boy'
- (4) a. Mi domandavo quale RAGAZZA avessero scelto, non quale ragazzo
'I wondered which GIRL they had chosen, not which boy'
- b. * Quale RAGAZZA mi domandavo ____ avessero scelto, non quale ragazzo
'Which GIRL I wondered they had chosen, not which boy'

So, criteria cannot be satisfied “in passing”. For instance, a complex phrase like [*quanti libri del quale*] ‘how many books by whomREL’ can’t be pied-piped from the complementizer system of an indirect question to a higher relative complementizer. Given an intermediate representation like (5),

- (5) Gianni, [____ C_R [non è ancora stato chiarito [[quanti libri del quale] C_Q [siano stati censurati t_{DP}]]]]
 ‘Gianni, it has not been clarified yet how many books by whom have been censored’

it is completely impossible to pied-pipe to the relative complementizer system the complex phrase satisfying the Q-criterion in the indirect question, as in (6b). Two other derivational options are available from (5): either the PP *del quale* is subextracted, yielding (6a), or the whole indirect question is pied piped to the relative C-system, as in (6c) (a marginal structure, as clausal pied-piping generally is in Italian).

- (6) a. Gianni, [del quale C_R [non è ancora stato chiarito [[quanti libri t_{PP}] C_Q [siano stati censurati t_{DP}]]]]
 ‘Gianni, by whom it has not been clarified yet how many books have been censored’
- b. *Gianni, [[quanti libri del quale] C_R [non è ancora stato chiarito [t_{DP} C_Q [siano stati censurati t_{DP}]]]]
 ‘Gianni, how many books by whom it has not been clarified yet have been censored’
- c. ?(?) Gianni [[[quanti libri del quale] C_Q [siano stati censurati t_{DP}]]] C_R [non è ancora stato chiarito t_{CP}]
 ‘Gianni, how many books by whom have been censored, it has not been clarified yet’

So, the following principle seems to hold:

- (7) Criterial Freezing: A phrase meeting a criterion is frozen in place.¹

¹ This statement should be sharpened to the effect that only the feature-bearing element is subject to criterial freezing. This formulation correctly rules in (6a). Moreover, subextraction in (6a) should be contrasted with preposition-stranding by wh-movement to a matrix Comp from e.g., an embedded topic position: (ib) cannot be derived from (ia) by wh-movement from the topic position.

- (i) a. I think that with this guy it would be interesting to exchange ideas.
 b. *Which guy do you think that with ___ it would be interesting to exchange ideas

(ib) is reminiscent of cases discussed in Postal 1972 and may be treated as a violation of criterial freezing, on the assumption that the DP is the source of both relevant criterial features in (i), Top and Wh. The DP satisfies the Topic Criterion in the embedded sentence and is blocked from moving to the matrix Q position.

Criterial Freezing may be thought of as a condition clearing an element from narrow syntax as soon as it has reached a position dedicated to scope-discourse semantics; as such, it has an economy flavor which makes it similar to other devices intended to minimize memory resources in syntactic computations.

The second ingredient we need to deal with ECP effects is a characterization of EPP in criterial terms. Rizzi 2003 proposes that classical EPP (“Clauses must have subjects”) can be advantageously reanalyzed as a Subject Criterion: the functional head Subj, distinct from and higher than T and other heads in the functional structure of the clause (Cinque 1999), attracts a nominal to its Spec and determines the subject-predicate articulation. Subj gives rise to the following configuration:

(8) [DP [Subj XP]]

Configuration (8) receives an interpretation paraphrasable as “About DP, I’m reporting event XP”. Subjects thus share an interpretive property of topics, the “aboutness” relation linking subjects and predicates as well as topics and comments. At the same time, subjects are distinct from topics in other respects: contrary to topics, subjects do not require D-linking, so that a Subject-Predicate structure can be uttered in out-of-the-blue contexts, while a Topic-Comment structure cannot, see Rizzi 2005b. Once the subject Criterion is introduced, the representations of (1a,b) become the following, for the relevant parts:

- (9) a. *Qui crois-tu [que [t_{qui} Subj va gagner]]?
b. Qui crois-tu [que [Paul Subj va aider t_{qui}]]?

(9a) is ruled out by Criterial Freezing, whereas no problem arises for object extraction in (9b), as there is no Object Criterion (that is, no object equivalent of classical EPP.)

This perspective on the subject-object extraction asymmetry provides a principled account of the immovability of subjects. Of course, the analysis must be modulated to account for the fact that languages do have ways of forming questions and other A’ constructions which target (embedded) subjects. Such strategies fall into two broad categories:

- A. Fixed subject strategies: The subject doesn’t move, it remains in its freezing position in Spec/Subj and a well-formed A’-construction involving the subject is obtained
1. with no movement at all (resumption),
or
 2. with movement of a larger constituent including the “frozen” subject (clausal pied-piping).

- B. Skipping strategies: The subject moves, but it is allowed to skip the freezing position and is extracted directly from its thematic position or from some other predicate-internal position.

The most straightforward case of strategy A is the use of a resumptive pronoun for A'-constructions involving embedded subjects; a familiar case of strategy B is subject extraction from a lower position in Italian and other Null Subject languages, with the Subject Criterion satisfied by expletive *pro*. We would like to argue that variants of this strategy are more widespread than traditionally assumed. In sections 3 and 4, we discuss the two basic cases of strategy A, and in the rest of the paper we address various strategies amenable to the general pattern B.

3. Unmovable embedded subjects: Resumptive pronouns in Hebrew relatives

Some subject-object asymmetries reported in the literature are not naturally amenable to classical ECP, but follow rather straightforwardly from a criterial freezing account.

A case in point is the following subject-object asymmetry in Hebrew restrictive relative clauses with resumptive pronouns, first discussed in Borer 1984:249-250: An object resumptive pronoun can appear either in-situ or be fronted to any higher topic or topic-like position in CP, but a subject resumptive pronoun can only remain in situ. Contrast the examples in (10) with those in (11) (resumptive pronouns in bold).

- (10) a. kaniti et ha-šulxan še xana amra še dalya ma'amina še Kobi
 (I) bought acc the-table that Hannah said that Dalya believes that Kobi
 raca **oto**.
 wanted him
 'I bought the table that Hannah said that Dalya believes that Kobi wanted.'

- b. kaniti et ha-šulxan še Xana amra še dalya ma'amina še **oto**
 (I) bought acc the-table that Hannah said that Dalya believes that him
 Kobi raca ____.
 Kobi wanted

- c. kaniti et ha-šulxan še xana amra še **oto** dalya ma'amina še
 (I) bought acc the-table that Hannah said that him Dalya believes that
 kobi raca ____.
 Kobi wanted

- d. kaniti et ha-šulxan še **oto** xana amra še dalya ma'amina še
 (I) bought acc the-table that him Hannah said that Dalya believes that
 Kobi raca ____.
 Kobi wanted
 'I bought the table that Hannah said that Dalya believes that Kobi wanted.'

- (11) a. kaniti et ha-šulxan še xana amra še dalya ta'ana še hu
 (I) bought Acc the-table that Hannah said that Dalya claimed that he
 ya'ale harbe kesef.
 will cost alot money

- b. *kaniti et ha-šulxan še xana amra še **hu** dalya ta'ana še ____
 (I) bought acc the-table that Hannah said that he Dalya claimed that
 ya'ale harbe kesef.
 will cost a lot money

- c. *kaniti et ha-šulxan še hu xana amra še dalya ta'ana
 (I) bought acc the-table that he Hannah said that Dalya claimed
 še ____ ya'ale harbe kesef.
 that will cost a lot money

'I bought the table that Hannah said that Dalya claimed that will cost a lot of money.'

The data in (10) were interpreted by Borer as evidence for the successive cyclic nature of wh-movement. The data in (11), however, posed a problem which she resolved by attributing to subject relative operators a language-specific lexical property.

In the approach developed in this article, a more general solution is available. We want to claim that (11b,c) are ungrammatical because the resumptive pronoun satisfies the Subject Criterion in Spec/Subj and is consequently frozen in this position. No problem arises for object topicalization (10), as there is no Object Criterion.

The complete picture is slightly more complex, though. There is no ban as such in Hebrew on subject relativization, as shown by the full acceptability of (12):

- (12) kaniti et ha-šulxan še xana amra še dalya ta'ana
 (I) bought acc the-table that Hannah said that Dalya claimed
 še ya'ale harbe kesef.
 that will cost alot money
 'I bought the table that Hannah said that Dalya claimed that will cost a lot of money.'

The grammaticality of (12) shows that Hebrew must possess some device for extracting a subject without moving it first to Spec/Subj, a device of the 'skipping' kind that we will discuss in section 6 below.

The question then arises why the mechanism operative in (12) is not available for the resumptive relatives of (11): why is the subject resumptive pronoun forced to move to Spec/Subj, where it gets frozen, while the null relative operator (or the relative clause head under a raising analysis: Vergnaud 1974, Kayne 1994, Bianchi 1999) can skip it?

We believe that the answer is provided in part by the weak nature of resumptive pronouns. Although Hebrew does not morphologically distinguish weak from strong pronouns (in the sense of Cardinaletti & Starke 1999 and related work, see Laenzlinger & Shlonsky 1997, Shlonsky 1997,) it can be plausibly argued that both the object and the subject pronouns in (10) and (11) are weak, since they can be associated with an inanimate relative head (strong pronouns being typically restricted to animate referents.) The status of weak pronoun is not per se incompatible with occurrence in the peculiar pronominal topic position involved in Hebrew resumptive relatives, as the object case shows, but we would like to argue that its weak character forces the subject resumptive to move to Spec/Subj, thus triggering the freezing effect.

Although (some²) weak subject pronouns are possible in postverbal position in Hebrew, as in (14b), they may not remain below adverbs such as 'usually' in a post verbal or inverted position, as in (14a). Compare with the freer distribution of full DP's in (13):

- (13) a. matai yocet be-derex klal Rina la-sadot?
when goes out usually Rina to-the fields
- b. matai yocet Rina be-derex klal la-sadot?
when goes out Rina usually to-the fields
 'When does Rina usually go out to the fields?'

² First and second person pronouns, for example, can only appear in a postverbal position under specific circumstances, see Doron 1988, Shlonsky 1997, 2000.

- (14) a. *matai yocet be-derex klal **hi** la-sadot?
when goes out usually she to-the fields
- b. matai yocet **hi** be-derex klal la-sadot?
when goes out she usually to-the fields
 ‘When does she usually go out to the fields?’

The positional constraints on weak pronouns are usually dealt with by assuming that a weak pronoun is licensed in a Spec/head configuration with a designated head, plausibly Subj for weak subject pronouns. So, subject weak pronouns must move to Spec/Subj to satisfy this requirement, and they can’t stay in the lower position under the adverbial in (14a). Ordinary subject DP’s do not have to meet this requirement, as shown in (13a). (The VS order in (14b) is presumably obtained by further leftward movement of the inflected verb, after the pronoun has moved to Spec/Subj; see Shlonsky & Doron 1992 and Shlonsky 1997.)

In conclusion, subject resumptive pronouns in Hebrew are weak pronouns. This is not per se incompatible with the pronominal topicalization found in Hebrew resumptive relatives, as the case of object resumptive relatives shows, but it forces subject resumptives to move to Spec/Subj, where they get frozen. Whatever designated licensing head there may be for weak object pronouns, it has no freezing effect, as there is no object criterion; relative operators (or moved relative heads) are not weak pronouns and can therefore skip the freezing position in cases like (12), through the technique(s) discussed later in this article.

4. Clausal Pied-Piping in Imbabura Quechua

Criterial Freezing precludes satisfaction of criteria “in passing”, so that the same element cannot satisfy two or more criteria in distinct positions. Sometimes, minimal use of already available mechanisms is made to rule in structures involving multiple criterial satisfaction without violating the freezing constraint. We have seen that clausal pied-piping can marginally solve the problem raised by the simultaneous satisfaction of Q and Rel Criteria by elements of the same complex phrase in Italian (section 2).

Imbabura Quechua (IQ) employs a similar strategy for solving the problem of subject extraction.³ Consider the contrast between object and subject extraction from an embedded clause. Object extraction can take two forms. The first is straightforward wh-movement to Comp, illustrated in (15) (see Cole & Hermon 1981 and Hermon 1984, from where the data is taken. See also Richards 2001.)

³ Thanks to Gabriela Hermon for discussion of the Quechua data in this section.

- (15) ima -ta -taj Maria -ka Juzi miku-shka -ta kri-n?
 what ACC Q Maria TOP José eat-NOMINALIZER ACC believe-AGR
 ‘What does Maria believe that José ate?’

Note that the *wh* object lands to the left of the particle *-taj*, which we assume realizes the criterial Q head.

The second strategy for *wh*-movement in IQ involves movement of the *wh* object to the embedded Comp system and subsequent pied-piping of the whole embedded CP to the left of the criterial head *-taj*.⁴

- (16) ima -ta wawa miku -chun -taj Maria kri -n?
 what ACC child eat FIN Q Maria believe-AGR
 ‘What does Maria believe (that) the child eat?’
 Lit. ‘[What the child eat] does Maria believe?’

In contrast to the object question, a *wh* question on the embedded subject can only utilize the pied piping strategy; compare the ungrammatical *wh*-extraction in (17a) and clausal pied-piping in (17b):

- (17) a. *pi -taj Maria -ka chayamu-shka -ta kri -n?
 who Q Maria TOP arrive-NOMINALIZER ACC believe AGR
 ‘Who does Maria believe (that) has arrived?’
- b. [pi chayamu-shka -ta -taj] Maria __ kri -n?
 who arrive-NOMINALIZER ACC Q Maria believe AGR
 ‘Who does Maria believe (that) has arrived?’
 Lit. ‘[Who has arrived] does Maria believe?’

The ungrammaticality of (17a) is immediately captured as a violation of Criterial Freezing: the *wh* subject moves to Spec/Subj to satisfy the Subject Criterion in the embedded clause, it is frozen there, and further movement is blocked. Since there is no Object Criterion, objects can be freely extracted out of IP, as in (15). The pied-piping option allows the subject to bypass criterial freezing (while remaining one of the two options available to objects.) In (17b), the whole embedded clause is pied-piped (recall that only the head and the specifier are frozen, but not the XP containing them: movement remains possible as long as the criterial configuration is not undone,) and moved to Spec/Q in the matrix clause. Both the Subject and Q criteria are thus satisfied without violating Criterial Freezing, much as the Q and Rel criteria in (6c).

⁴ This kind of pied-piping strategy is reminiscent of Basque, where some islands can be circumvented by pied piping the entire island (Ortiz de Urbina 1989; see also Richards 2000 on Japanese).

A question arises as to the categorial nature of the pied-piped constituents. In (16), the object is first moved to the embedded C system, and then the category containing it, the whole CP, is pied piped to the main C-system. The category pied-piped in (17b) would seem to be smaller than the one moved in (16). If the wh subject is frozen in Spec/Subj and the pied-piped phrase must have the wh element in its Spec, the pied-piped projection in (17b) would seem to be SubjP, rather than CP. This may be so: it is, after all, well-known that the size of the pied-piped constituent can vary considerably. On the other hand, movement of an IP-like constituent stranding C is rather unprecedented (and precluded, if IP-like constituents are not Phases in the sense of Chomsky 2001, and non-phase categories are unmovable, or at least inaccessible to long-distance movement). So, it is worthwhile to consider a (minimal) alternative to this analysis.

We have argued that subject raising to Spec/Subj is the only mechanism available in IQ to satisfy the Subject Criterion. This turns out to be too strong. Local wh-movement seems to be possible, as evidenced by (18). Since the subject wh precedes the Q head *taj*, it must have been moved.

- (18) pi -taj shamu -rka?
 who Q left AGR
 ‘Who left?’

How can this be reconciled with the Subject Criterion and Criterial Freezing? This is a particular case of the general issue of local subject movement to C, an issue we discuss at length in section 7, where we introduce a mechanism which enables local movement.

With respect to (17b), we can adopt this mechanism to allow local movement of the embedded subject to the embedded C system, except that the question feature in the embedded clause is not criterial (*believe* does not select for an indirect question), but the purely formal counterpart of Q in the sense of Rizzi 2003, namely, the formal feature which drives successive cyclic movement of wh operators to eventually reach the criterial Q position. That this is legitimate from the perspective of the Last Resort guideline is evidenced by the acceptability of (16) and more generally, by the crosslinguistic evidence for ‘internal movement’, in the sense of van Riemsdijk 1984 – the strategy of moving a wh operator to the edge of a pied-piped constituent, transforming it into a complex wh phrase. A case of legitimate internal movement in a familiar construction is the following: local movement of the wh expression to the edge of DP in (19b) is rendered legitimate by the interface effect of creating a complex operator which then moves to the criterial position. In the absence of this effect, such local, DP-internal movement violates the Last Resort guideline, (19c).

- (19) a. He’s prepared to buy [a [very expensive] car]
 b. [[How expensive] a t car] is he prepared to buy t?
 c. *He’s prepared to buy [[very expensive] a t car]

The local subject movement which makes the clausal pied-piping possible in (17b) seems to be of a similar kind.

5. Skipping Spec/Obj: Null Subject Languages

The second family of strategies for extracting subjects in A' constructions permit the thematic subject to skip the Spec/Obj position and obviate criterial freezing.

An obvious manifestation of such strategy is the filling of the criterial position with another element, e.g. an expletive. For instance, in English copular constructions, when a derivation reaches point (20),

(20) ...Subj is [what in the box]

if expletive *there* is inserted to satisfy the Subject Criterion, then the thematic argument *what* remains available for further movement, ultimately yielding (21b); if no expletive is used and *what* is raised to Spec/Obj in (20), further wh movement as in (21a) is barred by Criterial Freezing.

- (21) a. *What do you think that t_{what} is in the box?
b. What do you think that there is t_{what} in the box?

This, in essence, is the strategy used by Null Subject languages to avoid ECP violations with subject extraction, according to the analysis of Rizzi 1982: the insensitivity to complementizer-trace effects, illustrated by the well-formedness of (22a) in Italian, is explained by assuming a representation like (22b), with the preverbal subject position (in current terms, Spec/Obj) filled by *pro* and the wh subject extracted from the thematic (or some other low) position (see Rizzi 1990 for discussion and review of the cross-linguistic evidence for this analysis):

- (22) a. Chi credi che vincerà?
 'Who do think that will win?'
b. Chi credi [che [pro Subj vincerà t_{chi}]]
 'Who do you think that will win?'

In the original proposal, the expletive *pro* in Null Subject languages had the role of fending off an ECP violation by permitting subject extraction from a properly governed position. In the current framework,

expletive *pro* is instrumental in formally satisfying the Subject Criterion, hence in allowing the thematic subject to escape the effects of Criterial Freezing.

This analysis, and, more generally, the fact that expletives exist, raises an important question for the criterial approach. Why can an expletive satisfy the Subject Criterion? The very existence of expletives, originally taken as the major piece of evidence for the EPP, is also commonly interpreted as providing critical evidence against attempts to link the obligatoriness of subjects to some kind of special interpretive property associated to the subject position. As an expletive is devoid of interpretive (referential) content, the argument goes, the obligatoriness of subjects must be treated as a purely formal principle.

Nevertheless, the conclusion that expletive-like elements cannot be involved in the satisfaction of genuine criterial (scope-discourse) properties seems to be too strong. Consider, for instance, the so called “partial wh movement” construction, possible in colloquial German and several other languages:

- (23) Was glaubst du welchen Mantel Jakob heute angezogen hat?
‘What do you believe which coat Jakob put on today?’

According to one familiar analysis, (McDaniel 1989), the substantive wh phrase is moved to the embedded C system which is not criterial (a verb like *glauben* (believe) does not select an indirect question), while the Spec relevant for the Q Criterion is filled by an invariable expletive-like wh element *was* (‘what’), and acts as a kind of scope-marker for the substantive wh phrase. Under this analysis, partial movement looks like the A’ equivalent of an expletive construction in the A system. So, the use of expletive-like elements is not inherently incompatible with the system of Criteria.

True, the use of expletives seems to be more widespread in subject position than in A’ constructions, in that many languages lack any kind of partial A’ movement, while some form of overt or null subject expletive is presumably available in all languages. Still, this state of affairs is not difficult to understand if we think of the special status that the Subject Criterion must inevitably be assumed to have in the system of Criteria. The Subj layer defines a structural zone connecting the CP and the IP systems. As such, it may be assumed to share properties with both systems. The CP zone is specialized in creating dedicated positions to express scope-discourse properties, topicality, focus, scope of different kinds of sentential operators; such positions are formally optional, in the sense that they are activated in a structure when the discourse conditions and communicative intentions require them. Otherwise, they remain inert. On the other hand, a notable characteristic of the IP zone is obligatoriness, at least the obligatoriness of the heads forming the backbone of the ‘functional’ IP hierarchy; tense in the first place (Cinque 1999). So, we may think of the Subj layer as sharing properties of the two systems it connects: on a par with the CP system, it is dedicated to a scope-discourse property and on a par with the IP system, it is obligatorily expressed.

There is a certain tension between these two properties as formal optionality is characteristic of the expression of scope-discourse properties. We may think of expletives as a way to resolve this tension: when discourse conditions, communicative intentions or the thematic structure of the verb require a presentational structure, in which a certain event is not described as being “about” a certain argument, an expletive is used to formally satisfy the Subject Criterion. The interpretive systems, receiving a representation in which no argument is expressed in the aboutness position, interpret the structure presentationally.

The case of expletives is similar to many cases in natural language syntax, where a formal device has a core interface function and a somewhat larger domain of formal application. The device acquires, as it were, a formal life of its own, extending its scope beyond the core interface effects which functionally motivate it. One example of this mode of functioning is grammatical gender, extending from natural gender to an arbitrary classification of the entire nominal system in many languages. Other cases may include the obligatory focus position in Old Italian, which, according to Poletto 2005, can be filled with an expletive element when not used to express focus, and perhaps even the V2 constraint in Germanic can be looked at as a formal generalization of interpretively-determined Spec/head requirements. The linguistic representation of tense also manifests a formal life going beyond its core interpretative function: mathematical and logical truths are atemporal, nevertheless when we express them through language we don’t use an untensed sentence, but a sentence with unmarked tense, to comply with the formal requirement which makes T obligatory in syntactic structures. Similar considerations may hold for uses of the subjunctive, extending from core cases of irrealis to numerous other configurations.

The original analysis of subject extraction in Null Subject languages linked the apparent insensitivity to the that-trace effect to so called ‘free subject inversion’, namely, to the option of VS order. Both were taken to be contingent on the possibility of filling the preverbal subject position with expletive *pro* and leaving the thematic subject in a lower, predicate-internal position. In such a configuration, it was argued, the thematic subject is accessible to movement directly from this (properly governed) position.

A problem for this analysis was pointed out by Chao 1981, who observed that the process of inversion in Brazilian Portuguese is less free than in other Romance Languages, compare (24a) with its Spanish equivalent in (24b). Nevertheless, Brazilian Portuguese is insensitive to complementizer-trace effects, as in (25).

- (24) a. BP *(João disse que) saíram eles
- b. Sp (Juan dijo que) salieron ellos
‘J. said that left they’

- (25) BP Quem o João disse que vai chegar tarde ?
'Who J. said that is going to arrive late ?'

Chao argued that the apparent violability of the complementizer-trace effect is not necessarily contingent upon free inversion. Her alternative analysis was to assume a resumptive *pro* in subject position in structures like (25), an approach which would be consistent with the present framework: the case would reduce to another instance of the Fixed Subject Strategy A (see section 2).

Yet Menuzzi 2000 provides interesting evidence suggesting that in BP, as in Italian, wh extraction of the subject takes place from a position lower than what in our terms is Spec/SubjP. He observes that extracted wh phrases can launch floated quantifiers which can appear in different lower positions, but not in preverbal position. In terms of Sportiche's 1988 analysis of Q-float as Q-stranding, this suggests that subject extraction skips Spec/SubjP:

- (26) a. Que rapazes o Paulo desconfia que tenham beijado *todos* a Maria?
'Which boys Paulo suspects that have kissed all Maria?'
b. Que rapazes o Paulo desconfia que tenham *todos* beijado a Maria?
c. *Que rapazes o Paulo desconfia que *todos* tenham beijado a Maria?

Notice that BP has an expletive *pro*, as illustrated by the following constructions:

- (27) a. *pro* parece que o José passou por aqui.
'seems that J. came by here'
b. *pro* choveu a noite inteira
'rained all night'

So, it appears that the language can use the Italian strategy: the subject Criterion is satisfied by expletive *pro* and the thematic subject is extracted from a lower position. The impossibility of (24a) must, then, be due to some other factor. Belletti 2001, 2004 reanalyzes free subject inversion as subject focalization, which involves movement of the thematic subject to a low, predicate-internal focal position. The ungrammaticality of (24a) might then be related to the unavailability of this kind of subject focalization in BP. This option is partially independent from the insensitivity to complementizer-trace effects (but not completely unrelated,

the availability of expletive *pro* being instrumental for both properties). See Nicolis 2005 for a cross-linguistic appraisal of the issue along these lines.

6. Que-qui phenomena : the expletive approach.

The following paradigm illustrates the much-debated *que-qui* phenomenon in French. When the relativized element is the local subject, the complementizer obligatorily assumes the form *qui*, an option which is excluded when the relativized element is the object:

(28) a. *L'homme [Op que [t est venu]]
'The man que has come'

b. L'homme [Op qui [t est venu]]
'The man qui has come'

(29) a. L'homme [Op que [tu as vu t]]
'The man que you have seen'

b. *L'homme [Op qui [tu as vu t]]
'The man qui you have seen'

The phenomenon is not a specific property of the relative clause complementizer system. The alternation is observed with simple questions in varieties which allow the co occurrence of the *wh* element and the overt complementizer, such as Québec French:

(30) a. Qui que [tu as vu t]?
'Who que you have seen?'

b. Qui qui [t est venu]?
'Who qui has come?'

It is also observed in cases of subject extraction from an embedded clause, in relatives and questions, even though here the acceptability of the *qui* variant, as in (31b), appears to be dialect-specific, while straight subject extraction with *que* (31a) and non-subject extraction with *qui* (32b) are uniformly rejected:

(31) a. *Quelle étudiante crois-tu [t' que [t va partir]]?
'Which student do you believe that is going leave?'

- b. % Quelle étudiante crois-tu [t' qui [t va partir]]?
 'Which student do you believe QUI is going to leave?'
 (32) a. Quelle étudiante crois-tu [t que [Marie va aider t]]?
 'Which student do you believe that Marie is going to help?'
 b. *Quelle étudiante crois-tu [t' qui [Marie va aider t]]?
 'Which student do you believe QUI Marie is going to help?'

The analysis in Rizzi (1990), capitalizing on previous proposals by Taraldsen 1978, Pesetsky 1982, among others, ran as follows: *qui* is the “agreeing variant” of *que*; the wh element passing through the Spec/C can trigger agreement of C, which is morphologically manifested by the form *qui*:

(33) *qui* = *que*+Agr (Rizzi 1990)

In an ECP- based framework, the activation of agreement turns C into a proper governor for the subject trace. The agreeing form cannot occur with object movement, as in (32b), because, if the Spec of an agreeing head is (of the same type as) an A position, the chain (t, t') in (32b) crosses another A position, the subject position, in violation of Relativized Minimality.

This analysis is rather straightforward, but it has to face a problem of morphological plausibility: given the nominal or verbal morphological expression of Phi features found elsewhere in French, it is not very plausible to think of *-i* as an agreement marker, as nothing similar appears in the verbal or nominal agreement paradigms. A similar objection can be raised against an agreement analysis of the analogous *dat – die* alternation in West Flemish, Bennis & Haegeman 1984, Haegeman 1992, with the aggravating factor that a genuine agreeing form of the C system is found in the language, giving rise to a completely different morphological alternation (*dat – dan*, the latter form expressing plural agreement with the subject).

Taraldsen 2001 proposes a different approach to *qui* which has more morphological plausibility. He argues that the form should be analyzed as *que* + *-i*, where *-i* is an expletive-like element akin to the standard French expletive *il*, which appears with weather verbs, in subject extraposition and presentational sentences in French, as in (35).

(34) Taraldsen (2001): *qui* = *que*+Expl

- (35) Il est arrivé trois filles
'It arrived three girls'

Under this analysis, the *que-qui* alternation is immediately traceable to the analysis of Null Subject languages, except that here it is the overt expletive *-i*, not *pro*, which fills the subject position and permits extraction of the thematic subject from a lower position (either the thematic position *t*, as *venir* is an unaccusative verb, or some higher position *t'* in the functional structure). In our terms, *-i* satisfies the Subject Criterion in (36), hence it allows the relative operator corresponding to the thematic subject to be moved to the relevant position in the left periphery :

- (36) L'homme Rel Op qu'[-i Subj est t' venu t]

As for the impossibility of *qui* with object extraction, sentences like (32b) are simply not derivable because the structure does not provide enough room for the expletive *-i* and the subject DP. This analysis is immediately compatible with the Criterial Freezing approach, and in fact it reduces the French case to a variant of the device used in Null Subject languages.

Nevertheless, the analysis expressed by (36) must be refined, as there are a number of significant differences between *il* and *-i* which make a complete assimilation of the two impossible.

1. Number agreement

Il has its own number specification, singular, which triggers agreement on the verb (whether or not the nominal associate is moved,) as in (37a-b), while *-i* is compatible with whatever number specification the thematic subject has, as in (38) :

- (37) a. Il est (* sont) arrivé trois filles
'It is (are) arrived three girls'
- b. Combien de filles est-ce qu'il est (*sont) arrivé?
'How many girls is it that it is (are) arrived?'

- (38) Les filles qui sont arrivées
'The girls qui are arrived'

2. Definiteness and no TEC:

Expletive *il* requires an indefinite associate, and is limited to occur with specific verb classes. It occurs most naturally with unaccusative verbs, it has an intermediate status with unergative verbs and it is excluded with transitive verbs (i.e., French disallows the Transitive Expletive Construction):

- (39) a. Il est arrivé une fille / *la fille
'It arrived a girl / the girl'
- b. ?(?)Il a téléphoné beaucoup d'étudiants
'It telephoned many students'
- c. *Il a acheté ce livre une fille
'It bought this book a girl'

-i, on the contrary, is compatible with a definite associate (at least in the sense that the head of the relative clause can be definite), and is not sensitive to any verb-class restriction:

- (40) a. La fille qui est arrivée
'The girl qui is arrived'
- b. La fille qui a téléphoné
'The girl that telephoned'
- c. La fille qui a acheté ce livre
'The girl qui bought this book'

3. Position.

Il, both referential and expletive, must be adjacent to the inflected verb.

- (41) a. *Il, la semaine prochaine, partira en Italie
'He, next week, will leave to Italy'
- b. *Il, la semaine prochaine, viendra trois filles
'It, next week, will come three girls'

- c. *Je crois qu'il, la semaine prochaine, partira en Italie/viendra trois filles
'I believe that he/it, next week, will leave to Italy / will come three girls'
- d. Je crois que, la semaine prochaine, il partira en Italie / viendra trois filles
'I believe that, next week, he/it will leave to Italy / will come three girls'

-i, on the other hand, can be separated from the inflected verb by an adverbial, whereas it must remain agglutinated to *que*:

- (42) a. L'homme qui, la semaine prochaine, partira en Italie
'The man qui, next week, will leave to Italy'
- b. *L'homme que, la semaine prochaine, -i partira en Italie
'The man that, next week -i will leave to Italy'

The last set of observations is particularly revealing as to the impossibility of fully assimilating *il* and *-i*. *-i* clearly occupies a higher position than *il*, since it precedes adverbs and forms a word with the complementizer.

This positional property may also be responsible for *-i*'s insensitivity to verb classes. *Il* is a clitic hosted in the inflectional system, presumably externally-merged in a position sufficiently low to make the insertion sensitive to the lexical properties of the verb. *-i*, however, may be thought of as a weak, clitic-like pronominal element externally-merged in the complementizer system, too high in the structure to be sensitive to verbal properties. More precisely, we would like to propose that *-i* is externally merged under *Fin*, the lowest head of the complementizer system (Rizzi 1997), as a particular, nominal realization of this head. As such it can precede a fronted adverbial in (42a), which, following Benincà 2001 and Benincà & Poletto 2004, we assume can be positioned in the higher part of the IP system.

Not only do *il* and *-i* vary positionally, they also differ in inherent constitution. *Il* is intrinsically marked as [-Pl], whereas *-i* has an unvalued number feature which is valued when the subject moves to its Spec. Straightforward morphological evidence for the postulation of such a number feature is provided by the substandard variety of French, discussed in Laenzlinger 1997, in which the 'plural' *qui* is pronounced *qui[z]* in liaison contexts, i.e., it carries the standard plural morpheme [z] of the French nominal system:

- (43) Moi, qui ai fait ça
- Toi, qui as fait ça
- Lui, qui a fait ça

Nous, qui[z] avons fait ça
 Vous, qui[z] avez fait ça
 Eux, qui[z] ont fait ça
 ‘I, you, he,... qui have/has done this’

We take $-i$, therefore, to be listed in the French lexicon with the following specification:

(44) $-i$: [+Fin], [+N], [α PI]

Let us now consider how *qui* can permit subject movement and extraction. Consider the derivation of *L’homme qui va partir*, ‘the man qui is going to leave’, starting at the level at which the thematic subject, here a relative operator, has been moved to Spec/Agr (or whatever head takes care of the Case-agreement properties), and the Subj head is merged as an obligatory component of the clausal structure:

(45) Subj [Rel Op Agr [va [t partir t]]]

At this point, if the relative operator is moved to Spec of Subj, it would satisfy the Subject Criterion there and would be stuck in that position under Criterial Freezing; it could never reach the criterial position for relative operators in the left periphery and the structure would crash. But the derivation can continue on from (45) by directly merging the next higher head in the clausal structure, Fin, which can be selected in its ‘nominal’ variant, $-i$:

(46) Fin _{$-i$} [Subj [Rel Op Agr [va [t partir t]]]]

Here, $-i$ is a nominal element in a local configuration with Subj; as such, it satisfies the Subject Criterion (the configuration is not Spec-head here, but head-head, see below.) The relative operator, therefore, does not move to Spec/Subj, as the Subject Criterion is already satisfied by $-i$, and remains available for movement to the position where the Relative Criterion must be satisfied in the left periphery; we will further assume that, on its way to the relative position, the operator passes through Spec/Fin in order to value the number feature on $-i$. We thus obtain (47).

(47) L’homme [Rel Op que [t’’’ Fin _{$-i$} [Subj [t’’ Agr [va [t’ partir t]]]]]]

A similar analysis can be proposed for the dialect-specific case of *que-qui* which permits subject extraction from an embedded declarative, as in (31b): *Quelle étudiante crois-tu qui va partir?*

- (48) a. Subj [quelle étudiante Agr [va [t partir t]] →
 Fin_i is merged and satisfies the Subj Criterion →
- b. Fin_i Subj [quelle étudiante Agr [t' va partir t] →
 the wh phrase moves to Spec/Fin_i and values the number feature →
- c. Quelle studiante Fin_i [Subj [t'' Agr [t' va partir t]] →
que is merged, the main clause structure is merged, and then wh moves to the main clause C
 system →
- d. Quelle étudiante crois-tu [que t''] [Fin_i [Subj [t'' Agr [t' va partir t]]

As for the variation on the judgment on (48d), it can be assumed that the selection of *-i* is generally available in the relative C-system, while the extension of this option to a declarative C-system is dialect-specific (see section 8 for further discussion).

One important property of *que-qui* is the fact that it is only triggered when the (local) subject is moved. Object movement is incompatible with it:

- (49) *Quelle étudiante crois-tu qui Marie va aider t?
 'Which student do you believe qui Marie will help?'

Consider the relevant derivational stage, when the nominal Fin head *-i* is merged immediately above the Subj layer, where it satisfies the Subject Criterion:

- (50) Fin_i Subj Marie Agr [t va aider quelle étudiante]

At this point, the number feature in *-i* must be valued by attracting a nominal element. But the nominal cannot be the thematic subject, *Marie*: if it was attracted to Spec/ Fin_i, it would end up in a non-criterial position, in violation of movement as last resort (in this configuration, Fin_i and Subj are the two elements involved in criterial satisfaction; Spec/ Fin_i is not.) The wh object would not run into that problem: as a wh element, it would eventually move to a criterial position, a Q position in the main complementizer system. But the object cannot be attracted to Spec Fin_i in (49), if the attractor is the unvalued number feature, because of locality / Relativized Minimality. The closest potential attractee in (49) is the subject, *Marie*. So, no grammatical output is derivable from (49), and the only case in which selection of *-i* in Fin can lead to a well-formed structure is when the wh element is the local subject.

Along similar lines, one can exclude selection of *-i* when no A' movement to the left periphery takes place :

- (51) *Je crois qui Marie va aider l'étudiante
'I believe qui Marie will help the student'

Here *Marie* cannot be attracted to Spec/Fin_i for the same reason as in (50): the DP would end up in a non-criterial position, (**je crois Marie qui va aider l'étudiante* in the interpretation "I believe that Marie will help the student" is ruled out by the last resort principle), and if no attraction takes place, the number feature on *-i* would remain unvalued, and the derivation would crash.

It should be remembered here that in the system of Chomsky 2001, the valuation of an unvalued feature does not necessarily require movement: it can be implemented through a simple probe-goal AGREE relation. AGREE is a necessary prerequisite for movement in that system, but does not require movement to take place. So, couldn't the valuation of [PI] in *-i* be achieved by AGREE with the subject without movement of the latter, a derivational option which would incorrectly permit a structure like (51)?

We can observe, in this connection, that in some clear cases, feature valuation does indeed require movement. It is so in the case which provided the empirical basis for the first detailed model of a generative theory of agreement, French past participle agreement, (Kayne 1989). The participle cannot agree with the object in situ (as in (52a)), nor can it just attract the object to its Spec as in (52b), a derivation which would violate the Last Resort guideline on movement, because no scope-discourse interface effect is associated with the participial specifier. Agreement is possible when the object must move for independent reasons to a higher position, and triggers participial agreement in passing:

- (52) a. *Jean a repeinte la chaise
'Jean has repainted the chair'
- b. *Jean a la chaise repeinte t
'Jean has the chair repainted'
- c. La chaise que Jean a t' repeinte t
'The chair that Jean has repainted'

In some cases, UG clearly requires that the valuation of an unvalued feature be executed via movement. It could be the case that movement is always required, or that it may be required or not, as a matter of parameterization. A plausible case of valuation via pure AGREE, without movement, for a feature in the C system may be the phenomenon of number agreement of C with the subject which is observed in various

Germanic varieties (Haegeman 1990, 1992, Carstens 2003.) In any event, as in some clear cases valuation requires movement, we may assume that this mechanism is involved in $-i$ valuation, so that the observed structural properties follow.

The core of our analysis of *que-qui* is the assumption that $-i$ in Fin can satisfy the Subject Criterion. This is not literally compatible with the format for criteria assumed in Rizzi 2003 and repeated here for convenience:

(53) For [+F] a criterial feature, X_{+F} is in a Spec-head configuration with A_{+F} .

Fin_i is not in a Spec-head configuration with Subj in (46). Rather, it is the immediately superordinate head to Subj in the clausal hierarchy. So, what we need is a more general characterization of the criterial configuration, one which encompasses both Spec-head and local head-head configurations. What the two configurations have in common is locality: nothing intervenes between the criterial head Subj and the element which satisfies the criterion, be it a Spec or a head. We can therefore restate (53) as follows:

(54) For [+F] a criterial feature, X_{+F} is locally c-commanded by A_{+F} .

A final problem that must be addressed by the analysis of *que-qui* is raised by contrasts like the following, which we introduced earlier as providing critical evidence for the different positions of $-i$, and *il*:

- (55) a. L'homme qui, la semaine prochaine, partira en Italie
 'The man who, next week, will leave to Italy'
- b. *Il, la semaine prochaine, partira en Italie
 'He, next week, will leave to Italy'
- c. La semaine prochaine, il partira en Italie
 'Next week, he will leave to Italy'

The problem is this : if $-i$ and *il* occupy different positions, one necessarily higher and the other necessarily lower than the adverbial phrase, how can they both satisfy the Subject Criterion ? The possibility that $-i$ may satisfy the Criterion in the same position as *il*, and then raise to Fin across the adverbial element is precluded, given Criterial Freezing.

The first relevant observation here is that a lexical subject can occur to the left of the adverbial in such structures as (56).

(56) Jean, la semaine prochaine, partira en Italie
'Jean, next week, will leave to Italy'

So there must be a way to satisfy the Subject Criterion from that position, and this way may be used in (55a) as well. The problem now reduces to accounting for the contrast between (55b) and (56). Such pairs are discussed by Cardinaletti 2004 as providing evidence for (at least) two subject positions in the higher part of the inflectional field, i.e., in informal notation,

(57) Subject1 - Adverbial - Subject2 - Agr

French subject clitics (and other kinds of weak pronouns) are specialized to occur in Subject2, while nonpronominal DPs can occur in either Subject1 or Subject2.

From our perspective, there can only be a single criterial Subj position (although there are surely a number of distinct positions which house subjects, see, e.g., Shlonsky 2000.) We therefore propose that in this subfield in-between the CP field, demarcated by Fin, and the IP field, classically assumed to be closed by the Agr-T system, the two heads Subj and Mod (attracting to its Spec a highlighted adverbial, Rizzi 2001, 2004) are freely ordered (much as, say, Mod and Top appear to be freely ordered in the left periphery). So, (56) must really be split into the two cases arising from the ordering options :

(58) a. Subj [AdvP Mod [Agr

b. AdvP Mod [Subj [Agr

In section 3, we exploited the requirement that weak subject pronouns must move to Spec/Subj in order to explain the freezing (in particular, the non-topicalizability) of Hebrew resumptive pronouns. French subject clitics are subject to a more stringent requirement – they must, in addition, end up in a position adjacent to an Agr specification (Cardinaletti & Starke 1999). This restricts their occurrence to configuration (58b) (if Agr locally raises to Subj, the weak pronoun in cases like (54c) would be in a Spec/head configuration with a head bearing Agr). Configuration (58a) is precluded for French subject clitics, as Agr is too far away (Agr to Subj being presumably blocked here by the intervening Mod head, under the Head Movement Constraint); but the configuration would be accessible to other kinds of subjects, as in (56). The nominal Fin strategy (clearly not a 'subject clitic' in the same sense as *il*, etc.) would exploit (58a), along the lines we have discussed.

7. Local Subject Questions.

How can one derive local subject questions such as (59a,b)?

- (59) a. Who came?
b. Qui est venu?

It is sometimes assumed that the *wh* subject does not move to the C-system at all and remains in subject position, Spec/SubjP in our terms. If this is so, local subject questions don't raise any particular problem for our approach: the Subject Criterion is satisfied and Criterion Freezing is operative, as in simple declaratives.

We find this line of analysis dubious on various grounds, though.

First of all, if the normal scope site of *wh* elements is in the C-system of the clause (i.e., we typically don't find moved *wh* elements in the periphery of the vP system or in some other position in the inflectional system), subject questions would be an exception.

Second, in languages with an overt Foc or Q head, subject *wh* elements are overtly moved to the Spec/Foc, on a par with other *wh* elements (e.g., in Gungbe, the order is *who Foc came*, see Aboh 2004; or see the Imbabura Quechua example (18).)

Third, in languages in which the *wh* element can (or must) co-occur with an overt complementizer, we typically have the sequence *wh*-subject – complementizer. This demonstrates that *wh* movement to the left periphery has taken place.

- (60) Brazilian Portuguese: Quem que vai chegar?
'Who que came?'

Fourth, Null subject languages provide direct evidence that also in local movement the subject is moved directly from a predicate internal position to the left periphery, without passing through Spec/Subj (a position filled by expletive *pro* in our analysis). All the evidence supporting movement from a postverbal position with subject extraction (*ne*-cliticization, agreement patterns, etc.: Rizzi 1982, 1990,) extends to the case of local movement. If UG permitted *wh* elements to remain in the IP-initial subject position in simple subject *wh* questions, it would not be clear why Null Subject languages could not use this option and had to resort to movement from a lower position to the left periphery.

Fifth, subject questions are possible in indirect questions (*I wonder who came*). Under the IP analysis of (59), it would not be clear how to state selectional requirements in full generality (verbs like *wonder* should sometimes select a CP, sometimes an IP).

For these reasons, we will assume that the *wh*-element must be extracted from IP in cases like (59) and moved to the C-system, the natural scope domain of *wh*-operators. But if this is correct, how can it satisfy the Subject Criterion and escape the effect of Criterial Freezing, which would freeze it in Spec/Subj?

The dialectal varieties of French overtly manifesting *que-qui* in simple main questions directly show that the nominal Fin strategy may be used for local subject movement as well, as in (61b):

- (61) Québec French
- a. Quel garçon que tu as vu?
which boy QUE you have seen
'Which boy have you seen?'
 - b. Quel garçon qui est venu?
which boy QUI has come
'Which boy has come?'

So, one approach that this observation immediately suggests is that languages may use a variant of the quasi-expletive Fin device with no overt morpho-phonological effects for local subject movement. In other words, it could be that Standard French (59b) and Québec French (61b) have in essence the same representation, except that standard French has an unpronounced occurrence of *qui*. In turn, this difference could be connected to the language-specific sensitivity to “doubly filled C” effects, permitting or excluding the occurrence of overt C material with an overt *wh* operator. Quebec French permits this option, as (61a) shows, while Standard French does not. Remember that Standard French can use an overt *qui* with local subject movement in relatives like (28b), where the Spec is filled by a null operator, or, with dialectal variation, in cases of extraction from a declarative like (31b), where the Spec is a trace: in these cases, the *wh* element is not pronounced (not locally, at least), hence the nominal Fin manifesting *-i* can be pronounced in compliance with the doubly filled C constraint. In local questions, where the operator is an overt *wh* element, an overt *qui* is banned. Our proposal is that here the language resorts to the null variant of the nominal Fin. In French subject relatives and in extraction from embedded questions, Fin cannot be null due to the requirement that embedded finite clauses express the C-system in French. In order to comply with this requirement, the language always resorts to the overt nominal Fin in this context, and *qui* is always pronounced.

Even Standard French has an overt reflex of the *que-qui* alternation in simple *wh* questions: the complex *wh est-que* form, whatever its exact analysis, appears to be immune from doubly-filled C effects and manifests an alternation between *est-ce que* and *est-ce qui*:

- (62) a. Quel garçon est-ce que tu as vu?
Which boy est-ce que you have seen
- b. Quel garçon est-ce qui est venu?
Which boy est-ce qui has come

So, the hypothesis that simple subject questions in standard French may involve a null *qui* strategy is made immediately plausible by a comparative analysis with regional varieties and related constructions, where an overt *qui* actually appears. The choice between the overt or null variant of Fin endowed with the required nominal qualities seems to be by and large determined by the status of the doubly filled C constraint in the particular variety.

Going back to the derivation of local subject questions (59a,b), and directly extending the analysis to English, let us go through the relevant derivational steps, starting from the merger of Subj with the rest of the clause:

- (63) Subj [... [wh_{subj} ...]]

If, at this point, the *wh* subject is internally merged (moved) into Spec/Subj, the Subject Criterion is satisfied but the element is frozen in place, hence it will be unable to reach its scope position in the C-system.

Suppose that normal Fin is directly merged with structure (63), without any movement to Spec/Subj:

- (64) Fin [Subj [... [wh_{subj} ...]]]

The Subject Criterion is evidently not satisfied in (64) and the structure is doomed. But we have another option, namely that of externally merging Fin endowed with the relevant nominal quality and unvalued Phi features (henceforth Fin+Phi), with (63), yielding the following:

- (65) Fin+Phi [Subj [... [wh_{subj} ...]]]

The Subject Criterion is now satisfied by Fin+Phi, much as in the French *qui* case (remember that we have defined the criterial configuration in a way that encompasses local head –head relations, see (54).) The *wh*-

element corresponding to the thematic subject is now free to move to its final scope position, presumably the Spec of the Focus head endowed with Q in the left periphery. This movement takes place with an intermediate transit through Spec/Fin to value the Phi features on this position, much as in the derivation of French sentences with overt *qui*. We thus end up with the following representation:

(66) Who Foc [t' Fin+Phi [Subj [t]]]

So, Fin+Phi offers a kind of bypassing device for the thematic subject, by satisfying the Subject Criterion in an interpretively vacuous manner (in fact like an expletive), and allowing the thematic subject endowed with the wh (or some other A') feature to move higher.

One significant consequence of this analysis is that simple subject questions involve direct movement from a lower, predicate internal position, even in languages like French, in a manner at least partially analogous to the one proposed for Null Subject languages over twenty years ago (modulo the unavailability of *pro* and the role of Fin in these languages).

It is natural to extend this analysis to English, even though the comparative evidence across dialects and related constructions which makes the proposal immediately plausible for French is not available. Indirect evidence for this analysis can be found for English as well, though. McCloskey 2000 provides an interesting argument in support of the view that in local subject questions in English, the wh subject does not transit through its canonical IP-initial position. He studies a variety of regional English spoken in West Ulster in which wh elements are allowed to launch floated quantifiers. These question formed in this manner differ from normal wh questions in "...implicating that the answer is a plurality and in insisting on an exhaustive, rather than a partial, listing of the members of the answer set" (McCloskey. Op.cit., p. 58). The quantifier can be stranded in first (external) merge position, as in (67c), or in the position of an intermediate trace, as in (67b):

- (67) a. What *all* did he say (that) he wanted? (West Ulster English: McCloskey 2000)
 b. What did he say *all* (that) he wanted?
 c. What did he say (that) he wanted *all*?

Subject questions can also launch a floated quantifier, which may appear after the verb-object sequence, an order that McCloskey interprets as manifesting the external merge position of the subject, followed by scrambling to the left of the V-object constituent:

(68) Who was throwing stones *all* around Butchers' Gate?

What makes this option especially relevant to our discussion is that this Q float structure is not possible with an ordinary, non-wh subject:

(69) *They were throwing stones *all* around Butchers' Gate

The ill-formedness of (69) is not particularly surprising; it is just a particular case of the general fact that a floated quantifier cannot be stranded in first-merge position, i.e., the quantifier cannot be stranded in object position with an unaccusative or passive structure:

- (70) a. *The students left all
b. *The students have been contacted all (by the advisor)

Something like condition (71) seems to hold of quantifier float:

(71) In subject chains, floated Q's can't be stranded in first-merge (thematic) position.

The nature of this generalization is not clear, but the facts support the conclusion that a subject chain is not formed in the course of the derivation of (68). In other words, in the derivation of (68), *who* does not pass through the subject position occupied by *they* in (69). If it did, the two structures would be indistinguishable for the relevant part, and the contrast between them would remain unexplained. If, on the other hand, the subject wh does not transit through Spec/Subj, as we have been arguing, and is moved to the left periphery from a lower position, possibly from its first merge position, constraint (71) does not apply to case (68), and the contrast is captured.⁵

We should now make sure that the proposed 'bypassing' system does not overgenerate. For instance, one should not be able to freely generate subjectless sentences by formally satisfying the Subject Criterion through Fin+Phi in the absence of movement.⁶

(72) *Bill said that seems that Mary is sick

So, the system should be able to rule out a configuration like the following:

(73) *Fin+Phi [Subj seems that ...]]

⁵ Holmberg & Hroarsdottir 2004 develop a different kind of argument in support of the view that subject wh movement does not pass through the EPP position.

⁶ The impossibility of a null expletive structure of this sort should be evaluated in an embedded context (like the one in (72)) because registers of spoken English allow 'Root Expletive Drop' of the kind analyzed in Rizzi 2005a.

Clearly, the expletive-like function of Fin+Phi must be tied to subject extraction, a problem which we have already addressed in connection with French *qui*. We can envisage the same solution: the Phi features in Fin are unvalued in Chomsky's (2001) sense, and valuation is achieved when the local subject moves to Spec/Fin, on its way to its final criterial landing site in the left periphery. Cases like (73) are therefore excluded because Phi in Fin remains unvalued in the absence of movement.

Consider now the case in which a wh element different from the local subject moves to the left periphery of the main clause, e.g., an embedded clause subject or object. Why couldn't these elements pass through the matrix Spec/Fin+Phi and value Phi, thus yielding an ungrammatical subjectless sentence:

- (74) a. *Who Foc t' Fin+Phi Subj seems (that) Bill met t?
 b. *Who Foc t' Fin+Phi Subj seems (that) t met Bill?

Again, the point is analogous to the impossibility of licensing *-i* in French through any movement other than that of the local subject. If positions defined by agreement in Phi features are A positions, Rizzi 1990, the chain link terminating in t' is a link of type A. (74a,b) are thus excluded by whatever principle(s) proscribe the continuation of an A chain from a tensed complement:

- (75) a. *John seems (that) Bill met t
 b. *John seems (that) t met Bill

The 'expletive capacity' of Fin+Phi is thus made entirely contingent on movement of the subject, as desired.

8. Subject extraction across a null C and the *for-trace effect.

Consider a successful case of subject extraction from an apparently C-less embedded clause in English and other Germanic languages:

- (76) Who do you think came?

If we extend the 'silent' Fin+Phi idea discussed in connection with local subject movement to this case, (76) would have the following representation (irrelevant traces and other details omitted; see section 9 for further discussion on the complete C-structure in this case):

- (77) Who do you think [t' Fin+Phi [Subj [t came]]]?

Suppose that Fin+Phi is merged directly after Subj, formally satisfying the Subject Criterion. The wh element corresponding to the thematic subject then moves to Spec/Fin+Phi to value the unvalued features on this position, and then it is extracted to the main clause. Criterial Freezing raises no problem here, as the element satisfying the Subject Criterion in the embedded clause is the Fin+Phi head, so that the thematic subject remains available for extraction.

This approach is very close to the Agr in C approach of Rizzi (1990), according to which an Agr (Phi) morpheme “properly governs” the subject trace in the highest Spec position in the IP structure, satisfying the ECP. The two approaches differ in the presence vs. the absence of a subject trace in the clausal subject position (Spec/Subj, in current terms), and in the role of the device permitting subject extraction: In the old approach, the role of Agr in C was to provide a “proper governor” for the subject trace, so that the ECP could be satisfied; in the new approach, the role of Fin+Phi is to provide an expletive-like element to formally satisfy the Subject Criterion, so that the thematic subject can avoid the effect of Criterial Freezing.

A definite advantage to the new approach is that it immediately explains *for-trace effects:

(78) *Who would you prefer [for [t_{who} Subj to win]] ?

This case is notoriously problematic for an ECP approach as the prepositional complementizer clearly governs the subject DP in a GB-type analysis (it licenses Case on the subject, it precludes PRO, etc.), so that the artificial distinction between ‘government’ and ‘proper government’ must be invoked. The analysis is rendered even more problematic by the fact that the minimally different preposition *for* normally allows preposition stranding, hence must function as a “proper governor”: *Who did you work for t?*

The Fin+Phi approach fares better here. The complementizer *for* plausibly retains the categorial status of a preposition, hence it lacks the nominal featural endowment which qualifies an element to be a candidate for satisfaction of the Subject Criterion. The only way to satisfy the criterion is then to move the thematic subject to Spec/Subj, where it gets frozen, whence the impossibility of (78). Extraction of the complement of the preposition *for* is not problematic because no Subject (or other) Criterion is involved.

One may object that P seems to be able to carry Phi features in some languages (see, e.g., agreeing prepositions in Celtic, McCloskey & Hale 1983,) so one could imagine a *for*+Phi able to satisfy the Subject Criterion, much as Fin+Phi in (77). Why is this option excluded? The requirement that the element satisfying the subject criterion be endowed with Phi is, in a sense, a corollary of the substantive requirement that the subject be a nominal element. Remember that we have assumed that the element satisfying the Criterion must be [+N]. Fin may normally satisfy this requirement, but the particular realization of Fin as *for* can not if the complementizer *for* retains the specification [-N] of the preposition *for* (this is plausible, as it retains the

Case-assigning capacity of the preposition). As a [-N] element, *for* in Fin cannot function as a quasi-expletive in the proposed way, hence it does not help to satisfy the Subject Criterion in (78), and subject extraction is impossible.

9. That-trace

Consider now a standard *that*-trace effect. The empirical assumption made by the traditional analysis is that the *that*-trace configuration should be banned in general. Nevertheless, Sobin 1987, 2002, among others, argues that the ban against this structure is dialect-specific, and provides evidence to the effect that subject extraction over *that* is acceptable in some varieties of English.

(79) %Who did you say that t_{who} came?

From this viewpoint, the *that*-trace configuration in English is analogous to the *qui*-trace configuration in cases of embedded subject extraction in French ((31b), etc.), which also appears to manifest variable acceptability across dialects. The analogy is further strengthened by the fact that just as *qui* is invariably acceptable in subject relatives in French (*l'homme qui est venu*), *that* is invariably acceptable in subject relatives in English.

(80) The man that came

It seems, therefore, that the invariably acceptable strategy in subject relatives (*qui*, *that*) may, with dialectal variability, be extended to subject extraction from embedded declaratives.

Starting from the restrictive variety of English which excludes (79), we must capture the fact that the overt complementizer *that* is incompatible with the Fin+Phi strategy. Consider the following possibility. *That* expresses both finiteness (it is incompatible with non-finite IP's) and (declarative) Force, so if the complete CP system involves the structure,

(81) Force Fin IP

the normal derivation of a *that* clause is one in which *that* is first merged in Fin, to express finiteness, and then moves to Force to check the Force feature (the result, from our perspective, would be the same if *that* expressed both properties syncretically, as in Rizzi 1997, Shlonsky 2006). So, we end up with a representation like the following:

(82)	Force	Fin	IP
	that	t _{that}	

Under the natural assumption that expletive and argument functions cannot be performed by the same element, *that* in (82) cannot simultaneously be the head of the declarative - a clausal argument - and function as an expletive-like surrogate subject to formally satisfy the Subject Criterion.

What about the varieties in which (79) is possible? Pursuing the analogy with French, we entertain the hypothesis that these varieties may separate Force and Fin, much as French *que* and *-i*: Fin is expressed by our quasi-expletive nominal filler endowed with unvalued Phi features (always silent in English), and *that* is merged higher up (expressing force and presumably also carrying a finiteness feature which is checked under Agree with Fin):

(83)	Force	Fin	IP
	that	Phi	

Here, the functions of head of the clausal argument and of quasi-expletive are performed by separate elements, and no conflict arises.

Such a system is invariably available for subject relatives, presumably because of the functional need to have a device to express relatives on all major argument positions, subjects in the first place. What is dialect-specific in both English and French is the possibility of extending the strategy involving a more complex C-system from the domain of subject relatives to that of subject extraction from embedded declaratives.

We can now go back to the structure involving subject extraction with a null C in English, (77), and sharpen the analysis proposed in section 8. Since such sentences are uniformly acceptable across dialects, it is unlikely that they may simply involve an unpronounced variant of the complex-C strategy of (83). If (77) were modeled on (83) - modulo a silent *that* - we would expect a variability of judgments, parallel to what Sobin describes for (79).

A more promising possibility is that finite declaratives lacking an overt C in English do not involve a complete Force-Fin structure, but a reduced, or ‘truncated’ one. Suppose that there is no structurally-expressed Force head in structures with so called ‘C-deletion’, and that the declarative interpretation is assigned by default, much as in ECM clauses, in which the C system is radically absent and the embedded clause is interpreted as a declarative. So, if (77) is truncated at Fin, no conflict arises in the role(s) of Fin, and the quasi-expletive nominal Fin strategy can be deployed, as discussed in section 8.

Treating C-less sentences as truncated structures raises another more radical possibility. One could envisage that sentences like *Who do you think came?* involve a deeper truncation, affecting not only the whole CP structure but also the SubjP layer, hence closing off IP with the AgrP projection responsible for the Case-agreement system. This would immediately predict the absence of any criterial freezing effect in such truncated structures, due to the radical absence of the criterial SubjP layer, with no need for the quasi-expletive skipping device.

We believe this ‘deep truncation’ approach may, indeed, be the appropriate analysis of another major case of absence of freezing effects. In subject raising environments, the embedded subject is able and obliged to move to the main subject position.

(84) Mary seems [t to be happy]

It is well known that Raising is incompatible with any C-structure (i.e., we never find Raising out of infinitival indirect questions), an observation which led to the traditional “S’ deletion” analysis in the GB framework. We can adopt this analysis, with the additional proviso that the truncation process in Raising infinitives includes the embedded SubjP layer, so that Raising can apply without the need for any special skipping device.

But deep truncation may be too radical for wh extraction from finite clauses like (76). At least a minimal vestige of the C system may be required in finite clauses to permit a proper temporal interpretation, with the speech time somehow structurally expressed in C, as many have suggested (see Bianchi 2003 for recent discussion). Potential evidence for restricted truncation in cases of English C deletion is provided by the well-known observation that C deletion is incompatible with the activation of the left periphery of the clause for a topic and focus.⁷

- (85) a. She thought *(that) this book, you should read
b. She thought *(that) never in her life would she accept this solution (adapted from Grimshaw 1997)

If (76) involves a defective C system which expresses finiteness, and if the expression of the argumental status of the clause is a prerogative of the Force specification, as seems natural (if the clause is a declarative, a question or an exclamative is the crucial information that a higher selector looks for,) no conflict of function arises for the Fin layer of the defective C in (77), which is allowed to function as a subject surrogate, as we have proposed.

⁷ Sobin (2002) observes that embedded declaratives with a null complementizer and a preposed adverbial are quite acceptable for many speakers. This is not surprising if preposed adverbials may be part of the IP space and thus compatible with a truncated Comp system (see the discussion at the end of section 6).

Consider now the systematic non-extractability of subjects across the C system of indirect questions:

- (86) a. *The man who I wonder if t_{who} will leave
b. *The man who I wonder when t_{who} will leave t_{when}
c. *The man who I wonder what t_{who} will say t_{what}

Here, according to Sobin's variation study, we observe no dialect split, subject extraction being uniformly excluded (and judged worse than the variably degraded object extraction in this environment). Why don't we seem to find dialects of English using a strategy which would allow Fin to satisfy the Subj Criterion in indirect questions?

Notice that the interrogative interpretation cannot be assigned by default, and requires a structurally-specified head expressing interrogative force, i.e., there are no ECM indirect questions. So, a 'truncation' approach could not help here.

Given the availability of merging Fin and Force separately, as in the varieties of French and English which allow subject extraction over a declarative *que* or *that*, one wonders why this option cannot be extended to indirect non-subject interrogatives.

An extension of the complex (or split) Comp system of (83) to interrogatives would involve the merge of a nominal Fin, able to function as a quasi expletive, followed by the external merger of a higher head in the C-system expressing the interrogative character of the clause. Perhaps this is not possible. More precisely, perhaps Fin in interrogatives may be able to function as an expletive-like element in a highly selective manner, i.e., only when the subject is locally moved, under the analysis of local movement developed for indirect subject questions in section 7 and schematized in (87).

- (87) I wonder [who Foc [Fin Subj [t will leave]]]

Presumably, this strategy is not available for subject extraction from an indirect question, when the locally moved phrase is distinct from the subject:

- (88) *Who do you wonder [when Foc [Fin Subj [t_{who} will leave t_{when}]]]

It is plausible that Fin in indirect questions carries in some form the specification of its clausal type. For instance, Fin in embedded questions in German is unable to attract the inflected verb, and V2 is systematically banned in this environment (but not in embedded declaratives). Suppose that this "memory"

of the clausal type is expressed as the possession of a formal *q* feature, which characterizes *Fin* as “*Fin* of a question”, and must enter into an agree relation with the *wh* element. In cases of local subject movement like (87), *Fin* will carry this *q* feature, and also *Phi* features, according to our analysis in section 7. *Fin+Phi+q* can produce a well-formed structure in (87), where the local subject is moved, and both featural requirements are satisfied by the same element. *Fin* formally satisfies the Subject Criterion, permitting the thematic subject to be moved, and attracts the thematic *wh* subject to its *Spec*, where the subject satisfies both its *q* and *Phi* features.

Consider now (88). In order to allow subject extraction, *Fin* should also carry both specifications *Phi* and *q*; but here, *Fin+Phi+q* would have to have its featural requirements satisfied by distinct elements, *Phi* by the subject and *q* by the locally moved *wh* phrase (*when* here). This would not be possible under a plausible uniqueness assumption: A single head can have its featural requirements satisfied by a single phrase, not by two separate phrases. For example, a *Phi* feature set on a single head could not agree in person with one nominal and in number with another nominal. If this is a general property of feature checking, then a configuration like (88) is banned in principle.⁸

10. Conclusion.

If the EPP is to be restated as a Subject Criterion, the difficulty of moving subjects can be ascribed to Criterial Freezing, a principle which interrupts a movement chain as soon as a position dedicated to a scope-discourse property is reached. Subjects are more difficult to move than objects or other arguments, but are not unmovable: languages invent strategies which make subject movement possible at the price of introducing special formal devices to circumvent the freezing effect. Some such strategies consist in acknowledging the immovability of subjects and forming A' chains on subjects through resumption, or pied-piping of the whole embedded clause. Other languages use special devices, expletives of various sorts, to formally fulfill the Subject Criterion, thus allowing the thematic subject to skip the freezing position and be moved from a lower, predicate internal position, a legitimate extraction site. Some languages systematically use regular, bona fide expletives in this function, as is the case for Null Subject Languages, according to a traditional analysis. We have proposed that other language specific devices, traditionally analyzed in different terms, are essentially reducible to variants of the same skipping strategy.

⁸ The more uniform ban on the *wh* – trace configuration as compared with the *that* – trace configuration is confirmed cross-linguistically. For example, Shlonsky 1988, 1990 observed that Modern Hebrew permits the latter (see (12) above), presumably derivable through the mechanism discussed in connection with (79), but not the former.

Nonetheless, the possibility of a well-formed structure corresponding to (88) may still arise in some language at the price of further complicating the C system, e.g. of having the *q* and the *Phi* specifications on separate heads. This may be the strategy used in the Scandinavian varieties in which the equivalent of (88) appears to be possible. We will not address the relevant mechanism in this paper, nor other special strategies of subject extraction like the ‘anti-adjacency’ or ‘adverb effects’, on which see Culicover 1992, Browning 1996, Rizzi 1997, Sobin 2002.

Some of the strategies of subject extraction come for free, given the general parametric properties of the languages. This is the case, for instance, of Null Subject Languages, in which the independent availability of the null expletive offers a systematic “skipping” device. In such cases, as is expected, we do not observe variation, i.e. we do not seem to find a dialectal variety of Italian or Spanish manifesting the *that* – t effect. Other strategies involve special devices whose purpose seems to be limited to permit subject movement in particular environments. Here we expect, and find, variation also in closely related languages and dialects, variation having to do with the existence and scope of the special device: French *que-qui* is a case in point.

A basic tenet of our analysis, which we have directly adopted from the classical ECP approach, is that we need a strong, cross-linguistically uniform explanation of the difficulty of subject extraction. According to this line of analysis, the variation does not result from a parametrisation of the relevant principle, but rather from the different language-particular devices used to circumvent a general prohibition. This indirect approach seems more restrictive, and better suited to predict the observed patterns of invariance and variation, than one which would directly weaken the prohibition on language extraction by making it a language specific property.

References

- Aboh, Enoch. 2004. *The morphosyntax of complement-head sequences: Clause structure and word order patterns in Kwa*. New York, Oxford University Press.
- Belletti, Adriana. 2001. "Inversion" as focalization. In Hulk, A. and Pollock, J.-Y. (eds.). *Inversion in Romance and the theory of universal grammar*. New-York & Oxford, Oxford University Press.
- Belletti, Adriana. 2004. Aspects of the low IP area. In Rizzi, L. (ed.). *The Structure of IP and CP*. New York, Oxford University Press.
- Benincà, Paola. 2001. The position of Topic and Focus in the left periphery. In Cinque, G. and Salvi, G. (eds.). *Current studies in Italian syntax*, 3, 39-64. Amsterdam, Elsevier.
- Benincà, Paola, and Cecilia Poletto. 2004. Topic, Focus and V2: Defining the CP sublayers. In Rizzi, L. (ed.). *The structure of CP and IP*, 3, 52-75.
- Bennis, Hans, and Liliane Haegeman. 1984. On the status of agreement and relative clauses in West Flemish. In Geest, W. and Putseys, Y. (eds.). *Sentential complementation. Proceedings of the international conference held at UFSAL*, 33-53. Dordrecht, Foris.
- Bianchi, Valentina. 1999. *Consequences of antisymmetry: Headed relative clauses*. Berlin, Mouton de Gruyter.
- Bianchi, Valentina. 2003. On finiteness and logophoric anchoring. University of Siena. Unpublished ms.
- Borer, Hagit. 1984. Restrictive relatives in Modern Hebrew. *Natural Language & Linguistic Theory* 2.2, 219-260.
- Browning, Maggie. 1996. CP Recursion and that-t Effects. *Linguistic Inquiry* 27.2, 237-255.

- Cardinaletti, Anna. 2004. Towards a cartography of subject positions. In Rizzi, L. (ed.). *The structure of CP and IP*, 115-165. New York, Oxford University Press.
- Cardinaletti, Anna, and Michal Starke. 1999. The typology of structural deficiency: On the three grammatical classes. In van Riemsdijk, H. (ed.). *Clitics in the Languages of Europe*, 145-233. Berlin, Mouton de Gruyter.
- Carstens, Vicki. 2003. Rethinking Complementizer Agreement: Agree with a Case-Checked Goal. *Linguistic Inquiry* 34.3, 393-412.
- Chao, Wyn. 1981. PRO-drop languages and nonobligatory control. In Chao, W. and Wheeler, D. (eds.) *University of Massachusetts Occasional Papers in Linguistics* 7.
- Chomsky, Noam. 2000. Minimalist inquiries. In Martin, R., Michaels, D. and Uriagereka, J. (eds.). *Step by step: Minimalist syntax in honor of Howard Lasnik*, 3, 89-155. Cambridge, MIT Press.
- Chomsky, Noam. 2001. Derivation by phase. In Kenstowicz, M. (ed.). *Ken Hale: A life in language*. Cambridge, MA, MIT Press.
- Cinque, Guglielmo. 1999. *Adverbs and functional heads: A cross-linguistic perspective*. New York, Oxford University Press.
- Cole, Peter, and Gabriella Hermon. 1981. Subjecthood and Islandhood: Evidence from Quechua. *Linguistic Inquiry* 12.1, 1-30.
- Culicover, Peter W. 1992. Topicalization, Inversion and Complementizers in English. In Delfitto, D. (ed.). *Going Romance and Beyond*. Utrecht, University of Utrecht.
- Doron, Edit. 1988. On the complementarity of subject and subject-verb agreement. In Barlow, M. and Ferguson, C. A. (eds.). *Agreement in natural language: Approaches, theories, descriptions*, 9, 201-218. Stanford University, Center for the Study of Language and Information.
- Grimshaw, Jane. 1997. Projection, Heads, and Optimality. *Linguistic Inquiry* 28.3, 373-422.
- Haegeman, Liliane. 1990. Subject pronouns and subject clitics in West Flemish. *Linguistic Review* 7, 333-363.
- Haegeman, Liliane. 1992. *Theory and description in generative grammar, a case study of West Flemish*. Cambridge, Cambridge University Press.
- Hermon, Gabriela. 1984. *Syntactic modularity*. Dordrecht, Foris.
- Holmberg, Anders, and Thorbjorg Hroarsdottir. 2004. Agreement and Movement in Icelandic Raising Constructions. *Lingua* 114, 651-673.
- Kayne, Richard S. 1989. Facets of Romance past participle agreement. In Benincà, P. (ed.). *Dialect variation and the theory of grammar*, 85-103. Dordrecht, Foris.
- Kayne, Richard S. 1994. *The antisymmetry of syntax*. Cambridge, Mass., MIT Press.
- Laenzlinger, Christopher. 1997. *Comparative studies in word order variations: pronouns, adverbs and German clause structure*. The Hague, John Benjamins.
- Laenzlinger, Christopher, and Ur Shlonsky. 1997. Weak Pronouns as LF Clitics: Clustering and Adjacency Effects in the Pronominal Systems of German and Hebrew. *Studia Linguistica* 51.2, 154-185.

- McCloskey, James. 2000. Quantifier Float and Wh-Movement in an Irish English. *Linguistic Inquiry* 31.1, 57-84.
- McCloskey, James, and Kenneth Hale. 1983. On the Syntax of Person-Number Inflection in Modern Irish. *Natural Language & Linguistic Theory* 1.4, 487-533.
- McDaniel, Dana. 1989. Partial and Multiple Wh-Movement. *Natural Language & Linguistic Theory* 7.4, 565-604.
- Menuzzi, Sergio. 2000. That-trace effects in Portuguese. *Forum Lingüístico* 2.1, 13-39. Florianópolis, UFSC.
- Nicolis, Marco. 2005. *On pro drop*. Ph.D. dissertation. University of Siena.
- Ortiz de Urbina, Jon. 1989. *Parameters in the grammar of Basque*. Dordrecht, Foris.
- Pesetsky, David. 1982. Complementizer-trace Phenomena and the Nominative Island Condition. *The Linguistic Review* 1, 297-343.
- Poletto, Cecilia. 2005. Si and e as CP expletives in Old Italian. University of Padova. Unpublished ms.
- Postal, Paul M. 1972. On some rules that are not successive cyclic. *Linguistic Inquiry* 3, 211-222.
- Richards, Norvin. 2000. An island effect in Japanese. *Journal of East Asian Linguistics* 9.2, 187-205.
- Richards, Norvin. 2001. *Movement in language. Interactions and architectures*. Oxford, Oxford University Press.
- Rizzi, Luigi. 1982. *Issues in Italian Syntax*. Dordrecht, Foris.
- Rizzi, Luigi. 1990. *Relativized Minimality*. Cambridge, The MIT Press.
- Rizzi, Luigi. 1996. Residual verb second and the Wh-Criterion. In Belletti, A. and Rizzi, L. (eds.). *Parameters and functional heads*, 2, 63-90. New York, Oxford University Press.
- Rizzi, Luigi. 1997. The fine structure of the left periphery. In Haegeman, L. (ed.). *Elements of grammar: A handbook of generative syntax*, 281-337. Dordrecht, Kluwer.
- Rizzi, Luigi. 2001. Relativized minimality effects. In Baltin, M. and Collins, C. (eds.). *The handbook of contemporary syntactic theory*, 4, 89-110. Oxford, Blackwell.
- Rizzi, Luigi. 2004. Locality and left periphery. In Belletti, A. (ed.). *Structures and beyond*. Oxford University Press, New York.
- Rizzi, Luigi. 2005a. Grammatically-based target-inconsistencies in child language. In Deen, K., Nomujra, J., Schultz, B. and Schwartz, B. D. (eds.). *Proceedings of the inaugural conference on generative approaches to language acquisition - North America (GALANA)*. Cambridge, MA, UCONN / MIT Working Papers in Linguistics.
- Rizzi, Luigi. 2005b. On some properties of subjects and topics. In Brugé, L., Giusti, G., Munaro, N., Schweikert, W. and Turano, G. (eds.). *Proceedings of the XXX Incontro di Grammatica Generativa*. Venezia, Cafoscarina.
- Shlonsky, Ur. 1988. Complementizer-Cliticization in Hebrew and the Empty Category Principle. *Natural Language & Linguistic Theory* 6.2, 191-205.
- Shlonsky, Ur. 1990. Pro in Hebrew Subject Inversion. *Linguistic Inquiry* 21, 263-275.

- Shlonsky, Ur. 1997. *Clause structure and word order in Hebrew and Arabic: An essay in comparative Semitic syntax*. New York, Oxford University Press.
- Shlonsky, Ur. 2000. Subject positions and copular constructions. In Bennis, H., Everaert, M. and Reuland, E. (eds.). *Interface strategies*, 325-347. Amsterdam, Royal Netherlands Academy of Arts and Sciences.
- Shlonsky, Ur. 2006, to appear. Semantic selection in a cartographic framework. *Cahiers de linguistique française*.
- Shlonsky, Ur, and Edit Doron. 1992. Verb-Second in Hebrew. In Bates, D. (ed.). *The Proceedings of the Tenth West Coast Conference on Formal Linguistics*, 431-446. Stanford, CA, Center for the Study of Language and Information.
- Sobin, Nicholas. 1987. The Variable Status of Comp-Trace Phenomena. *Natural Language & Linguistic Theory* 5.1, 33-60.
- Sobin, Nicholas. 2002. The Comp-trace effect, the adverb effect and minimal CP. *Journal of Linguistics* 38, 527-560.
- Sportiche, Dominique. 1988. A Theory of Floating Quantifiers and Its Corollaries for Constituent Structure. *Linguistic Inquiry* 19.3, 425-449.
- Taraldsen, Knut T. 1978. On the NIC, Vacuous Application and the That-Trace Filter. Bloomington, Indiana University Linguistics Club.
- Taraldsen, Knut T. 2001. Subject extraction, the distribution of expletives and stylistic inversion. In Hulk, A. and Pollock, J.-Y. (eds.). *Subject inversion in Romance and the theory of universal grammar*, 6, 163-182. New York, Oxford University Press.
- van Riemsdijk, Henk. 1984. On pied-piped infinitives in German relative clauses. In Toman, J. (ed.). *Studies in German grammar*, 165-192. Dordrecht, Foris.
- Vergnaud, Jean-Roger. 1974. *French relative clauses*. Ph.D. dissertation. Massachusetts Institute of Technology.